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Strategica
Challenging the Status Quo in
Management and Economics

Edited by

Constantin Brătianu
Alexandra Zbucnea
Alexandra Vițelar

STRATEGICA

Challenging the Status Quo in Management and Economics

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Foreword

STRATEGICA is not a conference. It is a challenge! It is a challenge for all its stakeholders, founders, partners, participants and sponsors, for trying to search for the future and to identify those problems for which our community members can imagine solutions. And, as Tom Peters once emphasized, when we face crazy times we have to search for crazy solutions!

STRATEGICA has been initiated by the Faculty of Management, National University of Political Studies and Public Administration, Bucharest, Romania in partnership with the National Bank of Romania, in 2013, as an international forum for academics, researchers and practitioners in Economics, Finance, Business, Management, and Marketing for sharing their experience and expertise, new ideas and models, new concerns about our future and possible solutions. This year, STRATEGICA is organized in partnership also with SAMRO – Romanian Academic Society of Management, and IAKM – International Association for Knowledge Management. STRATEGICA community has been growing steadily, year by year, from 70 participants coming from 12 countries in 2013 up to over 140 participants coming from 31 countries and 4 continents in 2018. The amplifying process of knowledge dissemination done by Research Gate is also worthy of mentioning since each volume of STRATEGICA Proceedings has been downloaded more than 300 times. All the previous proceedings are indexed in Conference Proceedings Citation Index (Clarivate Analytics, former Thomson Reuters/ISI Proceedings).

STRATEGICA is honored each year by great Keynote speakers. For this year we are proud to have as Keynote speakers: Rachel Lomax – former Vice-president of the Bank of England, Ovidiu Nicolescu – Professor Emeritus of Management, Bucharest Academy of Economic Studies, and President of SAMRO, Aino Kianto – Professor of Knowledge Management and Director of Graduate Programs at the Business Schools, Lappeenranta University of Technology, Finland, Juan Gabriel Cegarra-Navarro – Professor of Strategic Management and Knowledge Management at Universidad Politecnica de Cartagena, Spain, and Ian Hipkin – Professor of Strategic Management at the Business School of Exeter University, and Ecole Supérieure de Commerce, Pau, France.

The conference is structured this year on the following topical sections:

Economics – Chair: Cristian Paun – Professor and the Vice-Dean of the Faculty of International Economic Relations, Bucharest University of Economic Studies, Bucharest, Romania.

Finance and Banking – Chairs: Lucian Anghel – Chief Executive Officer of BCR Banca de Locuințe and Chairman of Bucharest Stock Exchange, and Professor at the Faculty of Management, National University of Political Studies and Public Administration, Bucharest, Romania, and Laurențiu Treapăt – former manager of BCR, professor at the National University of Political Studies and Public Administration, Bucharest, Romania. Management and Leadership – Chair: Mariana Nicolae – Professor Emeritus, Bucharest University of Economic Studies, Bucharest, Romania.

Knowledge Economy – Chairs: Constantin Brătianu – Professor Emeritus, Bucharest University of Economic Studies and at the National University of Political Studies and Public Administration, Bucharest, Romania, and Alexandra Zbucnea – Professor and Vice-Dean of the Faculty of Management, National University of Political Studies and Public Administration, Bucharest, Romania.

Marketing and Consumer Behavior – Chairs: Ralf Wagner – Professor at the Kassel University, Germany, and Luminița Nicolescu – Professor, Bucharest University of Economic Studies, Bucharest, Romania.

Digital Systems, E-Marketing and Organizational Dynamics – Chairs: Gandolfo Dominici – Professor and Director of SEAS Department, University of Palermo, Italy, Vice-President of International Association of Business Systems Laboratory (BS-Lab), and Editor in Chief of: *Kybernetes*, *International Journal of Markets and Business Systems*, and *International Journal of Electronic Marketing and Retailing*, and Elena-Mădălina Vătămănescu – Professor at Faculty of Management, National University of Political Studies and Public Administration, Bucharest, Romania.

Business Ethics and CSR – Chairs: Patrizia Gazzola – Professor at Insubria University, Italy, and Andreia Gabriela Andrei – Professor at the “Alexandru Ioan Cuza” University of Iasi, Romania.

Challenges in Project Management – Chair: Lajos Szabo – Professor at the “Corvinus” University of Budapest, Hungary, and founder of the Hungarian Association of Project Management.

Towards Sustainable Public Organizations – Chair: Mauro Romanelli – Professor at the Parthenope University of Naples, Italy.

Sustaining Leadership for Innovative Business – Alina Mihaela Dima – Professor and Director of the UNESCO Department for Business Administration, Bucharest University of Economic Studies, Bucharest, Romania, and Tanase Stamule – Professor and Vice-Dean of the Faculty of Business Administration, Bucharest University of Economic Studies, Bucharest, Romania, and Program developer of the Konrad Adenauer Foundation.

Editors

ECONOMICS

KEY VECTORS AND CONCERNS OF SMALL-SIZED ENTREPRENEURSHIP DEVELOPMENT IN THE RUSSIAN FEDERATION

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Abstract. *The objective of this article is to identify distinctive features of small-sized entrepreneurship development in the Russian Federation, and to develop key vectors of the small businesses development. While developing small-sized entrepreneurship development vectors, peculiarities of the small business sector development in the country are not taken into account. It is necessary to identify external threats and internal factors, affecting small business development. As a result of the study of small business development features in the country, practical recommendations on the small-sized entrepreneurship development vectors have been suggested. Practical recommendations on the small-sized entrepreneurship development have been issued. The use of the recommendations developed on the small-sized entrepreneurship development will make it possible to eliminate the management process imbalances and to identify priority development vectors, thus contributing to the increased production of goods, enlargement of the range of services, creation of new jobs, and unemployment reduction. Distinctive features of the small-sized entrepreneurship development in the Russian Federation have been defined, allowing us to identify external threats and internal small business development factors, and to suggest priority development vectors for further.*

Keywords: *Small business; development; socio-economic system; development vectors; efficiency; economic sector.*

Introduction

Small business plays an important role in the economy, also being an inseparable element of the social and economic system of the state. The development of the entrepreneurship assists in creating favorable market conditions by involving a huge number of the state citizens in a system of interrelationships on own business startups, which in future will bring a high production efficiency through a narrow specialization and integration of production operations.

In the developed countries, e.g., in the United States, the small-sized entrepreneurship is responsible for about 40% of the gross product, ensuring the employment for almost half of the able-bodied population; also, it implements twice as many innovations as large firms. In Germany, Canada and Great Britain, the share of the small-sized entrepreneurship in production is 60-70% (Terebova, 2015).

Small enterprises create a comfortable climate for the economy rehabilitation: competitive environment ontogenesis takes place; market is saturated with goods and services; additional jobs are created in organizations; consumer sector becomes ever richer; local feedstock, financial and other resources as well as innovative and human potential are better used.

Small-sized entrepreneurship undertakes such a social function as the ability to absorb free labor force in large amounts, and to reduce social tension and unemployment.

Distinctive features of the small-sized entrepreneurship development in the Russian Federation

In Russia, small business as a sector of the economy emerged about 25 years ago and now is being strengthening in the market. Small businesses are more preferable for the economy of the state due to the following reasons:

- Market, comprising a lot of enterprises, creates conditions for a competitive system development, which, in its turn, allows price reduction, and on the contrary, one large company, operating in the marketplace, prepares conditions for becoming a monopoly;
- Decentralization of the economic power generates a different range of goods and, therefore, a larger choice for customers, thus increasing customer satisfaction.

Each small business is an undertaking with its unique history and mode of operation, which forms preconditions for maintaining various applications and traditions. In Italy, 94.8% of companies employs fewer than 9 workers, which is 46% of the total number of active population. In Spain, 94.1% of companies also employs fewer than 9 workers, and this represents 38.5% of the total number of active population. Compare these data with those for the United Kingdom, for example, where 46.4% of the total number of active population works in companies with more than 250 workers, and only 18.6% of employees work in small enterprises. Thus, each history and community creates its own economic systemy.

In Russia, the situation is slightly different, because Russia's history and economic system differs from the European one. In Russia, small business develops unevenly due to geographic factors. In 2014, the Moscow regions accounted for 241,300 small enterprises (in 2010, this figure was lower by about 40,000 pcs); at the same time, all

Urals regions accounted for only 183,500 organizations in the same year (Federal State Statistics Service, 2013). First and foremost, it depends on the number of population that resides in the region, and its geographical location (availability of natural resources). The dependence of any region on raw material export tends to slow down the national economy development process.

According to statistical data, 54.8% of jobs in Russia are created by large enterprises. For comparison, in European countries, large enterprises are responsible for the employment of only 34.2% of the able-bodied population. A share of medium-sized enterprises in total employment in Russia is 23.4%. And only 11% and 10% of jobs are provided by small enterprises and individual entrepreneurship, respectively. (Golubkov, 2013)

When the distribution of subjects of small and average business in the Russian regions as of 2017, you can see that the share of enterprises accounted for three of the County: 28.2% of the enterprises in the Central Federal district, 21, 8% on Privalsky Federal district and 12.9% in the Siberian Federal district (Federal State Statistics Service, 2017).

The structure of economic activities of small and medium-sized businesses by the average number of employees is as follows:

- 25.2% is wholesale and retail trade, repair of motor vehicles of other household products;
- 20.9% is accounted for operations with real estate, lease and provision of services;
- 17.7% are in manufacturing;
- 12.1% is for strotelstvo;
- 34.1 per cent are transport and communications, mining, agriculture and other economic activities.

The bulk of the revenue of small and medium-sized enterprises 54.4% accounted for wholesale and retail trade (Federal State Statistics Service, 2017).

The share of small and medium-sized businesses in Russia's GDP is about 20% , in 2017 there is a significant increase of 1.7% (Federal State Statistics Service. 2017), which is a positive trend, while according to the strategy of small business development, their share should grow to 40%. In addition, small and medium-sized businesses have significant competitive advantages over large businesses. The sector under consideration is able to quickly meet small volumes and non-standard needs of the environment. For example, enterprises personally interact with the buyer in accordance with the peculiarities of the technological process. Increased competition is generated by copying and developing a small-scale and specialized market that is inaccessible to large-scale production. The generation of innovation activity is achieved through the rapid introduction of innovation in production and management.

Small business development is particularly affected by a legal framework established in the region concerned. High dependence from market fluctuations, requiring a multifaceted state support for volatility mitigation, is a specific feature of the small business development in Russia. For a given time interval, small business acquired certain stability of development and sufficient breadth of distribution, having turned

into an independent sector of the state economy with clearly visible features (Usmanov, 2016) (Table 1).

Table 1. Russian small business features

Russia	Developed countries
Integration of several business vectors and activities in one small enterprise	Narrow specialization of small enterprises
Human potential integration at a low level of furnishing of many small enterprises with high-tech equipment	Integration of a low level of employees' innovative potential at a high level of furnishing of many small enterprises with high-tech equipment
Availability of a high level of general and professional education and qualification of managers of small enterprises, combined with a shortage or lack of experience in making managerial decisions on commercial activities at volatile market conditions	High level of managerial and commercial experience, almost complete absence of a shortage or lack of experience in making managerial decisions on commercial activities at volatile market conditions
High level of small enterprise adaptation to a rapidly changing market environment at a disorganized state control system, which results in the shortage of timely, comprehensive and reliable information on the market state, trends and conditions	Stable economic environment, availability of updated, exhaustive and reliable information on the market state and trends
Virtually complete unavailability of integration and interactions with large, medium and other small enterprises.	Availability of integration and interactions with large businesses, medium and other small enterprises.

These Russian small business features predefined an individual path of development, different from the way generally accepted in a classical market economy.

On May 12, 1995, the Russian State Duma adopted the first law "On the State Support of Small Entrepreneurship in the Russian Federation". In 2007, the Federal Law "On the Development of Small and Medium-Sized Entrepreneurship in the Russian Federation" was adopted. This law expressly defines the size and revenue of enterprise, etc. Small businesses need to pass various inspections and submit business activity reports to many authorities. These manipulations severely hamper the development of the enterprise.

External threats and internal factors, affecting the small-sized entrepreneurship development

In its turn, the state is trying to help small businesses through a continuous development of special programs to support small businesses (e.g., a simplified taxation and accounting system).

The most severe external threats to the small business development are as follows (Small business and support of individual entrepreneurial initiatives" project, 2017):

- High tax rates;
- Low staff availability;
- Crisis, volatile market conditions;
- High competition;
- Administrative barriers, corruption;

- Poor infrastructure development;
- Inaccessibility of loans and other financial facilities;
- Low accessibility of premises.

Also, there is a number of internal factors, threatening successful implementation of entrepreneurial projects, i.e. (Terebova, 2015):

- Ineffective distribution of financial resources;
- Entrepreneurs do not have sufficient experience in management;
- Lack of a marketing development strategy and an action item plan for future enterprise development.

To increase the efficiency of economic development of the region, certain measures shall be implemented by municipal authorities. Local authorities have acquired exhaustive and reliable information about resources, production and economic potential of organizations on the controlled territory. In many regions, large industrial enterprises play a major role in the economy, and local authorities need to establish a procedure for interaction between such enterprises and small business organizations for a long-term period, since this will result in a higher economic effect.

For the time being, the small business development in Russia is still fledgling, considering existing system of legal and organizational support of small business organizations as a separate sector of the country's economy. Neither effective operation of the existing small business motivation system is mastered, nor procedures and mechanisms for supporting these enterprises are in place. The below mentioned model for small business development in Russia is suggested (see Fig. 1).

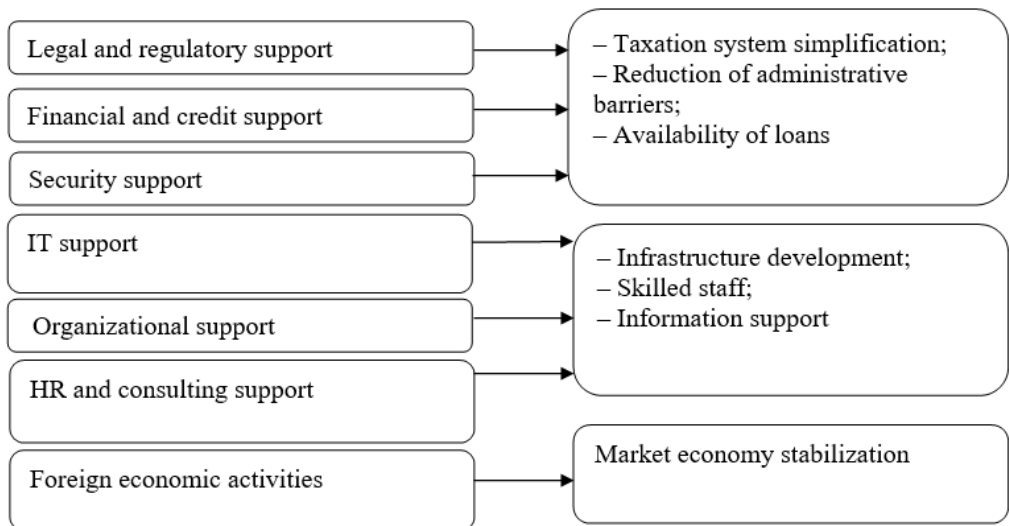


Figure1. Small business development vectors

At present, the state program fails to formulate clear action mechanisms and procedures in the monetary and tax policy, inventory and technical support, and system of official guarantees. Strict adherence to these mechanisms would ensure equal start-up conditions for entrepreneurship activity development in the small business.

Conclusion

An action plan for market infrastructure institutions, commodity market and securities market, investment and venture entrepreneurship as well as for information, consulting and audit activities shall be developed. It is advisable to integrate various state and public small business support systems, and the integrated system shall include advanced staff training and retraining.

A list of activities to support foreign economic activity and attract foreign investments for small businesses development shall be compiled. To implement these programs, not only the state budget funds, but also the inflow of private domestic and foreign capital are required. The state resources should be focused on insurance and granting loan guarantees.

Financial, credit and investment assistance to the small business shall combine optimization of tax benefits, the development of a lending system and the organization of comfortable investment conditions, with the involvement of specialized funds and other financial institutions. Combining direct and indirect assistance to small businesses should form a required start-up capital for new organizations, develop already functioning small undertakings, and overcome entrepreneurs' desire to evade taxation. Tax privileges for small business enterprises, established under applicable laws, should be kept. Also, it's important to optimize the accounting and reporting system for small business organizations with the aim to obtain basic information required for resolving taxation issues.

At this small business development stage, it's critical to develop a new model for Russian small-scaled entrepreneurship development as well as procedures for providing effective functioning of the state small business support systems. Placing the emphasis on a stable operation of small, medium and large business associations is of top priority.

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ASSESSMENT OF THE TRANSPORT INFRASTRUCTURE DEVELOPMENT ACCORDING TO THE BUSINESS COMMUNITY REQUIREMENTS

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Abstract. *Transport infrastructure plays a key role in the development of the economy of any country. The transport infrastructure development directly affects the country (or region) economy competitiveness, as well as affects the GDP growth and country export potential. The aim of this study is to develop a methodology for assessing the transport infrastructure development (for example, the Russian Federation) on the basis of the business community estimates and Rosstat data using quantitative and statistical methods of evaluation and using statistical data for 10 years. In this study, the following methods were used: a) questionnaires of entrepreneurs, business leaders, b) modal estimation; C) median estimation; d) comparison method; d) expert assessments method. The study revealed the level of the transport infrastructure development of the Russian Federation on the statistical data basis, as well as the business community satisfaction degree with the transport infrastructure conditions. The study results can be used to develop plans and strategies for the targets selection for the transport infrastructure development.*

Keywords: *transport infrastructure; assessment; estimation; entrepreneurship; development.*

Introduction

The condition of transport infrastructure significantly affects the development of the economy and society. The analysis carried out using statistical methods showed a significant correlation between the level of the transport infrastructure development and GDP per capita – the most representative indicator of socio-economic development.

This relationship is clear from the point of view of economic logic. The "motor" of economic growth is the entrepreneurial activity. The transport opens and helps to realize business opportunities by entering new markets or access to cheaper and quality resources. This finally contributes to economic growth and human well-being.

The issues of the transport infrastructure development are considered in various aspects in the works of both domestic and foreign scientists. Among the researchers who have made a substantial contribution to the theory and methodology development of economic evaluation and management of transport infrastructure, we can highlight the work of scientists such as Macheret, Ryshkov, Beloglazov and Zakharov (2010), Kirzner (2010), Lapidus (2008), Sokolov (2017), Lyovin (2016), Macheret (2016), Mogilevkin (2010), Sotnikov (2005), Walters (2004), Fogel (1964), Grant-Muller et al. (2001), Quinet (1998).

The aim of this study is to develop a methodology for assessing the transport infrastructure development (for example, in Russia) on the basis of the business community estimates and Rosstat data using quantitative and statistical methods of evaluation and statistical data for 10 years.

Methodology

Taking into account the close relationship between transport and entrepreneurship, the survey assessed the of transport infrastructure development by the business community representatives. The Russian business climate survey conducted by the Russian Union of Industrialists and entrepreneurs covers transport infrastructure assessments by the members of all economic sectors, which makes their results quite representative (Russian Union of Industrialists and entrepreneurs, 2016, p.34). In order to confirm the objectivity of the transport infrastructure assessment, the business community members analyzed official data of Rosstat (Rosstat, 2016, p.18). They make it possible to compare the dynamics of the railway and highway road infrastructure development, as well as to confirm the objectivity of the entrepreneurial assessment of transport infrastructure.

The assessment of the transport infrastructure development was carried out using quantitative methods and was performed in several stages:

1. Assessment of the transport infrastructure situation by the business community representatives on a 7-bit scale as of 2007, 2011 and 2016 years.
2. Grouping of the received estimates within a 5-point scale, with the allocation of unsatisfactory (1-2 points) and satisfactory (3-5 points) estimates.
3. Modal assessment of transport infrastructure condition.
4. Median assessment of transport infrastructure condition.
5. Assessment of the dynamics of the railways and highways development according to the official data of Rosstat.
6. Comparison of the evaluation results of railways and highways development according to the official Rosstat data and to the business community data.

Results

Taking into account the close relationship between transport and entrepreneurship, the business community members are interested in assessing the transport infrastructure

development. The Russian business climate survey conducted by the Russian Union of Industrialists and entrepreneurs covers the transport infrastructure assessments by the members of all sectors of the economy, which makes their results quite representative (Russian Union of Industrialists and entrepreneurs, 2016, p.34).

Representatives of the business community assessed the transport infrastructure condition on a 7-bit scale. Such a high level of detail makes less obvious the comparison of estimates in dynamics. Therefore, when carrying out the analysis, the extreme estimates of transport infrastructure condition (on the one hand "very bad" and "bad", on the other hand - "good" and "very good") were combined. The results of these estimates analysis are shown in table 1. This made it possible to reduce the scale of estimates to 5-bit, which made it possible to interpret it within the usual 5-point scale, with the allocation of unsatisfactory (1-2 points) and satisfactory (3-5 points) estimates.

In addition, modal and median estimates of the transport infrastructure condition are revealed. Modal estimates are those that occur most frequently. For example, in 2016 the average estimate (25.6%) was the most common among highway condition estimates, while the average estimate for railways was "rather good" (28.5%). However, the modal estimate, being relatively more frequent, is not predominant. Moreover, the frequencies of different estimates can be very close. For example, in 2016 the evaluation of highways condition as "rather bad" was characterized by a frequency, which is slightly different from the frequency of the modal evaluation (25%). Therefore, the modal rating was complemented by the median estimates. The median estimate is located in the middle of the cumulative distribution of estimates, that is, it characterizes the "central trend" of estimates.

Proportion determination of satisfactory and unsatisfactory ratings, weighted average score, as well as modal and median estimates, makes it possible to characterize the transport infrastructure quality from the point of view of the business community in comparison by mode of transport and in dynamics.

Both on average, and on a ratio of satisfactory and unsatisfactory estimates leaders are railways and the airports, outsiders are the highways. (At the same time, the proportion of satisfactory estimates, as well as the modal estimate at the airports is slightly better than that of the railway infrastructure). Seaport infrastructure estimates (which began to be recorded only in 2013) are not high, but still better than on the highways. These are very significant results, demonstrating the advantages of privately owned transport infrastructure (even if the owner, as in the case of the railway infrastructure, is a company whose shares are wholly owned by the government). In turn, almost completely "state" highway infrastructure is in worse condition.

On the other hand, the condition of the highway (according to the business community estimates) has a clear tendency to improve. The increase in the proportion of satisfactory grades and the average score, the increase in modal and median grades from 2007 to 2016 indicate this.

There is no clear trend in the railway and seaport infrastructure. As for airports, we can talk about an unstable tendency to improve.

Table 1. Dynamics of the transport infrastructure condition estimates by Russian entrepreneurs, % (Russian Union of Industrialists and Entrepreneurs, 2016, p.34)

Transport infrastructure condition estimates	Highways			Railways			Seaports		Airports		
	2007	2011	2016	2007	2011	2016	2013	2016	2007	2011	2016
1. Bad or very bad	47,5	21,0	17,3	9,6	7,0	8,4	27,0	20,0	18,2	18,8	13,0
2. Rather bad	18,5	34,7	25,0	9,4	17,4	13,2	13,5	20,0	13,7	19,9	7,2
Total share of unsatisfactory estimates	66,0	55,7	42,3	19,0	24,4	21,6	40,5	40,0	31,9	38,7	20,2
3. Medium	14,4	21,6	25,6	22,3	40,7	26,4	27,9	24,8	22,6	29,6	25,4
4. Rather good	11,5	17,9	21,8	25,1	20,4	28,5	19,8	22,9	22,7	22,7	26,1
5. Good or very good	8,1	4,8	10,3	33,6	14,5	23,6	11,9	12,5	22,8	9,1	28,3
Total share of satisfactory estimates	34,0	44,3	57,7	81,0	75,6	78,5	59,6	60,2	68,1	61,4	79,8
The average score (on a 5-point scale)	2,1	2,5	2,8	3,6	3,2	3,5	2,8	2,9	3,2	2,8	3,5
Transport infrastructure condition modal estimation	Bad or very bad	Rather bad	medium	Good or very good	medium	Rather good	medium	medium	Good or very good	medium	Good or very good
Transport infrastructure condition median estimation	Rather bad	Rather bad	medium	Rather good	medium	Rather good	medium	medium	medium	medium	Rather good

Official Rosstat data make it possible to compare the dynamics of the development of railway and highway infrastructure (Table 2). The results of the analysis of Rosstat data are correlated with the dynamics of the Russian entrepreneurs' evaluations. While the main indicators for the railway infrastructure development have not changed much since 2007, the length of public highways has almost doubled. Thus, in the context of the insufficient level of private investment in transport infrastructure, although non-state infrastructure is in better condition, but is not developed. At the same time the governmental infrastructure is developing, but its quality is lagging behind the requirements of users. In particular, attention is drawn to the slow growth in the length of paved roads, as a result of which their share in the total length decreased by 12.9 percentage points. The share of roads with improved surface coverage has also been reduced.

**Table 2. The railways and highways development indicators change
(Rosstat, 2015, p.127)**

Indicators	2007	2011	2015	Change: 2015 to 2007
Railways				
Operational length, thousand km (at year end)	85	86	86	+1,2%
Specific weight:				
Of electrified sections, %	50,4	50,5	50,6	+0,2 p.p.
Two-track and multi-track sections, %	43,5	43,8	44,0	+0,5 p.p.
Public highways and roads				
Operational length, thousand km (at year end)	747	927	1481	+98,3%
Including roads with a hard surface, thousand km	624	728	1045	+67,5%
Specific weight of hard surface roads, %	83,5	78,5	70,6	-12,9 p.p.
Specific weight of improved coverage roads, %	68,8	65,8	62,3	-6,5 p.p.

In other words, the highway infrastructure development is more extensive, and its quality leaves much to be desired. It is no accident that, given the positive dynamics of estimates, the condition of the highway is estimated to be much lower than that of railways.

The situation with railways is different. Their ownership of JSC "RZD", which is a nationwide freight rail carrier, earning its income on the transport market, on the one hand, stimulates care about the infrastructure maintenance in a condition that allows the efficient implementation of the transportation process, and on the other hand – gives financial resources generated by the market activity (And this is an important argument in favor of the unity of railway infrastructure and transportation activities).

However, these financial resources are not enough to expand the network and to construct new railways.

It is no accident that the railway transport development Strategy adopted by the Russian Government in 2008 provided for the need to unite the efforts of all parties interested in the railway infrastructure development - not only the Russian Railways holding and the government, but also private investors and regions (Lapidus & Macheret, 2008, p.13; see also Lapidus & Macheret, 2015). On this basis it was planned to build over the period 2008 – 2015 5193 km of new railway lines, 2407,9 km the second and 348,5 km. the third or fourth paths, to electrify 3918 km of railway lines. However, given the limited financial resources of the Russian Railways holding and the state budget and the low investment attractiveness of the railway infrastructure for private investors, the indicators for the railway infrastructure development provided by the Strategy are, as follows from the table. 2, have not yet been achieved.

The solution of this problem lies in establishing the legal and, from a broader perspective, the institutional conditions for the private capital attracting to the railway sector to expand the market opportunities of JSC "RZD».

Attracting private investment is necessary for the development of infrastructure of other modes of transport – including highways and roads, traditionally financed by the budget. Therefore, the Ministry of transport position seems quite reasonable. It is focused on attracting private investment to the implementation of projects in the public-private partnership format with the use of various options of "long-term contractual relations with investors".

It is important that one of the priorities of such projects is the upgrading of the seaport infrastructure associated with the development of railways. In the main export destinations, rail freight flows are sent to the seaports, so the harmonious development of railway and seaport infrastructure is key to the efficiency of such transportations and significantly affects the competitiveness of Russian goods on world markets. Meanwhile, as can be seen from the table. 1, the Russian entrepreneurs assess the seaport infrastructure condition significantly lower than that of the railways. Seaport failures often complicate the movement of goods on the railways, disrupting the transportation process at significant sites of the network. And taking into account the implementation of such projects as the BAM and Transsib modernization, which will increase the export potential of the Russian economy, the requirements of entrepreneurs to the development of the seaport infrastructure will certainly increase. And it is necessary to prepare in advance for their implementation.

Of course, the transport infrastructure development (as well as infrastructure in general), with all its importance for business and economic growth, is not the "magic lever" by clicking on which this growth can be significantly accelerated. To increase significantly the growth rate, the transport infrastructure improvement should be carried out in conjunction with the public institutions' improvement and the development of human capital, which is the main component of the modern societies wealth. The latter problem should be paid special attention to due to the fact that, in the opinion of Russian entrepreneurs, one of the three most acute problems hindering entrepreneurship is the lack of qualified personnel. According to the foreign business evaluations, the lack of qualified personnel is one of the two most acute problems hindering entrepreneurship in Russia (Fleishman Hillard Vanguard, 2016).

Detailing personnel problems of Russian business by the personnel categories, it should be noted that in the first three deficit categories of employees are specialists of the highest level of professional qualification - almost half of the Russian entrepreneurs pointed to the shortage of such specialists. In this regard, it should be noted the importance of developing the training of the highest level of professional qualification specialists for transport itself, without which it is impossible neither the modern transport infrastructure development nor the long-term improvement of the efficiency and competitiveness of the Russian transport system.

Russia has a very strong tradition of higher transport education, founded in the XIX century with the creation of the Institute of communication engineers (now the PGUPS in Saint-Petersburg) and the Imperial Moscow engineering school of the Ministry of Railways (now Russian University of Transport). These were integrated transport universities, from which in the 30s of the last century specialized universities "rebuffed" by type of transport. It was associated with the differentiation of the transport complex management system.

Currently, the dominant global trends are the integration of different transport modes within multimodal transport systems and the convergence of the transport modes in the creation of innovative transport systems. This requires the integration of transport education, the development of new areas of training in inter-transport and general transport directions. The basis for solving these problems should be the implementation of the decision adopted by the Government of the Russian Federation on the establishment of the Russian University of transport on the basis of the Moscow State University of railway engineering (MIIT) - the head transport University of the country. The Russian University of transport (created in 2017) should become a system integrator of scientific and educational potential and the main types of educational activities in transport, ensuring the education quality for the transport sector of the country (Lyovin, 2017, p.84).

Considering the large-scale tasks provided by the Transport strategy of the Russian Federation till 2030 on the transport infrastructure construction, including high-speed railway and automobile communication, development of the specialists' education (in the field of transport construction including the design of the transport infrastructure objects, and also the transport construction economy) in the Russian University of transport is fundamentally important.

We should focus particularly on the problems of training economists for the transport industry. Transport is a dynamic system whose key components are in the process of spatial movement. Because of this, as well as the economic characteristics of transport production (transportation), transport economy differs significantly from the industry and other economic activities, and in many aspects, it is not just specific, but much more difficult than the other activities economy. Transport economists should know the subject area perfectly, including the problems of transport equipment, technologies, design and transport facilities construction. It is no accident that training of economists for transport and transport construction is traditionally carried out in the transport universities. MIIT has almost 90 years of experience in such training, carried out within the framework of the specialized Institute of Economics and Finance. It seems that at the Russian University of transport such training should be expanded in relation to the

integrated development of the transport complex, covering all modes of transport in their multimodal interaction.

At the same time, the close relationship between the technical, technological and economic aspects of the transport complex functioning and development, which is mentioned above, requires the restoration of the economic engineers' education in the field of transport and transport construction. Past experience shows that such training is appropriate in the form of a specialist.

Improving the quality of transport education in the Russian Federation will contribute to the successful implementation of the country's Transport strategy, bringing the transport infrastructure in a condition that meets the requirements of both the business community and the population of Russia, improving the Russian economy efficiency.

Thus, the transport infrastructure development in accordance with the requirements of effective business needs not only to stimulate private initiative based on the market institutions improvement but also in the development of human potential – including through the conclusion of a new level of higher education in the field of transport.

The systemic solution of these tasks will stimulate the growth of entrepreneurial activity, increase the pace and ensure the sustainability of the country socio-economic development.

Conclusion

The results of the business assessments analysis showed that, for example, in 2016, among the estimates of the highways condition the "average" rating (25.6%) was the most common, and of the railways – the "rather good" rating (28.5%). However, the modal estimate, being relatively more frequent, is not predominant. Moreover, the frequencies of different estimates can be very close. For example, in 2016, the evaluation of the condition of the highway as "rather poor" was characterized by a frequency slightly different from the frequency of the modal evaluation (25%). Therefore, the modal rating was complemented by the median. The median estimate is located in the middle of the cumulative distribution of estimates, that is, it characterizes the "central tendency" of estimates.

The results of the Rosstat analysis data showed that they correlate with the dynamics of estimates given by Russian entrepreneurs. While the main indicators of railway infrastructure development have not changed since 2007, the length of public highways and roads has almost doubled. Thus, in conditions of an insufficient level of private investments in transport infrastructure, non-state infrastructure, although being in better best condition, requires more acceleration. And the state infrastructure is developing, but its quality still lags behind the requirements of users.

Determination of the satisfactory and unsatisfactory rating proportion, weighted average score, as well as modal and median estimates makes it possible to characterize the transport infrastructure quality from the point of view of the business community in comparison by mode of transport and in dynamics.

Both on average and on a ratio of satisfactory and unsatisfactory estimates leaders are the railways and the airports, and outsiders are the highways. (At the same time, the proportion of satisfactory estimates, as well as the modal estimate at the airports, is slightly better than that of the railway infrastructure). Seaport infrastructure estimates (which began to be recorded only in 2013) are not high, but still better than on highways. These results are very significant indicating the benefits of the transport infrastructure in private ownership.

On the other hand, the condition of the highways (according to the business community) has a clear tendency to improve. The increase in the proportion of satisfactory grades and the average score, the increase in modal and median grades from 2007 to 2016 indicate this.

On railway and port infrastructure there is no clear trend in the condition change; with regard to airports – we can talk about an unstable trend towards improvement. In other words, the highways infrastructure development is more extensive and its quality should be improved.

The situation is different with railways. Their ownership of JSC "RZD", which is a nationwide freight rail carrier earning its income on the transport market, on the one hand, stimulates the care of the infrastructure maintenance in a condition that allows the efficient implementation of the transportation process, and on the other – gives for this financial resources generated by market activities.

However, we need to expand the railway network and build new railways. It is no coincidence that the railway transport development Strategy adopted by the Government in 2008 provided the need to unite the efforts of all parties interested in the railway infrastructure development – not only the "RZD" holding and the government, but also private investors and regions.

In the framework of the implementation of the Strategy, it is required to create legal and (from a broader perspective) the institutional conditions for attracting the private capital to railways - in the expansion of market opportunities for JSC "RZD" which is a core company of the Russian transport industry.

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ECONOMIC METHODS OF REGULATING THE EQUIPMENT CONFIGURATION IN CONSTRUCTION

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Abstract. *The paper studies relevant issues of construction machinery import substitution and positive economic implications and some approaches to assessment of multiplier effects created by import substitution in construction. One of the most important problems in construction is a problem of efficiency growth of machinery assets (machines, plant, means of transport and equipment) utilization. And if before it was to use machines as much as possible to get a rise in productivity, then now construction companies have enough equipment and need more assessment of its efficiency, based on degree provision definition. Besides, taking into account last foreign-policy developments there is a high relevance of import substitution issue in domestic production, including construction. That is why there is a high significance of production and delivery of domestic machines that can provide independent process execution and technological development. Provision of construction sites with machinery has a row of important special aspects for such a big country as Russia. In Europe, the vast majority of construction projects with the exception of the Alpine region are located in a habitable and populated area where there is a good infrastructure. In Russia, on the contrary, the majority of construction projects is pioneering and builds up infrastructure. It takes some particular machine independence during the service life of the production facilities. The complexity of delivery of replacement parts, service teams and maintenance vehicles to constructions sites increases the risk of wasted time that leads to the decline of machine train economic indicators and construction lags. That is why in Russia there has been a priority in favor of repairable systems when there has been a maintenance capability in construction sites. The second feature of Russian construction machinery is the mobile character of connection between actual maintenance cost and estimated maintenance cost. Since Russian pricing is based on unit costs then technical recourses included into them are taken into account in the cost estimates. Estimated cost in its turn determines first contract cost in any tender. The practice of fixed price contract implementation does not make it possible for construction*

companies to take into account economic operational features of their own fleet of construction machinery. The goal of the research is to determine how parameters of equipment configuration affect the estimated cost, industry-specific and national economic indicators. The research is based on methods of retrospective statistical analysis with a representative selection of production figures. It made it possible to synthesize multiplying indicators that characterize being provided with construction equipment.

Keywords: *construction machinery; import substitution; efficiency; cost; multiplier; economic effect.*

Introduction

About two-thirds of the estimated cost are expenses determined by the appropriate configuration of fixed assets. In modern construction, a great importance is attached to plant and equipment since the realization of infrastructure projects often depends on them. Besides, the choice of equipment determines not only investment volume but macroeconomic effect too. It needs to understand, that production norms are the source for estimate norms, that they take on the role of a measure of organizational and management decisions in production and have first-rate importance in construction regulatory regime improvement. Turnaround efficiency in the normative system is determined by choice of main points of fixed assets current status in construction.

These main points should be considered to be:

1. Operability of machine maintenance rates. All the stages of construction projects implementation take regularity in resource and cost indicators updating for the different degree of detail – for a construction company, for a construction site, for a construction crew and a construction machine. It means that standards are supposed to be structured according to the degree of consolidation and utilization during the construction process.

2. Economic feasibility. Different standard bases (federal, sector or company bases) elaboration and operating are to be unified with construction processes. Profit, profitability, expenses – these concepts may include both productive activity and standard-setting activity. On the one hand, standard-setting activity should be considered to be a separate investment project with its structure and expenses (noncurrent – for standard elaboration and current – for standards system maintenance). In this respect, standard-setting activity is like a consulting activity. On the other hand, standards are to include prerequisites and opportunities of construction operations activity and all of its subjects, including construction crews, investors, and the state budget. Taking all the construction process participants economic interest into account and providing cost-effectiveness indicators at an acceptable level determines the positive effect of investments into standards elaboration and implementation.

3. Information capacity. According to its content, shape and structure standards are to be a unified system with participants' access opportunities, information analysis and accumulation of data analysis opportunities, projection systems integration opportunities and process engineering integration opportunities. Standards updating procedure is not to be held since the very beginning, but through a context correction, providing cost saving.

4. Complexity. Standards support of construction is to be a system of resource and cost norms like all the stages of investment and construction project (from start to finish)) are to be unified. For construction production macroeconomic indicators assurance standard system is to operate unified indicators including labor movement indicators that are enlarged depending on target purpose of the standards. At the same time, there may be more modern construction needs and they are to be worked up more.

Taking it into account search and grounding of economic indicators of technical provision and recommendations creating for construction companies should be considered to be a relevant scientific issue. In modern Russian scientific literature problems of fixed assets either in different types of construction or in great construction projects are basically described. The relevance of conducted researches is a macroeconomic appraisal of construction fixed assets independent of interests of certain participants of the construction market. And that determined the purpose of the research – multiplier models development of sectoral production figures impact on macroeconomic indicators of economic growth.

Methodological approaches

The methodology of the research is based on economic approaches making it possible to estimate imported equipment availability in project recourses and analyze cost implications for construction projects.

This research identified specific features of the imported equipment impact on both technological and cost indicators. The influence of the applied imported equipment was differentiated by types of work and equipment range according to the methodology of estimated cost analysis (Solovyev, 2017). During further calculation of construction cost consolidated indices the difference of estimated cost under the multiplicative effect of the investigated factor reached in some cases even double overpricing comparing with the variant when all the works were completed only with domestic equipment.

There is an applied problem how to identify the connection between resources configuration factors of construction operations and macroeconomic implications. The solution of the problem is made by a multiplicative method which keeps the inherent functionality of the system, unlike a simple statistic description. It is relevant, including for the production process based on the described technological dependences.

Among three multipliers known in the modern literature (a multiplier factor, an operator of the chain economic reaction and a sequence of generated effects in other sectors) (Lukashev, 2003, pp.27-38) the following type of the multiplier was chosen to determine economic role of construction machinery import substitution:

$$M = \frac{I}{P+I};$$

I – construction machinery import substitution investments

P – profit for plant and machinery replacement with import-substituting production.

It is well known that nowadays construction only consumes production facilities, but do not produce them (Kaverzina & Lukovnikova, 2014, p.48), although in 70s – 80s of the last century construction companies created a lot of construction machines eliminating their scarcity. Since generally there was still a scarcity of construction machines any new asset had high indicators of utilization efficiency. This trend still exists in the current economic environment as well (Pankratov, 2012, p.75). That applied to the equipment of both factory production and construction companies own production.

On the basis of post-event analysis, it is possible to highlight 3 models of equipment utilization:

Model A (1973 – 1986 years): basically there was the provision of domestic machinery and creation of production facilities by construction companies if there was a scarcity of production facilities.

Model B (1990 – 2004 years): there was a significant decrease in domestic machinery production followed by a dramatic rise of import.

Model C (2005 – present time): Russian market saturation by both imported and domestic machinery.

Table 1, compiled on the basis of the data of Federal State Statistics Service (FSSS, 2018) and as a result of analyzing of a row of sources (Apatenko, 2015; Solin, 2011), presents return on assets (or capital productivity) ratios (in brackets – for machines produced by construction companies) and shift system factors K. As it is seen from the table 1, capital productivity of the irregular lifting appliances is much more than the same indicators for the machines produced in-state engineering factories.

Table 1. Machine utilization indicators in construction

The group of machines (the type of cranes)	Model A					Model B	Model C
	Percentage of production produced:			Average indicators			
	In factori es of former USSR	Abroa d	By constru ction companies	Capital productivity , R _a	Overage machin e shift, K	Capital productivity , R _a	Capital productivity , R _a
Railway cranes	78	23		1.07	0.8	1.04	0.97
Semimobil e cranes	84	13	3	1.12 (1.27)	1.4	1.03	0.86
Trestle cranes and pillar cranes	100			1.1	1.4	0.95	0.79
Tracklayin g cranes	96	4		1.08	1.6	0.9	0.8
Jib cranes and special cranes with lifting ability less than 10 t	68		32	1.06 (1.42)	1.7	1.02	0.74

The representative selection was limited by construction projects with rotating scheme of work organization according to the statistics of transport construction sector. That time there were three sequenced budget-normative bases (1969, 1984 and 2001 years). But nowadays capital productivity indicators of building machinery of many Russian construction companies are even less than 1, that shows underuse of equipment in construction combined with high operating costs.

The authors' research in construction cost estimating showed that regulatory framework (both technical regulation and estimate norms) depends on engineering capability, facilities, and their conditions. In the research changes of indicators of fixed assets in use, utilization were analyzed. The period under report is the budget-normative base activity of the 2001 year. Taking into account that the base was introducing gradually with a considerable delay, the analysis of dependencies is performed including indicators of 2005 and later. The analyzed process is construction and transport machines capacity decrease because of their depreciation. The difference between standard capacity and working one determines the economic effect, while the standard technological capacity value is static. Conditional equality in standards initiation means correspondence of actual capacity and a standard one.

$$C_{act}=C_{norm},$$

C_{act} – empirically defined actual sector average machine capacity (according to the types of machines).

C_{norm} – standard machine capacity

During the time of the operation of the standards the indicators of fixed assets in use change and break the equivalence – standard capacity does not change and actual one may both grow and fall due to machine train depreciation. According to the statistical data for the time of standard base validity the second case is more characteristic. The capacity proportions can be defined correcting the current average sector level of machine capacity.

$$C_{fact}=C_{new}-C_{dep}*K(1-D)-DK_{dep}$$

C_{new} – sector average level of machine capacity during the standard operation.

C_{dep} - degree of machine depreciation

D – share of worn out machinery

K, K_{dep} , - empirical proportionality factors

It is possible to calculate it knowing proportionality factors, showing declining dependence on depreciation degree (K) and full standard depreciation (K_{dep}). Taking into consideration research data about machine maintenance in construction it is possible to define K and K_{dep} , and it is also possible to conduct a conditional assessment of the correspondence of the actual and standard indicators of fixed assets in use at the sector level. The assessment is conditional because of the imperfection of production norm-setting. According to the Federal State Statistics Service data, the share of worn out fixed assets in construction is still on the quite a high level (table 2).

Table 2. Fixed assets of construction companies

	2005	2010	2011	2012	2013	2014
Fixed assets, billion roubles	264.3	703.9	906.3	910.5	944.5	1032.7
Fixed assets structure, billion roubles						
buildings, bil. rub.	26.2	23.3	20.4	21.7	22.4	24.6
structures, bil. rub.	9.9	13.7	16.3	13.8	14.0	12.4
machinery and equipment, bil. rub.	42.1	41.9	37.9	43.0	40.9	40.5
transport facilities, bil. rub.	18.4	18.6	22.9	18.9	20.2	19.8
other assets, bil. rub.	3.4	2.6	2.6	2.6	2.5	2.7
depreciation degree, %	42.0	42.5	38.7	44.2	47.1	47.3
percentage of worn out fixed assets	12.2	11.7	10.3	11.7	13.5	13.5

Economic effect E_m in the sector level is defined according to the criterion of estimation:

$$E_m = \sum_i^n P_{v-h,i} * (1 - \Delta C_i) * Y_{mt} * N ,$$

$P_{v-h,i}$ - Cost indicator of fixed assets in use, determined by standards. It is feasible to use standard vehicle-hour cost indicator for the macroeconomic purpose.

ΔC_i – The gap between the actual and the standard machine capacity

Y_{mt} – Annual fund of machine time, machine-hour

N – Number of units of the machinery

This approach for the effect definition has a disadvantage because it is averaged for construction work and means of equipment. But normative base contains a list in summary of machines and generalized parameters of their work calculating operating costs, that is why using standard and statistic indicators it makes baseline data population uniform.

The results of the calculation are presented in the table 3. Annual economic effect is determined for a particular case – railway cranes with carrying capacity – 10 t (railway construction).

Vehicle-hour cost=364,8 rub. in normative base prices of the 2000 year (table 3).

Table 3. Economic effect, defined by machine train production capacity

Indicator	Years			
	2000	2005	2010	2014
$C_{dep}, \%$	54.7	42	42.5	47.3
D	0.49	0.12	0.12	0.14
C_{act}	0.88	0.95	0.95	0.94
E_m , million roubles	26.3	10.3	10.7	11.5

Statistic data connected with machines that working life is over should be considered to be machines with an expired time of working life according to the depreciation rates. These machines transferred their cost to the cost of production and need to be changed, but machines renewal process has a low speed and there are no economic conditions for its renewal. The process of decrease of machine capacity due to the annual growth of repair and maintenance costs and wasteful expenditures of machine time was taken into consideration. For the proxy indicator return on assets can be taken, measured as a ratio of completed construction activity to the fixed assets value. For a description of functional relations between machine capacity and worn-out state, the values of $K=0,08$ and $K_b=0,2$ were used on the basis of return on asset ratio data according to Federal State Statistic Service and some construction companies.

The results of the calculations show that the economic effect is about 26 – 10 million roubles in a year. But in order to evaluate a real economic impact an economic effect of the base period should be taken into account. It is a specific feature of calculations based on base standards: all production and economic factors are taken into account by standards in the base period. In fact, due to the backlog of estimated standardizing from the construction technology, there is a significant margin in fixed assets conditions. And it is possible to make the methodology of economic effects calculation better. A formal approach determines the actual economic effect as:

$$E_m^{act} = E_m^{fact} - E_m^{stand}$$

E_m^{stand} – standard effect;

E_m^{fact} – practical effect

And then the actual effect will have the following values (table 4):

Table 4. The actual economic effect in sector cranes fleet

Indicator	Years			
	2000	2005	2010	2014
E_m^{act} , million roubles	-	-16	-15.6	-14.8

Negative values of the effects show that standard machine capacity values are less than actual ones in the following years. Some economic stabilization after the 1990s let construction companies upgrade machine fleet and make the share of imported equipment more. Estimated machine maintenance cost was formed in conditions of considerable lags of used normal and in bad conditions when the Russian economy and technologies were at the beginning of a move in the right direction. In practice, effect size is distributed in estimated cost in projects where the machines of the considered group were used. The considered example creates opportunities for productive-economic indicators accounting as a factor of a choice of a base period in pricing.

Results of the research

The research showed that using import substituting domestic resources (construction machinery) causes macroeconomic results – effects that can generally be represented for different aggregation levels. To add to it there is a methodological analogy with the economic implications of substitute construction materials utilization (Korchagin, 2015). Aggregation levels can be economic indicators of revenue, GDP, national income

and performance indicators of the sector and a company. Each of them is described by a set of investment activity components.

For example, the multiplicative relationship is described by the following dependencies:

- 1) Results and expenses: $D=M \cdot I$
- 2) Economic effect and expenses: $E=(M-1)M_i P_i$
 P_i – revenue indicator
 M_i – multiplicative coefficient
 I – investments in construction

Calculations show that multiplier rose from 1.18 in 2001 to 1.43 in 2017 during the current budget-normative base existing.

It is well known that one of the main principles of the budget-normative base is its correspondence to the scientifically based process characteristic, installed according to the current level of technology development in construction. For the last 25 years, domestic machinery production degradation led to the common usage of foreign machines and equipment (Pankratov, 2012, p.76). At the same time, budget-normative base is basically oriented for the domestic machinery usage. This fact is supported by project owners (JSC “Russian Railways”, for example) in order to prevent machine operating cost growth. When the authors were preparing estimating standards and rates and consolidated indices for railway construction in 2006 -2010 there was an opportunity to estimate maintenance cost of foreign machines and analyze its implication for an estimated cost of construction.

As the main hypothesis, the estimated cost dependence on maintenance cost was used. The calculation is connected with huge volume of cost accounting work, but for the only economic analysis its appliance is justified. The practical appliance is especially important for complicated and expensive machines such as tunneling shields, stripping equipment, cranes of greater load capacity. For these machines correlation ratios of estimated cost and cost per operator, hour were determined first. For the rest of the machinery, the calculation with components of expenses can be quite enough. Based on the project data analysis of some great construction projects in Russia it was found, that three components of costs had the greatest density of correlation relationship:

R – repair and maintenance costs (correlation ratio – 0.71)
 d – depreciation (correlation ratio – 0.94)
 M – move costs (correlation ratio – 0.67)

It allows us to express the dependence as (Pankratov & Pankratov, 2015):

$$AM_i = k_r P_i + k_d d_i + k_m M_i$$

k_r, k_d, k_m – empiric functional ratios

The indicator AM_i describes the growth of the construction cost of an average construction object using a particular construction machine. It helps to make a choice of machinery in advance (on the stage of an expert judgment) taking into account its economic features.

In fact, indicator calculation at the sector level is possible only if there is an actual information system with large-scale integration like foreign tracking systems of the normative base (Means and so on) that could generalize current parameters of resources provision in construction. The foreign experience shows possibility in principle of data exchange about resource requirement among different construction companies. This information is generalized and used for both standard base maintenance and evaluation of the sector indicators (social cost level, sector growth dynamics, mastering of scientific progress results). There is no a system like this in Russia. Current systems of information centralization do not have an opportunity to calculate target indicators. It explains three obstacles for high precise calculation:

1. Accounting systems in big construction companies are not in line with each other. At the same time, accounting frameworks in different companies are not comparable and there is no payroll accounting in operating cost. Accounting reporting is not tied to machines and that is why sector indicators are not in line with resources in the standard base.

2. Federal State Statistic Service does not have an aim of information provision of economic calculations of specific sector indicators. Respectively set of parameters cannot be regulated according to requirements of standard provision system evaluation.

3. Federal authorities of government control, in particular, Ministry of Construction, do not have authorities for production data collection even for federal standard database maintenance. This function can be realized only as a special scientific work throughout tendering procedures. This procedure is unacceptable for systematic work.

Finally, it is worthwhile to say that the main levels of impact analysis should be considered to be a level of a singular resource that can be averaged as a group resource. In the rest of the levels, regularity of economic analysis of the standard base state takes new regulations for the creation of additional information of production process accounting.

Conclusions

The authors made a conclusion that machinery import substitution in construction may decrease expenses and make construction product cheaper, and at the same time provide an inflow of investments in machine-building industry and encourage scientific-and-technological advance in the future. The results of the research let us consider state programs of machine-building industry development justified. Besides, the effective way of shortage control of specific machines is their local production, which is proved by domestic construction experience.

As a matter of experience, every thousand euro invested in plant and equipment causes a discounted economic effect equal to 468 euro - in construction industry, 190 euro - in construction materials industry, 78 euro - in passenger transport, 70 euro - in raw materials industry. Obviously, besides, there is also a positive social effect. The results of the research let us consider machinery manufacturing government programs to be relevant.

The multiplier paradigms proposed by authors make it possible to estimate economic implications of facilities investments. To make the measurement of estimated cost change is possible thanks to AM_i indicator that recognizes the average paradigm of construction machines configuration.

The practical significance of the research makes sense not only for the construction industry. Putting the methodological recommendations into practice will also let investors make a right choice forming investment budgets for machinery manufacturing companies. Meanwhile, economic effects will cover many economic sectors – mining and manufacturing industries, transport, banking sector and social services.

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GOVERNMENT SUPPORT OF SMALL BUSINESS AND ITS DEVELOPMENT MECHANISM

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Abstract. *The development of small business affects the level of financial well-being of the population of the country, and as a consequence, to increase the quality of life of citizens. The article specifies that large-scale state support is being implemented in Russia, with the help of which activities related to the creation and improvement of the conditions for the development of small business are being implemented. However, each region has its own economic and social development features, they have different financial capabilities and investment and innovation potential. The article shows the dynamics of small business development in Russia in the Central Federal District. In this situation, problems of creation and development of small business in the regions of the Central Federal District have been identified and a mechanism has been developed for the development of a system of state support for small businesses.*

Keywords: *state support; small business; development mechanism.*

Introduction

Nowadays, the problems of small business development are the most pressing issues for the modern-day Russian economy paradigm. This is explained by many circumstances: small business provides high dynamics of economic growth, helps to solve the problems of economic restructuring, doesn't require significant investments, keeps a significant share of the economically active population busy and supports labor efficiency; causes the competitive environment formation and the market clearing. Furthermore, due to not great scale, small enterprises are able to respond more flexibly to changing economic conditions, as well as to consumer demand fluctuations, market condition changes, adding additional stability to the economy thus. In Russia, small business accounts for just over 22% of gross domestic product (Fig. 1). Economic and social functions of small business put its development in the category of the most important state tasks, make it an integral part of reforming the Russian economy. Meanwhile, small business is a risky economic activity due to a lack of resource provision. Small business without state support and without its own intra-group interaction is not always able to successfully resist large-scale capital in the competitive struggle and defend its political, social and economic interests. At this stage, there is a need to form new, expand and improve existing mechanisms of state support for small businesses. At the same time, the state's task is to create legal and economic conditions for their survival, the ability to grow and develop themselves in the market. The result of these investments is, in the final

analysis, a high level of quality of life for the population. Therefore, the main role in supporting it is currently assigned to the government. For comparison: in the European Union, the US, Japan, this figure is about 60% of GDP.

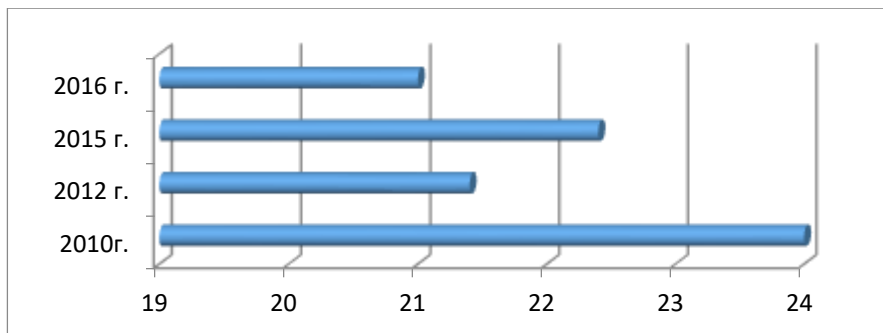


Figure 1. The share of small business in the GDP of Russia

Government support of small business in Russian

With the purpose of small business support, the Russian Government adopted a social and economic development program of the country by 2020. It reflects the features of assistance to small and medium-sized businesses. The use of the assistance forms is aimed at creating healthy competition, as well as improving the overall living standards of the population. Providing the government assistance makes it easier to start your business from scratch. While creating a company, an entrepreneur runs into shortage of money and information. The modern forms of assistance can help to resolve this situation. However, the government support isn't always enough for a successful start.

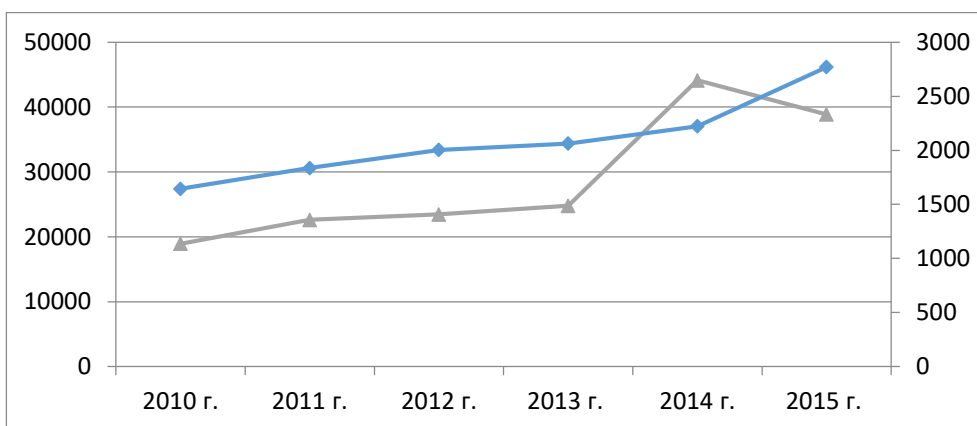


Figure 2. Dynamics of the small business enterprises number and their total turnover

The strategy of the socio-economic development of Russia by 2020 states the small and medium-sized businesses improvement is one of the main economic priorities. The government assistance activities aim to ensuring the development of SMEs as one of the most important elements for the market economy. In accordance with the implementation of this strategy, the government support is fixed at the legislative level. For instance, the contract system law (44-FA) obliges customers to purchase at least 15% of the total annual volume of purchases from small business enterprises.

Since August 2016, the Federal Tax Service launched a Single register of small and medium-sized businesses into commercial use. The register allows not only to systematize and make clearer the entrepreneurs' activity sphere, but also contains information about what affects the business reputation of SMEs, for example, information regarding contracts concluded in accordance with Law No. 44-FA or Law No. 223-FA. The second most important regulatory act regulating procurement activities is Law No. 223-FA, which provides for the obligation of corporate customers to fulfill the mandatory quota of procurement from small and medium-sized businesses in the amount of 18%. At the same time, at least 10% of this quota should be sent by customers to entrepreneurs according to the results of the purchases, which can be realized by small and medium-sized businesses only. Services for SMEs that facilitate making the state purchases "By now, there is a comprehensive system of free services and solutions on the RTS tender platform, which makes it easier for SMEs to participate in procurement.

Due to Government program "the development of small and medium-sized businesses", 7.5 billion rubles were allocated to 82 subjects of the Russian Federation in total in 2017.

Especially for small businesses, there are various free educational projects. As an example, within the framework of Russian national award "Business Success", organized by public organization "Support of Russia" in cooperation with the RTS-tender platform, special master classes for entrepreneurs are held, dedicated to the existing tax preferences and government assistance programs, as well as Express course "I am a supplier", where future participants of procurement can receive theoretical and practical knowledge necessary to start working in the field of state and corporate orders.

Today, the government support is carried out in the following areas: the creation of laws and regulations for assistance and development to business sector representatives; the organization of the personnel training for small businesses; the formation and provision of the social security system in the common business space; the creation of preferential conditions for using information, financial and other resources by business; the inclusion of representatives of the sphere in foreign economic activity programs.

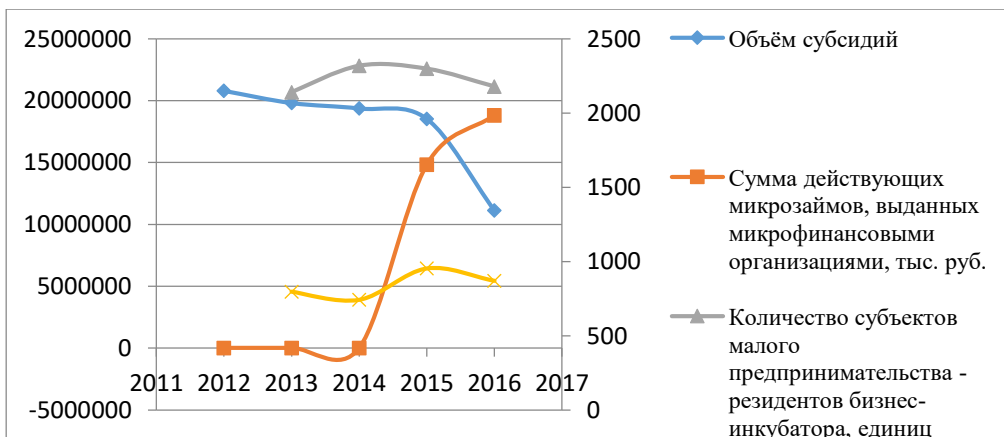


Figure 3. Dynamics of state support of small enterprises

The ministers seek to assist those who have decided to start a business. The assistance is provided in accordance with the following programs: Federal, regional, sectoral and inter-sectoral, municipal. Annually, before the Federal budget submission the Russian Federation government introduces a draft federal program of the government assistance of small business in the Federal Assembly of the Russian Federation for discussion. The programs financial support is executed yearly at the expense of the budgets of different levels, as well as other sources. The mandatory annual allocations amount of the state aid is indicated in the expenditure part of the Federal budget; it goes according to law No. 88-FA.

Table 1. Forms and methods of the government support of small business

Forms and methods of the government support of small business	Notes
Financial support	
In a number of instances	The state provides financial assistance free of charge. But an entrepreneur must meet the requirements for the program participants. The volume of the subsidy can reach up to 300 000 rubles. The decision as regards providing it is made after the business plan analysis. There is a number of programs which allow you to get money on credit to start and develop your business at a low interest rate. Prequalification for trade shows and fairs is charge-free. The creation of youth innovation creativity centers (providing subsidies for the creation of centers in the amount of up to 7 million rubles per one support recipient)
The compensation of interest rates on loans	
Issuance of soft loans	
Provision of financial support to start-up entrepreneurs	
State and municipal guarantees on loans of commercial banks for projects of creation and development of small business	
Budget investment in fixed and working capital	
Financing investment projects	
Placement of products on free shopping sites	
Development of youth entrepreneurship	
Property support	
The provision of land property and premises for rent on favorable terms	An Entrepreneur can get for temporary use a plot of land or real estate. This allows you to save on purchasing your own premises from individuals. Business incubators –from 900 sq. m.; industrial parks –from 20 thousand square meters, industrial parks –from 5 thousand sq. m. Export support centers are being created
Transfer for temporary use or ownership of state or municipal property	
Support for export-oriented small companies	
Creation and development of infrastructure to support small businesses	
Information support	
Information distribution system	
Business information exchange networks	
Access of small business to software products for accounting and tax reporting	
Organization of international exhibitions and fairs	

Forms and methods of the government support of small business	Notes
Consultancy support	
The free counseling activities.	Events are held on the basis of employment centers, Federal tax service or business development Funds. Employees of institutions are ready to answer a question of an entrepreneur regarding taxation, accounting, planning and other areas related to the interaction with government agencies Regional business development funds periodically conduct trainings and lectures. They are aimed at helping start uppers. Anyone can visit them. However, you will need to pre-register
Business training	
Training, retraining and advanced training	
The development of educational programs	Within the program of the Ministry of economic development includes the provision of certificates for training, the recovery of expenses for staff training, retraining and the organization of training events regarding various issues of business
Creating conditions for professional development	
Educational, methodical, scientific and methodical assistance	

But, despite the extensive government support in the field of small business development, an entrepreneur faces a number of problems, which need to be studied in more detail. First of all, it is the instability in the application of taxation.

Problems identified while realizing the government assistance of small business

November problems of state support of small business note:

1. Methods of support of entrepreneurship, fixed in the legal acts are not implemented in practice.
2. Lack of an effective legislative framework
3. The tax burden is quite high.
4. Bureaucratization of public institutions entrusted with Supervisory functions
5. The lack of a well-developed system of business financing
6. The presence of economic problems Inflation, rising prices in all areas of production
7. A small amount issued on a Pro Bono basis, the Allocated amount is insufficient, and to get a loan for the start-up phase of the company is problematic.
8. Inefficient operation of existing structures and forms created to support small businesses a significant part of their functions remains unrealized cause is the imperfection of the business environment, especially in the field of innovation.

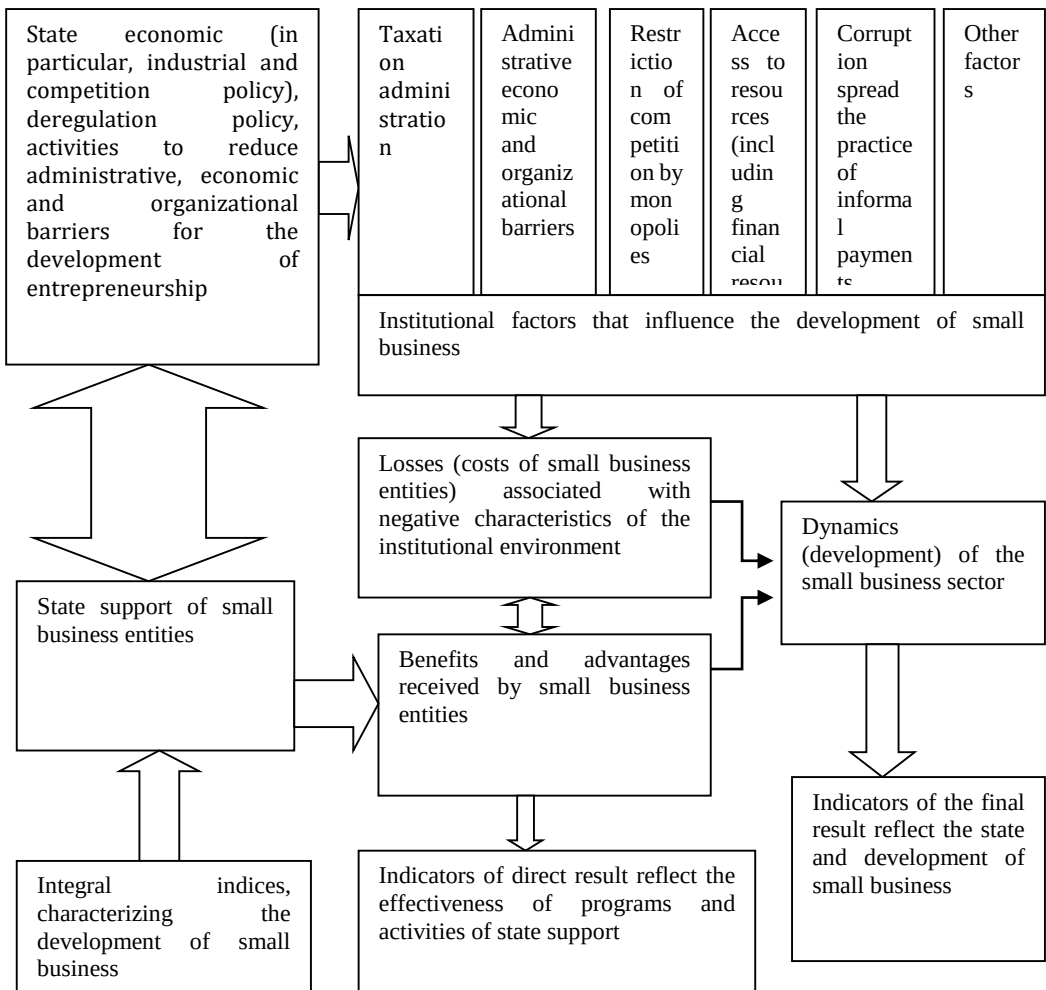


Figure 3. The mechanism of small business development

Conclusion

Summarizing the above, it can be said that the strategy for the development of small business today is a priority for the development of the economy. A special role in supporting small business is played by the state, as the development of small business will solve the problems of unemployment, increase labor productivity, saturate the market with innovative innovations, and resolve issues related to the inflationary instability of the Russian economy.

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NOT ONLY ECONOMICS: THE POLITICAL ECONOMY OF EURO ADOPTION IN ROMANIA

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Abstract. *The monetary unification in Europe– the establishment of a single currency for all members of the European Union – has been conceptualized and promoted mainly in economic terms. The economics of monetary unification analyze the (mainly economic) costs and benefits that member states draw from replacing multiple national currencies with a single currency. The political factor has been habitually put aside as the benevolent despot view of the government was tacitly embraced with regard to the creation of the monetary union. Similarly, the process of euro adoption by countries that entered the European Union (EU) later is usually described as being driven by economic factors. The process of nominal and real convergence with older members has been carefully analyzed. Much less weight has been put on the complex interaction of economic and political dimensions during preparations for euro adoption, such as the political interests of national governments and their relation with major internal economic players. The multifaceted interplay of economic and political factors suggests the opportunity to take a political economy perspective on this complex issue. In this sense, a number of key political-economy related issues can be distilled in relation to the process of euro adoption, which will structure the following analysis. What are the key national winners and losers of this possible event? What role has interest-groups pressure played in this process? Under what circumstances may bureaucracies such as the central bank body of experts act as a deterrent for the political end that is the common currency adoption? How are internationally exposed companies expected to behave and to promote their interests in relation to this event? What is the relative importance of the internal politics dynamic for euro adoption? We rely on process tracing to approach these questions for the Romanian case. Policy documents, newspaper articles, academic articles, economic indicators and elite interviews are used to create an analytical narrative based both on a one-point-in-time description of the situation and on a timeline that lists the sequence of some relevant events. We argue that a specific combination of economic and political factors leads to the failed euro adoption in Romania.*

Keywords: *Euro; European Union; political economy; euro adoption; Romania.*

Introduction

The process of monetary unification in the EU – i.e. the establishment of a single currency for all members of the EU – has been conceptualized, discussed and promoted mainly in economic terms. The economics of monetary unification analyze the (mainly economic) costs and benefits that member states draw from agreeing to replace multiple national currencies with a single currency. On practical grounds, a policy-related issue – the necessity to replace the abandoned exchange rate as a policy tool in the hands of national governments – has been usually stressed. The academic and popular debates about the practicability of fiscal policy instruments gained momentum, as did the discussions about the effects that the availability of these economic policy instruments may have on national sovereignty. However, the political factor has been habitually put aside as the benevolent despot view of the government was tacitly embraced with regard to the creation of the Economic and Monetary Union (EMU). Political processes such as treaty negotiations, parliamentary ratifications, and popular referenda have been studied in relative disconnection from the economic arguments put forward in favor of this monetary arrangement.

Theories inspired by the analysis of the Optimal Currency Areas (OCAs) emphasize the best conditions for a country to abandon an autonomous monetary policy (Mundell, 1961; Frankel & Rose, 1998). A floating exchange rate system may successfully be abandoned if the economy has certain mechanisms able to act as built-in adjustment tools, such as internationally flexible and mobile capital and labor markets. In this case, the national economies of a monetary bloc may draw advantages from having a common currency managed by a transnational authority rather than multiple national currencies managed by national monetary authorities.

The rigorous theoretical construction on currency areas is unsuited to explain the monetary unification in the EU (Frieden, 2002). The EU is unlikely to meet all the conditions required for an OCA as labor mobility and correlation among exogenous shocks in various member states are still low. Even the initial, eleven-country eurozone may have not been the ideal area to form a monetary union. Similarly, it can be argued that the present-day drive for the enlargement of the eurozone is far from being an economically motivated process. Therefore, the ongoing political interest for the move towards monetary unification must be explained on different grounds.

One way to extend the narrow economic view on European monetary integration is to look at the factors that influence the behavior of politicians who ultimately decide on a country's monetary institutions. Frieden (1998, p.26) argues that there are three principal factors that made the euro politically attractive, given that a precise calculation of economic costs and the benefit is impossible: the quest for anti-inflationary credibility, the links between the common currency and the European integration, and the support from the powerful business interests. Germany has been a champion of low inflation and monetary soundness and the countries with a weaker monetary record have tried to reinforce perceptions by committing to the rules of the common currency area. Fearing of becoming second-rate countries, the national political elites of the outsiders would face strong incentives to participating in the monetary unification. Similarly, large pan-European corporations would be attracted to the exchange rate stability and would pressure national government to become part of the euro bloc.

Moreover, there are winners and losers of the European monetary integration and identifying these two groups may shade light on the forces at play in this process.

The multifaceted interplay of economic and political factors suggests the opportunity to take a political economy perspective on this complex issue. In this sense, a number of key political-economy related issues can be distilled in relation to the process of euro adoption, which will structure the following analysis. What are the key national winners and losers of this possible event? What role has interest-groups pressure played in this process? Under what circumstances may bureaucracies such as the central bank body of experts act as a deterrent for the political end that is the common currency adoption? How are internationally exposed companies expected to behave and to promote their interests in relation to this event? How did they in fact behave? What is the relative importance of the internal politics dynamic for euro adoption?

We rely on process tracing to approach these questions for the Romanian case. Policy documents, newspaper articles, academic articles, economic indicators and elite interviews with stakeholders in the euro adoption process are used to create an analytical narrative based both on a one-point-in-time description of the situation and on a timeline that lists the sequence of some relevant events. The descriptive power of process tracing is completed by the analysis of some causal inferences that this technique enables (Collier, 2011). Given the fact that the Romanian authorities have not yet made public a calendar for adoption, the relative importance of the aforementioned factors for this failure is analyzed. Since process tracing is particularly suited for gaining insight into causal mechanisms, this methodology is used for the study of the hypothesis that a particular combination of the variables advanced above concurred to the failed adoption of the euro by Romania.

Framework for analysis

Once the limits of the strictly economic perspective have been acknowledged, the process of euro adoption in the new member states of the EU (NMS) has been analyzed by studying the economic and political institutions and other features of the domestic environment in which this enterprise occurs (Dandashly & Verdun, 2015, Dandashly & Verdun, 2016, Johnson, 2006, Johnson, 2008). Tools derived from the political economy and comparative politics traditions have been employed to explain the diverse strategies that these countries enacted.

A first theoretical base for these applied studies is the literature dedicated to the political economy of monetary institutions that analyzes the monetary arrangements that individual countries choose in relation with certain political institutions. Given the time inconsistency and the inflationary bias of monetary policymakers, central bank independence and a predictable exchange rate regime (i.e., fixed exchange rates) evolved to insulate monetary issues from political pressures (Bernhard, Broz & Clark, 2002). At the international level, strategic interactions among governments, compelled by national concerns and constrained by the international environment shape the international monetary system (Broz & Frieden, 2001). However, both the perspective that emphasizes the national preference formation for a certain monetary arrangement and the view that focuses on strategic interactions among national governments in international monetary matters fall short in explaining the dynamics of the EMU. The process of monetary unification in Europe has been an unprecedented endeavor that

dramatically transformed economic policy and politics in Europe. Moreover, the sundry strategies of NMS towards euro adoption must be explained taking into account some elements of their internal political dynamic.

Writing at a time when the process of monetary unification was in its early stages, Feldstein (1997) stresses the importance of political motivations behind this move, given his assessment of the EMU as having a negative net economic effect. The desire to promote cooperation and peace while closely guarding national interests, the prospects of an increased cross-border bureaucracy, the willingness of the European political elite to bypass popular preferences related to a common currency have all been extra-economic catalysts for the European monetary unification process. The economic consequences may well be contrary to those expected, as an “artificially contrived” monetary unification is expected to reduce the volume of trade among member states and to increase unemployment (Feldstein, 1992). Friedman’s economic and political diagnosis is similar, given that the common market is not integrated well enough in terms of the freedom of circulation of goods and capital (Friedman, 1997).

The real factors of the EU’s currency policy (as opposed to the monetary factors) have been found to be significant, as exporters and cross-border investors tend to favor stable exchange rate. On the political economy of EMU, Eichengreen & Frieden (1993) are among the first to study the process of monetary unification in the EU simultaneously from an economic and a political perspective. The authors show that EMU is the outcome of a political enterprise and put forward three sets of political considerations as a point of departure in explaining the dynamics of EMU: interstate bargaining, issue linkage, and domestic distributional factors. The interests that the large economic sectors have in the monetary unification process have also been studied (Frieden, 2002).

The quintessential political nature of the euro is analyzed by Bagus (2010). He points out that the euro shares the same key feature with the rest of today’s currencies: it is fiat money. A governmental agency – i.e., the European Central Bank – is entrusted with the power and responsibility to issue the euro for the benefit of the European state. From this perspective, replacing multiple national fiat currencies with one European fiat currency bears no important economic advantages. In fact, the opposite case seems to be unfolding, leading to the author’s conclusion that the EMU is a self-destroying, conflict aggregating system since there is no externally enforced mechanism to restrict the money production and the cross-border wealth transfers that it requires.

This article seeks to add to this body of literature by studying the Romanian case of euro zone accession. We classify the factors for euro adoption into three categories. The economic factors include those criteria derived from the OCA theory, such as the economic structure and trade relation, labor market flexibility and the business cycle synchronization. The political economy factors deal with the actions of national and supranational bodies, such as the convergence criteria negotiated during the Maastricht process, the later addition of real convergence criteria, the exchange rate regime, interest group pressure, and the symbolic factor. The third group has to do with internal politics factors, such as the president, political parties and the central bank. The following section focuses on the analysis of some of these factors, while the third section concludes.

Money, politics and policies. The political economy of euro adoption in Romania

Interest group pressures: an apparent lack of interest

What role have interest group pressures played in the ongoing process of euro adoption in Romania? What groups can be identified that pushed for a rapid switch to the euro? First observation on this matter is that in general monetary policy is an area relatively isolated from interest group pressures. The lobbying groups have no means to exclude others from enjoying the benefits nor can they find an effective way to share the costs. Therefore, incentives to engage in this type of lobbying activity are weak (Broz & Frieden, 2001), at least compared to those situations in which the lobbying groups are able to exclude others from benefiting from the special treatment, such as the case of the trade policy. However, the lobbying activity of some groups has been identified and studied in relation with euro adoption in NMS. Haughton (2010) and Dandashly & Verdun (2015) study the Slovak case where the foreign business lobby, especially the automotive industry pushed hard in favor of euro adoption.

Like Slovakia, Romania too benefitted from an increased inflow of FDI, with the automotive industry being one of the main beneficiaries. As one of the key growth drivers for the economy, the local auto industry accounted for 47% of the country's exports in 2016, with Dacia (part of the Renault group), Ford and Volkswagen being the main car manufacturers (Romania Insider, 2017). However, the lobbying activity of this foreign-dominated industry appears to be quasi-absent (interview with BNR official, June 2018).

Money as a symbolic factor: a case of monetary realism

Identities, ideas and the symbolic value that people attach to their national currency are important factors that influence popular attitudes towards euro adoption. The different degree of attachment that people have towards national currency has been studied as an explanatory variable for the diverse speeds and strategies of euro adoption in the NMS (Dandashly & Verdun, 2015).

How much does the symbolic factor explain the Romanian strategy of euro adoption? First, trying to assess the degree of symbolic value that Romanians attach to the leu, one should look at the polls that address this specific problem in relation to euro adoption. The Flash Barometer results for 2018 reveal that in Romania a slight majority of the population (47% vs. 44%) disagree that adopting the euro will mean that their country will lose a part of its identity. The trend, however, is descendant, (with fewer Romanian disagreeing with the idea of a lost identity due to euro adoption) after reaching a maximum in May 2010 – 66% (EC, 2018b). Second, the quality of the national currency may be taken as a proxy for the degree of attachment felt by the people. Romania has seen one of the highest inflation among the countries in the region in the first decade of transition. Inflation rate reached 295.5% in 1993, fell in 1995 to 27.8%, only to increase in 1997 to 151.4%, staying at high levels until the late 2000s. As a result, the degree of currency substitution has been among the highest in the region.

In sum, the Romanian public does not see many advantages in using the national currency and turns to the common currency to save and to make current transactions, a fact confirmed by the high percentage of the public that has used the euro within their

country (around eight out of ten of the group of respondents who have already used euro banknotes or coins have done so in Romania or both in Romania and abroad) (EC, 2018b).

To conclude, it is safe to assume that the majority of the Romanian public tends to think of their national currency mainly in economic terms and does not attribute a great symbolic value to the *leu*. Therefore, the symbolic factor has not been an impediment for euro adoption in Romania.

We shall now analyze the internal politics dimension of euro adoption in Romania following the structure of factors of influence used by Dandashly & Verdun (2016) to examine the cases of the Czech Republic, Hungary, and Poland. The first set of factors includes electoral cycles and the role of the elites such as the presidency and political leadership along with the constitutional and legal constraints that they face, seeking to assess the degree of influence that these factors have on the euro adoption process. The second set of factors has to do with the central bank independence to assess how the preferences of the central bank elite impact the process. The last set deals with public opinion as we try to evaluate how the electorate may have influenced the monetary choice of the government.

Electoral cycles and the role of the elites: the declarative political support for the euro

On the one hand, the declarative support for an early euro adoption has been abundant among key political figures. Initially, the Romanian government had planned to adopt the euro in 2014, Prime Minister Emil Boc being so optimistic as to declare that even this date should be brought forward, stating that the government was working at a strategy for early adoption (Mediafax, 2009). However, this plan never came to fruition, 2014, 2015 and 2019 have all been abandoned as target dates. The first Convergence Program issued by the government in January 2007 contained a commitment to enter the Exchange Rate Mechanism II (ERM II) in 2012, while through the 2014 – 2017 Convergence Program the authorities committed to adopting the euro in January 2019. The rest of the programs contained no clear date for adoption, the government declaring in general terms its intentions to adopt the euro at some point in the future. The abandonment of the target was usually disclosed by public statement through the voice of the prime minister (or the finance minister), who emphasized the still unsatisfactory “readiness of the economy” as a key factor for the missed target (e.g., Gheorghe, 2017).

However, on the other hand, a clear timetable for euro adoption has never been made public. Coupled with the reserved attitude of the BNR with regard to an early euro adoption, this speaks to the duplicitous stance of the political elite towards euro adoption. Offering a rationale for euro adoption, the Romanian political discourse began to include elements specific to EU politics, such as the importance for Romania “to join the (eurozone) club” or to “have a seat at the decision table” (Șimandan, Leuștean & Dobrescu, 2017).

In March 2018, the ruling PSD voted at an extraordinary congress to back a 2024 target date for joining the Eurozone (Marinas, 2018). As a result of this decision, a national commission in charge of drafting the timetable for adoption was set up and began its activity. However, this pledge has little credibility given that Romania’s economic

conditions deteriorated in 2018 to the point that only one (i.e., the public debt) of the four nominal convergence criteria are likely to be met (EC, 2018a). Moreover, the recent expansionary fiscal policy implemented by the PSD government is incompatible with such an ambitious timetable for euro adoption.

As for the role of the presidency, according to the Romanian constitution, any law must be promulgated by the president, who is able to send bills back to the parliament for reexamination or to challenge them to the constitutional court. However, the president may do so only once since promulgating a reexamined bill is compulsory. Therefore, the president has no veto power in the Romanian constitutional architecture. In addition, the president has no specific economic role.

Since 2004, both president Traian Băsescu and president Klaus Iohannis publicly expressed their support for the adoption of the common currency. President Băsescu has been an enthusiast supporter both of the EU integration and of the eurozone adherence throughout his presidency. “I believe it should be firmly stated in our documents a target date, and an optimum time can’t be other than 2017”, he stated in an interview in 2013 (Caleaeuropeana, 2013). President Klaus Iohannis took every opportunity to affirm the country’s devotion to European values. In his view, joining the eurozone should become a “country project”, a condition for reaching this end, however, being a broad political consensus (Chiriac, 2015).

To summarize, we advance the idea that the political support for euro adoption has been a common feature of all the post-accession governments. However, the lack of concrete steps towards euro adoption coupled with the absence of a commitment to the calendar for adoption leads us to believe that the political support has been mainly declarative.

The role of the central bank: a cautious stance

Across time, the BNR has had a cautious approach towards euro adoption. Officials from the central bank have routinely emphasized the role of real-economy and political factors in addition to monetary factors for a successful euro adoption. Governor Isărescu has long championed putting the process of euro adoption in the framework of the real convergence set of arguments (Isărescu 2007, 2008, 2013, 2015). Unlike nominal convergence, which enjoys a clear-cut legal definition, real convergence lacks definitional precision. Among the criteria used to assess real convergence, per capita GDP has been analyzed in many documents originating from the BNR. The crucial contribution of the fiscal policy to meeting the criteria for euro adoption has been habitually emphasized (e.g., Isărescu 2008).

In the aftermath of the sovereign debt crisis, Isărescu (2013) argues that putting off euro adoption, at least temporarily, seems justified. Trying to rationalize this wait-and-see attitude of the BNR, he offers the following arguments: the common currency has gradually lost its appeal; the advantages of the euro have become less noticeable, while the disadvantages more clear; the reduction in financing costs (as a result of decreased interest rates brought about by the common currency) can no longer be considered a clear-cut benefit; the sluggish economic growth in the euro area makes the further commercial integration less appealing (pp.11-15).

In sum, we hypothesize that the cautious stance of the BNR – grounded in the slow advance of the real convergence – is a key variable to explain the sluggish move towards the common currency in Romania.

The public opinion: an unfulfilled enthusiasm

The public opinion factor may be taken as a proxy for the voice of the electorate that may influence the entire political process (Dandashly & Verdun, 2016, p.6). Romanians have constantly been among the most enthusiastic supporters of the common currency. Eurobarometer data for 2018 show that 69% of the Romanian population is in favor of euro adoption (the highest share, as in the previous report), compared with 27% which is against. The favorable opinion to euro adoption peaked in 2014, with 74% of respondents backing up euro adoption (with only 24% being against). The effect of the financial crisis on the positive perceptions of the euro has been modest: 62% of the population was favorable to the euro in 2008, declining only to 59%, 55% and 51% in 2009, 2010 and 2011 respectively, gradually increasing afterward.

There are several factors that can help explain the constant support for the common currency, notwithstanding the euro crisis. Firstly, given the constant high rate of inflation during the 1990's and the 2000's (in 1993) which resulted in a soaring degree of currency substitution, Romanians are not particularly attached to the national currency. Secondly, unlike other countries outside of the euro zone, Romania did not see the protective qualities of a flexible exchange rate regime. Although the real exchange rate of the leu depreciated by 19% between 2007 and 2009, the real GDP dropped by 7.1% in 2009. Romanians could learn that having an internally-managed currency is not an effective shield against outside economic shocks.

For these reasons, we theorize that the public opinion favorable to euro adoption has not been translated into an effective pressure on politicians to speed up the euro area accession. The freedom to use the euro for price quotations, savings, and borrowing, coupled with the fact that euro adoption has not been a salient issue, acted as a substitute for the necessity to officially adopt the common currency.

Table 1. Summary of economic and political factors for euro adoption in Romania (authors' own compilation)

Factor	Specifics
<i>Economic factors</i>	
Economic structure and trade relation	Improvement of the current and capital accounts; high degree of integration with the euro area through trade and investment
Economic cycle synchronization	Rapidly increasing since 2008
<i>Political economy factors</i>	
Nominal convergence	Maastricht criteria met only in 2015, 2016 and 2017; unlikely to be met in 2018
Real convergence	A slow advancing real convergence
Exchange rate regime	Managed float; a relatively stable real exchange rate
Interest-group pressure	Weak pressure for adoption
The symbolic factor	Not a deterrent for euro adoption
<i>Internal politics factors</i>	

Factor	Specifics
Presidency	Highly supportive; lack of economic responsibilities; no veto power
Priority of consecutive governments	Euro has been presented as a priority; lack of concrete steps towards euro adoption
Elites' support for euro adoption	Highly supportive
Central bank independence	Goal, instrument and financial independence; members of the board politically appointed
Government vs. central bank	Political cooperation until 2016; more conflict since 2016; BNR has had a cautious approach to euro adoption
Public opinion	Highly supportive; slightly declining with the euro crisis

Conclusions

A strictly economic perspective on the adoption of the common currency in the NMS falls short in explaining the widely diverse strategies that these countries embraced. A political economy standpoint, with its emphasis on the features of the internal institutional players and the expected behavior of national and supranational political actors, is in a better position to offer a more realistic view on this ultimately monetary phenomenon.

We have analyzed a number of economic and political factors that could help explain the sluggish advancement towards euro adoption in Romania. Even with the economic factors improving – the economic structure, trade relations, labor market flexibility, and business cycle synchronization have all moved towards greater compatibility with the euro area core – the political economy factors have not been particularly favorable to an early euro adoption. In addition, in spite of a euro-enthusiast internal public, the factors that relate to the domestic political life have not been able to push effectively for euro adoption.

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THE GLOBAL COMPETENCES. ANALYSIS OF EMPLOYERS' DEMAND FOR GLOBAL COMPETENCES IN ROMANIA

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Abstract. *The internationalization of companies has led to the diversification of demand for competences and to an increased competition in the labor market. For the labor market, it has become more common to adopt the concept of global citizenship in terms of competences and economic competitiveness when recruiting human resources. The global citizenship is the principal outcome of international education and is also linked to the internationalization of the curriculum. Developing the international curricula means preparing the graduates to live and work in a global world and enabling students to obtain both the social and the professional competences necessary to obtain a job anywhere in the world. In Romania, the employers have increased their demand for global competencies and practical skills in recent years due to the internationalization of companies and markets that are strongly connected to the necessity of hiring adaptable and flexible employees with analytical capacity and a high level of professionalism and integrity. These competences are found more and more often in employers' adverts for entry jobs. This trend has become challenging (seen both as an opportunity and a threat) especially for young graduates since they are facing the rapid changes from the labor market. Nowadays, the development of technology has facilitated the connection between the demand and the supply on the labor market via social networks or e-jobs platforms. The use of dedicated social networks for human resources recruitment has implications for the way the competition for obtaining a job at both national and international level changes and diversifies. The purpose of this article is to analyze the global competences required for the employment of young graduates of Economics in the Romanian labor market. For this purpose, the study aims to identify and to analyze the global competences required for entry-level jobs related to graduates of Economics (e.g. junior Accountant, junior financial analyst, junior Marketing expert). In this regard, the analysis is based on job requirements from human resources recruitment networks and e-jobs platforms (LinkedIn, bestjobs and e-jobs). Afterward, the paper synthesizes the results and builds a matrix of global competences based on the level of relevance; this matrix represents the fundamentals needed for designing the internationalized curricula.*

Keywords: *curricula; global competences; labor market; internationalization; competitiveness.*

Introduction

Major changes have influenced the international economy and the main changes have been the rapid development of direct foreign investment in national economies and the constant growth of international commerce (Cantwell & Janne, 2000; Hirst & Thompson, 2002, pp.98-101; Voinea, 2007, pp.31-32). The authors mention that the multinational companies (MNC) are responsible for direct foreign investments in local industries and that there are important changes in local markets as a result of their presence. MNC have brought also important changes in Romanian economy as Eurostat Report (Eurostat, 2014) highlights „in some selected Central European economies, such as Estonia, Romania, and Slovakia, the foreign-controlled companies play a substantial role in the economic performance in their economies”. Starting from these statements, the present study aims to analyze the implication of internationalization of the companies and of MNC presence in Romanian markets from the perspective of Romanian labor market demand for global competences. To achieve this, the paper will present, on the one hand, the main characteristics of global competences, the connections between the international market characteristics and the increasing demand for global competences, and on the other hand, the importance of global competences for increasing employability on the labor market. The role of this analysis is to identify which are global competences required by employers in order to help the universities to meet this demand and to apply changes in the curricula by providing high employability skills and competences. Thus, the literature review will show the categories of skills that form the global competences, the connection of each category with the specific feature of the international market and, ultimately, the importance of global competences for increasing employability of young graduates.

In the methodology section, the present paper will use for determining the most wanted profiles in graduates the technique of content analysis of internet-advertised posts for jobs on three social network platforms (LinkedIn, bestjobs and e-jobs) in order to describe in a systematical and quantitative manner the content of communication (Chelcea, 2007, p.568). For this purpose, we have selected 50 job adverts for young Economist graduates in which were present at least three global competences. Thus, by synthesizing and coding the data, we have built a matrix of global competences that shows which are the most important global competences demanded by Romanian employers.

The conclusions of this paper highlight that the global competences are often present in the job adverts for young graduates and this is a direct consequence of the Romanian labor market openness to internationalization.

Literature review

The global competences. Increasing employability in the labor market

The globalization process has brought many changes in the way companies perceive the development of their business and thus important changes in the process of recruiting the workforce. Also, the globalization is seen as the main factor leading to the development of the multinational companies or increasing the importance of an international component of the business/company. Companies' organizational culture plays an important role in becoming more innovative, taking advantages of work

creativity and gaining market advantages (Zhang, Larkin & Lucey, 2017). In terms of human resources, the innovative company is seen as an entity where all its members are involved in creating new products, services or processes (Sarros et al., 2008, cited in Zhang, Larkin & Lucey, 2017). Also, the same study mentions that in competitive and innovative companies, the employees are encouraged to develop independent thinking and creativity, to cultivate engagement and enthusiasm, to collaborate efficiently with the team, to know how to prioritize their tasks and to adapt and solve different issues. In this regard, starting from innovation and technology development we are witnessing nowadays the growth of the importance of global professions and global competences (van der Wende, 2018; WEF, 2016). These studies have showed that engineering is among the most globalized and regulated professions. The curriculum for science, technology, engineering and mathematics (STEM) is internationalized because their content is already universal, being facilitated by the use of mathematics and/or by computer languages as universal languages. Also, this complex of technical fields (STEM) “was among the first fields to switch to English”, being created and developed “in a global science system, with strong international cooperation and broad use of English as scientific lingua franca” (van der Wende, 2018).

If global professions are relatively simple to identify, for defining and understanding the global competences we propose a deeper analysis starting from showing the link between international markets’ characteristics and the recognized need for global competences on the international labor market. Before describing the correlation presented in Table no. 1, we will put forward a few general definitions and theoretical aspects regarding global competences.

The term of global competences is usually used with reference to curriculum internationalization (Morais & Ogden, 2011), employability (Yorke & Knight, 2006) and with global citizenship (Morais & Ogden, 2011; Shultz, 2007). Internationalization of curriculum represents the internationalization of the educational content, including the new teaching and learning instruments, distance learning, programs in a foreign language, interdisciplinary curricula covering more than one country, leading on the one hand to joint/ double degrees from different countries and, on the other hand, to internationally recognized professional qualifications (Kehm & Teichler, 2007; Knight, 2004; Nicolescu, 2014; Van der Wende, 1997).

Employability is defined by Yorke & Knight (2016) as “a set of achievements – skills, understanding and personal attributes – that make graduates more likely to gain development and be successful in their chosen occupation, which benefits themselves, the workforce, the community and the economy”. Thus, employability is seen as an individual adaptation through qualities and competences to meet the changing needs of employers and customers and is applied in different contexts by those in work or by those seeking work (McQuaid & Lindsay, 2004).

The term of global citizenship is used as a “multidimensional construct that hinges on the interrelated dimensions of Social Responsibility, Global Competence, and Global Civic Engagement” (Morais & Ogden, 2011). The conceptual model realized by Morais and Ogden (2011) describes each dimension of global citizenship, all three dimensions being important for increasing the employability in the perspective of increasing the transnational mobility of knowledge and skills (Shultz, 2007).

The global competences are the interpersonal skills recognized internationally (Deardorff, 2014; OECD, 2016, pp.4-6) and are related to a sum of abilities and expertise among which we mention: the ability to solve the problems and to find information, the ability to work under pressure, to develop and coordinate multicultural teams, the ability to deal with different communication styles, to hold international expertise, foreign language abilities, international market skills and general world business knowledge (Bush & Bush, 1998; Yu et al., 2005; van der Wende, 2018). The global competences are also called the “21st century skills” (van der Wende, 2018), covering four categories of skills needed in international markets: relational skills, motivational skills, perception skills and linguistic skills (Filip & Iamandi, 2012, pp.56-57).

The relational skills are related to interpersonal relation skills like flexibility, adaptability, tolerance, the cultural empathy, intellectual curiosity about the rest of the world, the ability to understand and not judge others’ cultural values (OECD, 2016, pp.4-6; Roberts, Kossek & Ozeki, 1998, p.100; Filip & Iamandi, 2012).

The motivational skills are related to self - confidence, personal interest for international experience and international environment, self-discipline, the desire to learn, develop and apply new programs or work techniques (Ken & Cheah, 2012; Filip & Iamandi, 2012).

The perception skills are in connection with the capacity to understand and analyze issues from multiple perspectives and also to take the best decisions in uncertainty conditions, creativity, critical thinking (Filip & Iamandi, 2012; Deardorff, 2014; OECD, 2016, pp.4-6).

The linguistic skills refer to foreign language abilities, especially to a very good knowledge of English language, as lingua franca, communication and non-verbal communication (Petcu et al., 2015, pp.12-13; van der Wende, 2018; Filip & Iamandi, 2012).

Starting from these four categories of skills, we can also identify the implications of the international markets in developing the competences and in increasing the requirements for global competences. Thus, the Table below shows the correlation between the development of the international market and the growing demand for global competencies establishing for each category of competence the international markets’ attributes that generated this demand.

The information from Table no. 1 highlights that not only one category of skills is needed for covering one specific feature of the international market. Competences like “Critical thinking” and “Personal interest for international experience and international environment” are generated by the complexity of the international market, “The capacity to analyze a state from multiple perspectives”. “Communication” and “Efficient communication in a foreign language” are generated by the heterogeneity of the international market, “Flexibility”, “Ability to learn new working procedures” and “Adaptability” are generated by the dynamism of the international markets, “Creativity” and “Customer orientation and results orientation” are generated by the competitiveness of the international markets, “Ability to prioritize the activities and to evaluate the available resources” and “Ability to evaluate the risks” are generated by the

uncertainty of the international markets (Danciu, 2009, pp.102-103; Filip & Iamandi, 2012; Guy, 2009, pp.8-13; OECD, 2016, pp.4-6; Vătămănescu & Andrei, 2014, pp.59-60).

Table 1. The correlation between the development of international market and the growing demand for global competencies (Source: Adapted from OECD, 2016, pp. 4-6; Danciu, 2009, pp.102-103; Vătămănescu & Andrei, 2014, pp.59-60; Guy, 2009, pp.8-13; Filip & Iamandi, 2012)

Characteristics of the international market	Category of skills	Global competencies	The need for global competences on the international labor market
Complexity	Relational skills Perception skills Motivational skills	Critical thinking Personal interest in international experience and international environment	To understand and evaluate complex situations To understand and anticipate new trends in international markets
Heterogeneousess	Perception skills Linguistic skills	The capacity to analyze a state from multiple perspectives Communication Efficient communication in a foreign language	To take the best decision under market heterogeneity To be able to communicate effectively with multicultural working teams
Dynamism	Relational skills Motivational skills	Flexibility Ability to learn new working procedures Adaptability	To adapt to different situations and conditions
Competitiveness	Perception skills Relational skills	Creativity Customer orientation and results orientation	To generate innovation for the company To generate profit and to increase the market share for the company
Uncertainty	Perception skills Motivational skills	Ability to prioritize the activities and to evaluate the available resources Ability to evaluate the risks Self-motivation and confidence to evaluate the international environment	To reduce the costs and resources used in current business To make the business more efficient To involve efficiently in growing the company's business in the international environment

The global competences are widely used in adverts when recruiting graduates. Studies have shown that a content analysis of internet-advertised posts of e-jobs platforms or social networks is used to identify the changing demands for competences on labor market (Ken & Cheah, 2012; McMurray et al., 2015; Roux & Jager, 2016). This type of analysis guides and helps all stakeholders to respond to the changes imposed by the globalization process on the labor market: universities when adapting the curricula; students when choosing their university, their programs and when applying for a job; employers when searching for the best employees; states, political and economic unions and international associations when establishing new policies for increasing employability (McMurray et al., 2015). Thus, this type of study is meant to show, on the one hand, the most important skills and capabilities required by the employers when recruiting young graduates, and, on the other hand, the gaps in the competences held by the young graduates and employers' demands (McMurray et al., 2015; Roux & Jager, 2016).

Methodology

Studies have shown that companies are dependent on resources residing outside the company (Sawyer & Sprinkle, 2003, pp.114-120; Gebert-Persson, Mattsson & Öberg, 2014). For the companies, it became more common to develop the connection with the human resources through e-jobs platforms or career networks (Gebert-Persson, Mattsson & Öberg, 2014).

Our study is using the quantitative approach of content analysis (Chelcea, 2007) when considering jobs adverts for Economics graduates in the Romanian labor market. The present analysis is using the information from three social networks and e-jobs platforms: LinkedIn, bestjobs and e-jobs and the analyzed items are all the adverts for junior Accountant, junior Financial analyst, junior Marketing expert and junior Economist. For selecting these jobs, we used the search function from the platforms during April and May 2018. In the first search, we found over 100 non-repetitive adverts (59 in April and 43 in May), containing the keywords junior Accountant, junior Financial Analyst, junior Marketing expert and junior Economist for Romanian labor market. Then we identified the most frequent 10 global competences present in the adverts and after that, the purpose of our study was to identify in one advert at least three global competences. Since the collected data were relatively small, we used for content analysis the Microsoft Excel worksheet and we selected 50 adverts for young Economist graduates in which were present at least three global competences as were defined in OECD (2016), Deardorff (2014) and Filip & Iamandi (2012). The selected global competences were:

- 1 Self- motivated person/ enthusiasm and commitment;
- 2 Very organized and detail oriented;
- 3 "customer first" oriented attitude/ delivering quality results to deadlines;
- 4 Excellent communication and writing skills/ good team skills;
- 5 Excellent knowledge of the English Language;
- 6 Excellent knowledge of German/ French/ Italian language;
- 7 Ability to work in a multinational/ multicultural environment;
- 8 Flexibility;
- 9 Good problems solving skills, thinking critically and an analytical mindset;
- 10 Willingness to learn/ eager to acquire experience in a professional environment.

The network approach to the study of global competences used on one hand the systematic analysis of empirical data and on the other hand the 0 and 1 coding for absence or presence of the global competences in the companies' adverts. Thus, synthesizing and coding the data, we have built a matrix of global competences based on the selection described above. In Table no. 2 we present the results in the form of a matrix in which the first column is represented by the adverts (from 1 to 50 as are described in Appendix) and the first line is represented by the 10 selected global competences.

Table 2. The matrix of global competences in Romanian adverts
(Source: Content analysis from LinkedIn, e-jobs and Bestjobs)

Competences/ Adverts	1	2	3	4	5	6	7	8	9	10	TOTAL
1	1	1		1	1				1	1	6
2	1				1		1	1			4
3	1		1	1		1	1		1		6
4		1		1	1		1	1	1	1	7
5		1			1	1			1		4
6	1	1	1	1	1		1	1		1	8
7	1	1	1	1	1			1	1		7
8	1	1	1	1	1		1	1	1	1	9
9	1	1			1	1			1		5
10	1	1		1	1				1		5
11	1	1		1	1	1					5
12	1	1	1	1	1	1				1	7
13	1				1					1	3
14	1			1	1			1	1	1	6
15	1	1		1	1				1		5
16	1	1		1	1			1		1	6
17		1		1	1						3
18	1	1								1	3
19		1		1	1						3
20	1	1		1	1		1	1	1		7
21	1	1		1	1		1	1	1		7
22	1	1		1	1			1	1		6
23	1		1	1	1				1	1	6
24	1	1		1	1			1	1		6
25	1	1	1	1	1			1		1	7
26	1	1	1	1	1		1	1	1		8

Competences/ Adverts	1	2	3	4	5	6	7	8	9	10	TOTAL
27	1			1	1			1	1		5
28	1	1		1	1				1		5
29	1	1	1	1	1		1		1		7
30	1	1	1	1	1				1		6
31	1	1		1	1			1	1		6
32	1	1	1	1	1				1		6
33	1	1	1	1	1		1	1	1		8
34	1	1	1	1	1			1	1		7
35	1	1	1	1	1			1	1		7
36		1	1	1	1			1	1		6
37	1		1	1	1			1	1		6
38		1		1	1	1	1	1	1	1	8
39	1	1		1	1		1	1	1	1	8
40	1	1		1	1				1		5
41	1	1	1	1	1				1		6
42	1	1	1	1	1		1	1	1	1	9
43				1					1	1	3
44	1	1	1	1	1			1	1		7
45	1	1	1	1	1			1	1		7
46	1		1	1	1	1		1	1	1	8
47	1	1		1	1	1		1	1		7
48	1		1	1	1			1			5
49	1	1		1	1				1		5
50	1	1	1	1	1	1		1	1	1	9
TOTAL	43	40	23	45	47	9	13	29	39	17	

Analyzing the results from the matrix we can identify the main global competences that are present in the adverts. For the employers, motivational skills like *self- motivated person/ enthusiasm and commitment* (43 adverts from 50 selected), perception skills and linguistic skills like *very organized and detail oriented* (40 adverts from 50 selected), *excellent communication and writing skills/good team skills* (45 adverts from 50 selected), *excellent knowledge of English language* (47 adverts from 50 selected), *good problems solving skills, thinking critically and an analytical mindset* (39 adverts from 50 selected) are the most important global competences that they search in a candidate when recruiting young graduates. Connecting this information with the companies' profiles presented in the Appendix, the matrix results are explained, on the one hand, by the presence of MNC in Romania and, on the other hand, by the internationalization process that characterizes the labor market in Romania (Eurostat, 2014).

The results regarding the presence of the global competences in the adverts are similar with those obtained in other studies - McMurray et al. (2015), Roux and Jager (2016), Jackson, Sibson and Riebe (2018), which show that skills areas required by employers include communication, decision-making and problem-solving, self-management and team-working skills. The results showed that the Romanian employers require workforce prepared for the international environment and the advertised posts present information regarding not only professional expertise, but also global competences when looking for hiring the best Romanian graduates.

Conclusions

The Romanian labor market has become aligned to the international market changes in terms of requirements for global competences, which is also valid in the recruitment of young graduates. The present study shows that competences like communication and excellent knowledge of the English language are the most required and they represent the key global competences that provide employability for the young graduates. Also, global competences from the category of the motivational skills (self-motivated person/enthusiasm and commitment) are in high demand, being present in 43 out of 50 adverts for Economics' graduates. Not only do the MNCs' adverts contain specifications regarding the global competences, but also other institutions adverts such as banks, financial and accountancy institutions have the same requirements. This could lead to the conclusion that the Romanian labor market has become aligned to international requirements in terms of demand for competences. Also, the global competences can be found in high percentages in job adverts, which signals that owning them leads to a high rate of employability. Thus, this study could guide the universities in designing the curricula specially to cover the gap between the demand and the supply of competences (Nicolescu & Păun, 2009) in the internationalization of markets context. By using this approach, the universities will provide internationalized learning for all the students instead of isolated international experiences for just a small number of students. For a thorough analyze of the supply of global competences as they are given by curricula, we need to undertake a different research, in order to establish whether the actual curricula are already internationalized, and in this case we need to identify what are the global competences that are missing from the curricula or whether we need to find the conceptual models for designing internationalized curricula.

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Appendix 1

- 1 Advert1 (KPMG - JA)
- 2 Advert2 (JYSC JA)
- 3 Advert3 (DB Schenker GS, JA)
- 4 Advert4 (Accenture, JA)
- 5 Advert5 (Shindler, JA)
- 6 Advert6 (Eckerle Automotive SRL, JA)
- 7 Advert7 (Emerson, JA)
- 8 Advert8 (EY, JA)
- 9 Advert9 (Lagardere, JA)
- 10 Advert10 (WNS Global services, JA)
- 11 Advert11 (Stefanini, JM)
- 12 Advert12 (BRD JM)
- 13 Advert13 (Horizon Global, JF)

- 14 Advert14 (NHR Agropartners, JA)
- 15 Advert15 (Ideall, JA)
- 16 Advert16 (McCann Erickson, JA)
- 17 Advert17 (Emag, JE)
- 18 Advert18 (Smartpoint Consulting SRL, JE)
- 19 Advert19 (BRC, JF)
- 20 Advert20 (Contexpert, JA)
- 21 Advert21 (Honeywell, JF)
- 22 Advert22 (IBM, JE)
- 23 Advert23 (CBRE Romania, JE)
- 24 Advert24 (Vauban, JE)
- 25 Advert25 (Continental, JF)
- 26 Advert26 (Alpha Bank, JF)
- 27 Advert27 (TTA echipamente, JF)
- 28 Advert28 (SC La fantana, JF)
- 29 Advert29 (Telekom Romania, JF)
- 30 Advert30 (CETELM IFN SA, JF)
- 31 Advert31 (Manpower Romania SRL, JF)
- 32 Advert32 (EBC, JF)
- 33 Advert33 (Vodafone, JE)
- 34 Advert34 (Orange, JA)
- 35 Advert35 (Kaufland, JE)
- 36 Advert36 (B. Transilvania, JF)
- 37 Advert37 (Romp petrol, JF)
- 38 Advert38 (Renault Romania, JE)
- 39 Advert39 (HP Inc Romania, JF)
- 40 Advert40 (UTI, JE)
- 41 Advert41 (OTP Bank, JE)
- 42 Advert42 (Oracle, JM)
- 43 Advert43 (Cec Bank, JE)
- 44 Advert44 (Altex, JE)
- 45 Advert45 (Carrefour, JA)
- 46 Advert46 (Credit Agricole, JE)
- 47 Advert47 (Veolia, JA)
- 48 Advert48 (Fan Curier, JA)
- 49 Advert49 (CSI Instal, JE)
- 50 Advert50 (Auchan Romania, JA)

Where JE= junior Economist; JA= junior Accountant; JF= junior Financial Analyst; JM= junior Marketing Expert.

THE ROLE OF LONG-LASTING DEVELOPMENT IN THE WORLD

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Abstract. *Long-lasting development represents a national economy's ability to have equilibrium of the social, economic, technical and environmental points in the development process. According to the way long-lasting development is understood, as well as the application of the concept, there can be a long-lasting development politics where consumption and production are done by preserving the resources and qualities of the environment. In 1992, at Rio de Janeiro decided to lay the grounds of a long-lasting development commission as a UNO organism in order to implement the measures comprised by Agenda 21. Nowadays, economic growth can be achieved only as an economic-ecological growth based on a multi energetically consume and on a superior energy and material recycling, in which humans should respect nature's laws and be aware of the capacity of reproduction. A national strategy of lasting economic-social development should consider the services as a priority sector, able to develop and redress the Romanian economy in the context of its integration in the European Union. Environmental conservation strategies should be accepted on a global scale, and people should start thinking about a significant reduction in energy consumption without sacrificing comfort. In other hand, with current technology available, the global destruction of the environment could be stopped. In fact, Romania evolved from a "very poor country" until 2000 to a "poor country" until the EU accession and then to a "not so poor country" since 2007, but this achievement didn't help much in reducing widespread poverty. Last year, Romania outpaced Greece in GDP size for the first time in decades, to become the biggest economy in the Balkans. Integrating sustainable development goals at the heart of economic activities involves changing patterns of production and consumption. This change can be done through regulations, taxation, legal decisions, requests from the public.*

Keywords: *environment; healthy; pollution; government.*

Introduction

The concept of eco-development is defined as a lasting development in ecological respect. The natural environment means: the ensemble of conditions as: relief, climate, living creatures, in which the organisms live as a territorial complex which combines relief elements, geological structure and subsoil resources, waters, climate conditions, soil, vegetation and fauna. Eco-industry is not only the industry producing goods which prevent pollution, but also goods meant to measure, limit or correct equipment for water and residues treatment for example. Also, in the developed countries there is a severe legislation which imposes prevention and precaution, since any ulterior cleaning method of the does not succeed to eliminate pollution and clean it 100 %.

Long-lasting (healthy) development represents a national economy's ability to have equilibrium of the social, economic, technical and environmental points in the development process. According to the way long-lasting development is understood, as

well as the application of the concept, there can be a long-lasting development politics where consumption and production are done by preserving the resources and qualities of the environment. In 1992, at Rio de Janeiro decided to lay the grounds of a long-lasting development commission as a UNO organism in order to implement the measures comprised by Agenda 21.

The starting point and end point of economy is value as it is based on labor, use and actual existence of matter (substance, energy and information). Eco-industry is not only the industry producing goods which prevent pollution and also measure correct equipment for water and residues treatment. The long-lasting development is a continuous process of social change a global, regional and local levels with the purpose to ensure any opportunity for the present and future generations for better living standards. The minimum requirements enforced by long lasting development, which are include: preserving and increasing natural resources, maintaining the diversity of the eco systems, reorienting technology and controlling its risks, supervising the impact of the economic development on the environment, decentralizing the governmental forms, increasing the degree of participation in taking and unifying decisions concerning environment and economy. (Camasoiu, 1994, p.13)

A national strategy of lasting economic -social development should consider the services as a priority sector, able to develop and redress the Romanian economy in the context of its integration in the European Union. The humankind must create a society in which cars do not pollute the atmosphere, residues, regardless their nature (chemical or nuclear) are recycled and stored on adequate condition and energy production do not cause climate changes. On this time, a new concept has emerged, both at a practical and on theoretical level, that of eco-industry and eco-development. Eco-industry is not only the industry producing goods which prevent pollution, but also goods meant to measure, limit or correct equipment for water and residues treatment.

Dan Popescu (1997) argues that: in literature, sub-development is defined as a sum of features typical for the poor countries, among which we mention a low level of development of the main economic branches, and their weak integration in the system; the fundamental needs of the "minimum vital" are not satisfied and neither is the living cost, a low income on inhabitant that is unequally distributed; old social structures, underemployment of the labor force, low level of education etc. (Popescu, 1997).

To change the type of economic growth there is need of political and technological will and resources. Chances of success are very high. On the other hand, the environment is the support and the source of life. To pollute and destroy it equals to undermine human existence. That is why the World Health Organization came to the conclusion that maintaining health and well-being requires a good and harmonious environment in which everyone physical, psychological, social and aesthetic factors have a well-defined place. The environment will have to be in this for to be treated as a resource for the purpose of improving living and welfare conditions

In 1992 at the United Nations Conference on Environment and development, which was held at Rio de Janeiro and managed by Maurice Strong, approve the concept of long lasting development at worldwide. Starting with that time, all the authorities from all over the world have been obligated to implement local projects in partnership with the community agents involved in the long lasting development.

The minimum requirements imposed by long-lasting development include the following:

1. preserving and increasing natural resources
2. maintaining the diversity of the eco-systems
3. changing the dimensions of the economic
4. supervising the impact of the economic development on the environment
5. reorienting technology and controlling its risks
6. ensuring population number raise at an acceptable level in order to reduce
7. uncontrolled demographic growth
8. decentralizing the governmental forms, increasing the degree of participation in
9. taking and unifying decisions concerning environment and economy

The interactions and interdependencies between the branches of the national economy, between different activities and sectors, along with the economic growth, are increasing. The lasting development is a complex concept which are linked with the globalization processes, economic growth and development.

The lasting development have the following purposes:

1. reevaluation the economic growth according to resources and the focus on the quality aspect of production and services
2. eliminate poverty and the conditions for meeting basic needs for work, food, water, energy, health, dwelling
3. decentralization of government forms by increasing the degree of participation in the decisions and joining the decisions concerning environment and economy.

In fact, this concept refers to the development, which satisfies the present needs without compromising the future generations. Unfortunately, the reality is totally different and the gap between poor and rich countries is constantly growing. In September 2002, at Johannesburg, South Africa, was the World Summit on Long Lasting Development, which was attended by numerous representatives of the world governments, UN agents, NGOs, economic and social organizations and whoever was confronted with the alarming deterioration of the ecosystems. On the other hand, the long development model is an ideal theoretical model that guides the humankind, but that cannot become reality without political and social terms. Also, the Summit continued the ideas and in 1987 at Stockholm and in 1992 at Rio de Janeiro they adopted the documents.

Also, Jan S. Hagendon (1996) had introduced another concept which is more complete, about the sustainable development. Jan S. Hagendon says that "the idea of sustainable development more convincing if it is interpreted in the sense that a certain growth rate can be hard to sustain if the environment degrades itself, if the growing inequity of the income leads to revolution of if the population number gets out of hand or if the farming land is fragmented and the productivity decreases." (Hagendon, 1996, p.391)

The concept of eco-economics has been invented due to the fact that the market mechanisms do not reflect not even to a theoretical level the lack of concordance between the economic system and the planetary eco-system, also, Lester Brown (2001) tries to define this concept as it follows: "an economy which is in agreement with the

planetary ecosystem will sharply contrast with the present economy which is polluting, destructive and at the end self-destructive, wasteful, based on fossil fuel and centered on automobiles.”

In general, all human activities are helped by the environment. Thus, it has been noticed climate changes, erosions in the rural medium, growth of the quantity of chemical that affect the food and the air and water. We should be more careful with the environment, we must create a society in which cars do not pollute the atmosphere, residues, regardless their nature or chemical or nuclear are recycled and stored on adequate condition and energy production do not cause climate changes.

Therefore, big companies have been forced to introduce in their production system safer and more ecological methods and they partly reduced the pollution that has a negative impact on the environment. In the academic literature, the concept of eco-development is defined as a lasting development in ecological respect. The lasting development in ecological respect, spatial extension, takes into consideration implicitly and explicitly the environment factor. The environment can be natural, social, human, etc.

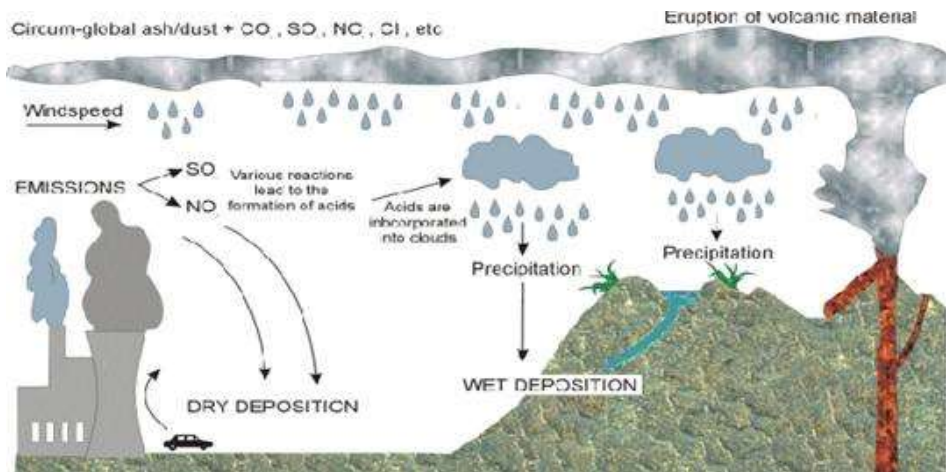


Figure 1. The effects of pollution
(Source: poluarea.wordpress.com)

The atmospheric pollution involves the release of substances harmful to living organisms in the atmosphere. The pollutants such as sulfur and nitrogen oxides, chlorofluorocarbons, carbon dioxide, carbon monoxide, and soot (coal) are the primary contributors to atmospheric pollution. The atmospheric pollution can also affect aquatic and terrestrial ecosystems, if the pollutants dissolve in water or precipitate in the form of rain.

The acid rain is a type of atmospheric pollution formed when sulfur and nitrogen oxides are combined with atmospheric vapor, as a resulting in sulfuric acids and nitric acids that can be transported away from the original site of production and can be precipitate in the form of the rain. The acid rain is currently an important subject of controversy due to its action on large areas and the possibility of spreading in areas other than the initial ones. Its harmful interactions include: erosion of structures, destruction of agricultural crops and forest plantations, threat of terrestrial but also aquatic animal

species, as few species can withstand such conditions, thus generally destroying ecosystems.

Different countries have imposed standards in legislation with preference at levels of concentration that are thought to be low enough to protect public health. Emissions Standards have also specified emission limits for pollutants in the atmosphere so that air quality standards are met. However, the nature of the problem requires the implementation of international environmental treaties, and so far 49 countries have approved in March 1985 the United Nations Convention on the Ozone Layer. The "Montreal Protocol", as it was called this renegotiated convention in 1990, called for the removal of certain chlorocarbons and fluorocarbons by the end of the century and assists with the development of countries in making these transitions. In addition, several international treaties have been signed to reduce the incidence of acid rain.

In the United States, the Clean Air Act of 1967, as amended in 1970, 1977 and 1990 is the legal basis for controlling atmospheric pollution. The Environmental Protection Agency is primarily responsible for meeting the requirements of this Act, which specifies to establish air quality standards for different substances. The global collapse of the environment is inevitable. Developed States should work alongside developing countries to ensure that the economies of these countries do not contribute to increasing pollution problems.



Figure 2. World's air pollution (Source: waqi.info)

The Waqi.info is an online portal, which has succeeded in setting up a map that updates real-world air quality in real-time. If Beijing does not see the sun ever because of the heady air, the cities in Romania seem to breathe healthier.

The global collapse of the environment is inevitable. Developed States should work alongside developing countries to ensure that the economies of these countries do not contribute to increasing pollution problems. Today's politicians should think about supporting pollution reduction programs rather than expanding industrialization as much as possible. Environmental conservation strategies should be accepted on a global scale, and people should start thinking about a significant reduction in energy consumption without sacrificing comfort. In other words, with current technology available, the global destruction of the environment could be stopped.

Direct effects are the changes that occur in the health of the population as a result of exposure to pollutants. These changes can be translated in order of severity by:

increasing mortality, increasing morbidity, developing symptoms or physiological changes, occurring direct physiological changes and / or loading the body with the agent or pollutants.

The environment concept is defined in the "Dictionary of Economics", as it follows: the ensemble of factors that can influence the economic activity from the exterior. The economic environment consists of all the natural and social restrictions that must be taken into account in the economic activity. The economic environment is also defined as an ensemble of institutions, of juridical, political and economic norms that regulate and orientate the economic activity.

In Durable Development, the key issue is represented by the reconciliation between the necessity of continuing the economic and social development and the protection and improvement of environment's state.

The sustainable development is the form of economic growth, which satisfies the needs of society in terms of well-being in the short, medium and long term having to meet the present needs without, however, jeopardizing those of future generations. This notion conciliates between the environment and the economy, representing a developmental pathway that supports human progress for the whole planet and for a long-term future. This approach is pursued the interaction of the compatibility of four systems: economic, human, environmental and ecologically, so as to meet the needs of the present without compromises the ability of future generations to meet their own needs.

The sustainable development strategy includes the simultaneity of progress in all four dimensions, as well, global development has as a general purpose the improvement of human life providing the necessary conditions for people to be able to achieve their full potential. Achieving this global goal requires the following objectives:

1. analyzing the present through the perspective of the future by introducing security ecological rather than maximizing profit, which is the true one purpose of sustainable development
2. changing consumer and production trends
3. establishing demographic growth
4. distributing the benefits of development to the entire population economic
5. the achievement of effective governance, i.e. the development of a political system
6. ensuring respect for human rights and freedoms
7. permanent and safe compatibility of environment created by man with the environment natural

Structural transformation is the process of shifting resource allocation to systems with high productivity so that the economy can sustain one higher living standards for the entire population, also appropriate administrative work, ensuring compliance with the law and ensuring that citizens have access to information of public interest are issues related to efficient governance.

The main objectives envisaged by the National Strategy of the Sustainable development are as follows:

1. ensuring the health of the population;
2. resizing and remodeling the economic and social structure turning it into a sustainable system;

3. developing a coherent, compatible legislative and institutional system with that of the Member States;
4. continuous monitoring and evaluation of economic performance, social and environmental protection through a system of indicators quantitative and qualitative determinants

The sustainable Development indicators are:

- be clear and statistically viable
- be obtained from the best data sources
- be harmonized from the point of view of methodology and standards international
- be comparable to those developed by the Member States of the Union European
- be timely
- be easy to review for updating

Also, proportion of land covered with forests and area of protected areas for ensuring biodiversity conservation are the two nature and environmental indicators biodiversity, indicators which protect biodiversity, prevent and reduce the desertification process by increasing the degree of desertification afforestation from 27% to 35% of the country's surface, until 2040 and through the increase of the protected areas' proportions from 2.5% of the country's surface in 1990 to 10% in 2015.

The success with which they are implemented will also depend on political leadership, institutional organization, available legal tools, financial and fiscal policies, and the accompanying plans for social transition.

The starting point and end point of economy is value as it is based on labor, use and actual existence of matter (substance, energy and information). Eco-industry is not only the industry producing goods which prevent pollution and also measure correct equipment for water and residues treatment. The long-lasting development is a continuous process of social change a global, regional and local levels with the purpose to ensure any opportunity for the present and future generations for better living standards. A national strategy of lasting economic -social development should consider the services as a priority sector (Ioncica & Stanciu, 2004; Rabontu, 2005), able to develop and redress the Romanian economy in the context of its integration in the European Union.

The humankind must create a society in which cars do not pollute the atmosphere, residues, regardless their nature (chemical or nuclear) are recycled and stored on adequate condition and energy production do not cause climate changes. On this time, a new concept has emerged, both at a practical and on theoretical level, that of eco-industry and eco-development. Eco-industry is not only the industry producing goods which prevent pollution, but also goods meant to measure, limit or correct equipment for water and residues treatment.

The concept of sustainable development has the world's wealthy and poor countries. For developed countries, the issue of depollution, improving the quality of life is one for transformation, adaptation and modernization. To change the type of economic growth there is, here, political and technological will and resources. Chances of success are very high.

Other hand, the environment is the support and the source of life. To pollute and destroy it equals to undermine human existence. That is why the World Health Organization came to the conclusion that maintaining health and well-being requires a good and harmonious environment in which everyone physical, psychological, social and aesthetic factors have a well-defined place (OMS 1989). The environment will have to be in this for to be treated as a resource for the purpose of improving living and welfare conditions.

Today's politicians should think about supporting pollution reduction programs rather than expanding industrialization as much as possible. Environmental conservation strategies should be accepted on a global scale, and people should start thinking about a significant reduction in energy consumption without sacrificing comfort. In other hand, with current technology available, the global destruction of the environment could be stopped.

We could also contribute to fighting pollution. We could stop the energy crisis using energy in a rational way. Some of the things we can do to save energy are:

- Rare use of cars: walking, cycling or public transport
 - Welcome to buying goods that are over packed. Energy is needed to make the packaging, but also to recycle it
 - Eviting losses: what you use, reuse, instead of buying new ones, repair damaged items instead of throwing them, and recycling as much as possible. Find out what recycling facilities are available in your area. Try not to throw things if they could have another use
 - Isolate your house: look for cracks in doors, windows, and make sure the bridge is insulated enough to keep the house warm.
 - Uses household appliances that do not consume much energy: when you buy new appliances, ask which models consume less energy. Use light bulbs with low power consumption and rechargeable batteries.
 - Ecoys water: it takes a lot of energy to purify water. A damaged tap can consume about 30 liters of water per day.
 - Learn as much as possible about Earth's energy problems and the causes that determine them. Find out if there are green groups in your area that could inform you.
- This is why nowadays, economic growth ca be achieved only as an economic-ecological growth based on a multi energetically consume and on a superior energy and material recycling, in which humans should respect nature's laws and be aware of the capacity of reproduction. In literature, sub-development is defined as a sum of features typical for the poor countries, among which we mention a low level of development of the main economic branches, and their weak integration in the system; the fundamental needs of the "minimum vital" are not satisfied and neither is the living cost, a low income on inhabitant that is unequally distributed; old social structures, underemployment of the labor force, low level of education etc.

The Sustainable Development Strategy has two main objectives as: high living standard in terms of water as well as reduction emissions of air pollution and keeping pollutants below a certain threshold and in order to avoid damaging human health, ecosystems and cultural heritage.

The indicators used in this respect are:

- percentage of population with access to drinking water sources

- the number of inhabitants who have access to a centralized supply system the water-
- connecting the population to centralized water and sewerage services-
- the ability to equip streets with water
- water losses in distribution networks
- the length of the water distribution network number of treatment plants;
- urban population exposed to air pollution, indicators reached by improving and developing the centralized system infrastructure
- water supply and sewerage systems in urban and rural agglomerations.

In the field of transport, the specific objectives refer to the fact that, on medium and long term, Romania must maintain a balanced system in which rail to hold 30-35% of the transport market, by internalizing costs external transport, through equivalent support for infrastructure development road and rail transport and supporting ecological transport.

To achieve these, the following indicators are used:

- the volume of freight transported, in terms of GDP;
- the volume of passengers transported, in terms of GDP,
- freight transport by type of transport;
- transport of passengers by type of transport.

The Sustainable Development Strategy is the reference framework for facilitating decision-making when some choices are incompatible. The strategies that have succeeded are those that:

1. have clearly defined the priorities
2. enrolled in a long-term optics
3. aims to promote consistency between the different existing planning frameworks already
4. promotes proximity at local level
5. translate a commitment at national level
6. Induce the participation of the actors concerned

The failed strategies are those that focused actions on a particular aspect, as: limited to punctual and isolated initiatives and the result of downstream approaches. The strategy must also include rating mechanisms in practice of the strategy. This process must be accompanied at the very beginning the process of formulating the strategy and must, of course, continue over time.

Surveillance of processes and result indicators must be the subject of a continuous supervision in relation to the final exam and objectives strategy. Romania has become increasingly attractive to investors. This is also happening as a result of the economic development that is growing more and more visible but also as a result of improving the country rating of the agencies International. Equally important is the setting of priority areas development, areas with a certain potential that do not involve too much investment to bring important economic benefits. Also, the strategic concept sets investment priorities in infrastructure and action plan at level national development in a European context.

Objectives of territorial development, and beyond, but must be established together with the representatives of local authorities who know best the needs of their communities represent. In faced with threats of irreversible environmental degradation, lack a complete scientific understanding of the phenomena taking place cannot be an excuse to postpone the required actions. Therefore, growth is necessary sustained productivity in scientific activity.

Conclusions

In fact, Romania evolved from a “very poor country” until 2000 to a “poor country” until the EU accession and then to a “not so poor country” since 2007, but this achievement didn’t help much in reducing widespread poverty. Last year, Romania outpaced Greece in GDP size for the first time in decades, to become the biggest economy in the Balkans (Turkey excluded).

This month, the National Institute of Statistics (INS) released a flash estimate of GDP evolution in 2017, indicating a 7 percent increase compared to 2016. The first more detailed picture of the country’s GDP in 2017 will be released on March, but economists are already betting on a number close to EUR 185 billion, after EUR 169.8 billion in 2016. What is already clear is that Romania’s GDP was larger in 2017 than Greece’s GDP, estimated at around EUR 175 billion, for the first time since the 1970’s. But Romania is still the second-poorest EU country if we look at the more relevant GDP/capita index, with less than EUR 10,000 per inhabitant.

Romania proposes for the following years:

- For 2020: Achieving the current EU level of the main indicators of sustainable development;
- For 2030: Significant approximation of Romania to the average level of that year of the EU member states from the point of view of sustainable development.

Integrating sustainable development goals at the heart of economic activities involves changing patterns of production and consumption. This change can be done through regulations, taxation, legal decisions, requests from the public, etc.

The objectives of sustainable development in Romania are:

1. Government and state institutions that, following the EU model, will facilitate Business Environment access to different tools for Sustainable Production and Consumption
2. Empowering the Business Environment "pressures", both on the part of the Government and the state institutions, as well as with the civil society
3. Awareness of civil society to "demand" products and services that have been designed following Sustainable Production and Consumption.

Nowadays, economic growth ca be achieved only as an economic-ecological growth based on a multi energetically consume and on a superior energy and material recycling, in which humans should respect nature’s laws and be aware of the capacity of reproduction.

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PRIVATE EQUITY AND COMPETITIVE ADVANTAGE IN EMERGING INDUSTRIES: THE CASE OF LIFE SCIENCES IN THE NETHERLANDS

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Abstract. *The aim of this paper is to discuss the competitive effects of private equity industry in emerging industries, with a focus on the Dutch Life Sciences cluster located in West Holland, a Dutch region. As our analysis shows, the circumstances which favored the early success of this industry includes factors such as education, infrastructure, governmental support, existence of key industrial players, as well as the investment strategies of private actors. The paper is structured in two parts. The first reviews the literature regarding the evolution of emerging industries and the impact of geographic locations on their attractiveness to private investors. The second part highlights the way in which an emerging industry (i.e. life sciences industry in West Holland region) has upgraded its competitive advantage under the influence of private capital.*

Keywords: *agglomeration; clusters; private equity; emerging industries; life sciences.*

Introduction

The emergence of new, high-growth sectors is, along with disruptive ideas or reconfiguration of value chains, one of the strongest determinants shaping the competitive landscape these days (Russo, 2003). This paper attempts to highlight the role of emerging industries for creating competitive advantage under the influence of private equity.

The emerging industries take advantage of location-specific opportunities in terms of specialization and diversification, and they are more advanced in those regions which host a significant portfolio of traditional sectoral clusters (European Cluster Observatory, 2016). Generally, these industries require significant research and development funds as they try to raise private capital, but at the same time investors are attracted by their high growth potential and innovative approach of the incumbent companies. This virtuous circle of entrepreneurship helps industries develop at higher than average rates and take advantage not only of the capital inflows, but of the accompanying business and industry expertise as well.

In the following, we will subject to scrutiny the hypothesis of a virtuous link between emerging industries' competitive positioning and private equity inflows with a case study on life sciences in the West Holland region (The Netherlands). In the first part of this paper, we review the literature on the evolution, locational advantages, and

attractiveness of the emerging industries. The second part particularizes the way in which an emerging industry (life sciences) has taken advantage of private equity.

Theoretical background

According to one established definition, “emerging industries are either new industrial sectors or existing industrial sectors that are evolving or merging into new industries. They are most often driven by key enabling technologies, new business models such as innovative service concepts, and by societal challenges that industry must address as a matter of survival.” (European Cluster Observatory, 2012). In the European economy, these sectors account for about 46% of all traded industry employment and are concentrated in approximatively 20% of European locations (European Cluster Observatory, 2016).

The case for emerging industries is representative for what is disruptive and challenging in the contemporary business climate, with characteristics such as:

- New products/services resulting from technological development and socio-economical changes;
- Cross-sector convergences and applied innovation and creativity;
- Intensive research and knowledge;
- Changing business models;
- Uncertainty due to lack of information regarding the market conditions;
- Determined by agglomerations in areas with location-specific conditions, and strong inter-sectoral linkages;
- Requirements of significant research and development funds (European Cluster Observatory, 2012).

As this depiction suggests, two key features – location and risk associated with technological development – lie at the core of the business model of emerging industries. Let us turn to each of them to assess the key determinants in a competitive context.

Location mostly relate to clusters – groups of interconnected firms, and related private and public actors, which activates within an industry – as *drivers of competitive advantage*. A typical organization of clusters (Porter, 1990) includes companies, suppliers, other related companies, customers, educational institutions, public authorities, and regulatory bodies, all of these being related to one specific industry. The following graph shows a general approach of clusters’ organization.



Figure 1: A generic cluster environment (Author based on Porter, 1990)

According to Porter (2000), clusters affect business strategies in three directions, as follows:

- *Productivity*, because of the ease of access to qualitative information and technology, advanced-skilled employees and suppliers, and more support through coordination with institutions or other related companies.
- *Innovation*, because of direct competitive exposure to other companies' performances and innovative approaches. The proximity of customers brings more advantages for companies located in clusters, compared to isolated competitors, thanks to rapid ideas-to-market transfers.
- *New business formation*, because of the linkages created between clusters' members. Market opportunities are immediately seized upon in such agglomerations and new businesses arise taking advantages of new needs, lower entry barriers, and resources already available.

In light of the accumulated evidence (Marshall, 1890; Schumpeter, 1939; Porter, 1990), clusters' development can be explained through the advantageous use of resources – tangible and intangible – available in particular areas, successful past experiences of entrepreneurs and industry specialization. Cooperation between companies, suppliers, customers and institutions help clusters evolve. Local rivalry is another important factor which positively influences the development of such agglomerations through innovative improvements for changing needs in the marketplace. Since qualified labor is another pre-requisite for clusters' development, the whole business “community” takes advantage of high skills of employees and their continuous improvements.

Governments have a clear interest in supporting clusters since these agglomerations are conducive to increasing exports and are a constant source of attracting foreign investments (Porter, 2000; InterCluster, 2010; European Cluster Observatory, 2012). In the case of emerging industries, this support targets technological development, especially through regulations, improvements in infrastructure and education, or innovation grants oriented to specific business needs. Due to the influence of all these determinants, clusters develop and become stronger and stable in the market even during economic downturns. Delgado et al. (2016) conclude that strong clusters become more resilient to negative shocks, while the regional economy and the related industries take advantage of rapid recovery.

As for the *risk* associated to technology development and innovation, the existing evidence (Invest Europe, 2017) points to a virtuous circle from emerging industries to clusters and to private equity industry. In a context of optimal determinants of competitiveness, emerging industries are basically innovative traditional industries, which were transformed according to market trends; clusters are geographically agglomerations of high innovative companies, while the private equity firms are the financial supporters of innovative ideas. As long as innovative approaches are encouraged and financed, new industries develop, while the traditional ones are transformed. Their growth attracts specialized suppliers and support other related business sectors. The business environment is enriched due to new technological resources and because of increasing high skilled labor. Also, governments observe the power of the innovation and join this *cycle* through preferential and supporting policies. Investors receive high returns because of their financial and strategic support for the development of these disruptive ideas, and in the end, the whole economy benefits.

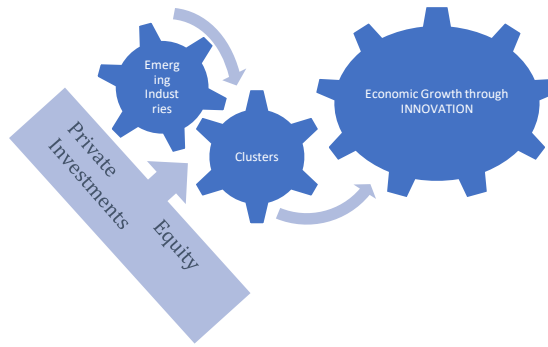


Figure 2: Linkages between emerging industries, clusters and private equity investments
(Source: author)

Private equity investments help industries, and especially the emerging ones, evolve through capital inflow and business expertise. Joining the companies and offering strategic advice, they support the increased productivity of investees and innovative products or services, at the firm level, and enhance competitiveness at macroeconomic level (Frontier Economics, 2013). Nonetheless, because each private investor accepts to take part of the growing plans of a company, the exit strategy is important, for shareholders will expect to benefit from the increasing value of their equity through an appropriate selling alternative. Even if companies will be sold to other players or will be listed on the stock exchange markets to increase their capital and to attract other investors, or another private equity firm will continue their development plans through fresh inflow of capital, or the management teams/owners will take back their shares, the divestment method should be a win-win situation for both the company and the investing firm.

For emerging industries, to attract private capital can be challenging because of their disruptive business models. Traditional financing instruments such as bank loans, overdrafts, credit lines, leasing or factoring, are limited for these companies because of the lack of collaterals (Masiak, 2017), while public investors are afraid of risks because of the difficulty of measuring the maturity of the industry. Moreover, because these industries are research-intensive industries the need of funding is higher compared with traditional sectors, so the companies which are active in emerging industries try to raise capital from private investors which are attracted by their high growth potential. Some alternative financing instruments available are venture capital (start-ups and early-stages companies financing), development capital (financing for expansion of mature companies), mezzanine (equity and debt financing through a subordinated loan) or distressed debt (financing for restructuring of troubled companies) (Seretakakis, 2012). A report of the European Investment Fund (Kraemer-Eis et. al, 2018) suggests that equity as source of financing for the SMEs of the Eurozone was mostly required for activities concerning companies' development such as developing and launching of new products or services and hiring and training of employees, compared with traditional instruments.

According to a report prepared by the European Savings and Retail Banking Group, the dominant financing sources for both European and American SMEs are bank loans. The report emphasizes that the banking sector is smaller in the United States compared with the European Union, but with a large access to capital markets. According to British

Bankers' Association (2014), in Europe 70% of total financed amounts come from banks, while in the United States bank lending represents only 30% of total financing, (70% of American financing is supported by capital markets and other institutions), in 2014. Moreover, banks usually provide significant amounts of money as debts for the private equity firms, in order to cover companies' acquisition costs, during buyout investments (Gilligan and Wright, 2010).

The Guide on Private Equity and Venture Capital for Entrepreneurs (2007) defines the private equity industry is defined by medium to long term investments in non-listed companies, with the purpose to pursue their development plans and to *create value* for companies in critical stages of development.

Several studies identified the economic impact of the private equity investments on innovation, productivity and competitiveness, as follows:

-Impact on Innovation. By allocating funds to research and development, private equity firms directly help investee companies to create new products and services, compatible with the changing needs of customers. Together with capital, the companies also receive business expertise and support for their corporate governance for the innovative plans. In order to highlight the direct effects of these capital inflows over the innovative potential of companies, Popov and Roosenboom (2009) studied the private equity investments and number of patents developed by private equity-backed companies during 1977-2004. Considering the patents as a proxy for innovation, they concluded that 12% of innovation by private companies is attributable to investments made by private equity firms.

-Impact on productivity. Investments made in physical capital such as plants and equipment increase the companies' productivity. Also, by improving their management, companies benefit from a better utilization of resources, which lead to development as well. The capital inflows also help companies develop and create new jobs, significantly contributing to economic growth. According to Frontier Economics (2013), the private equity investments led to creation of approximately 5,600 new businesses each year in Europe, based on 2007-2012 average numbers of new companies backed by private equity. The same study highlights the improved productivity of private equity-backed companies of 6.9 % on average, measured as EBITDA per employee. A study made by Kaplan and Strömberg (2009), over 1979-2007, with data from 17,171 worldwide companies backed by private equity firms, demonstrated the positive relationship which exists between the investments made by these firms and the performances of investee companies.

-Impact on competitiveness. At the local level, competitiveness between companies is enhanced through investments for increasing productivity. By attracting capital flows, companies produce more and improve their offerings, gaining more market share, therefore they become more competitive. Also, at the international level, private equity investments can lead to competitiveness by supporting companies oriented to export activities or by helping companies to expand abroad. New or small businesses have the opportunity to grow by receiving capital for internationalization efforts (Frontier, 2013).

The West Holland Life Sciences Cluster

Methodological orientation

To emphasize how the emerging industries, create competitive advantage, supported by private equity investors, an analysis of the life sciences cluster located in West Holland (The Netherlands) was made. The linkages created between the cluster members demonstrate cluster's success, and, in the same time, industry's growth perspective.

Following Porter's (1990) general cluster map, investors – as cluster's members – have a significant impact over economic growth of agglomerations, through their power of financing. Their influence over emergent life sciences companies is the focus of the cluster map analysis. Nonetheless, we are interested in highlighting private equity influence over the cluster evolution through financing support offered to big industry players in their early stages of development.

An overview of the Dutch business environment

The Netherlands ranks fourth as the most competitive global economies. According to the Global Competitiveness Index 2017-2018, the Dutch economy's competitiveness is supported by advanced infrastructure, a strong education system, but mostly by an innovative environment, with a high capacity of innovation (6th rank out of 137).

The country's *strategic location* is important for attracting customers – around 170 million customers within a 500-km radius, according to PWC Report (2017), from London, Paris, Dusseldorf, or Brussels, as well as for taking advantage of the spill-over effects of technological developments in neighborhood countries due to *its proximity to other European strong economies*. Their demand forces producers and suppliers to offer innovative solutions to remain competitive. The *research and development* grants allocated by the Dutch government are increasing from year to year, according to OECD statistics (OECD, 2018), around 2% of the GDP in 2016. These activities are also supported by special tax credits and other tax incentives. The *economic stability* of the Netherlands attracts foreign businesses and workforce. Foreign companies take advantage of special fiscal measures, while the expats are enticed with competitive benefits (PWC Report 2017). In this environment, private equity investors' interest is being attracted by innovative ideas. According to the Invest Europe statistics, the number of companies backed by private equity investors increased with 30% compared with 2010 and reached the highest level of invested amounts after the 2008 financial crisis.

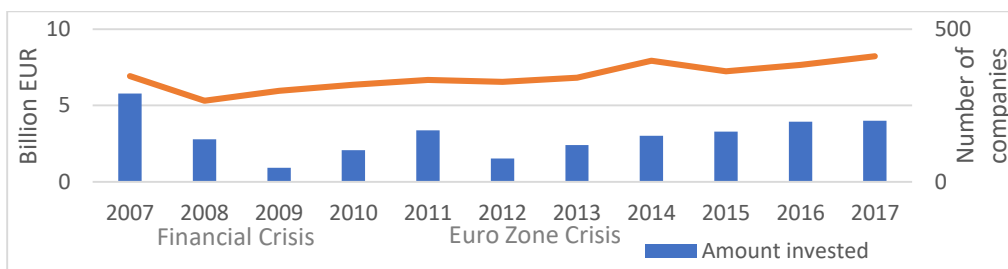


Figure 3: Private equity investments in the Dutch companies
(Invest Europe/European Data Cooperative)

According to Leading Life Sciences Clusters in Europe Report (2016), the Netherlands is home of approximatively 63 life sciences parks, 12 universities and eight university medical centers, where ca. 98,000 people are employed (2014). The increasing innovation of the Dutch companies can explain the growth of emerging industries in this country. According to the European Cluster Observatory (2016), the South and the North Dutch regions are significant cross-sectorial hotspots in Europe in emerging industries clusters: out of the top ten emerging industries in the European economy (advanced packaging, biopharmaceuticals, blue growth industries, creative industries, digital industries, environmental industries, experience industries, logistical services, medical devices and mobility technologies), three of them are Dutch hubs, as follows:

**Table 1. Emerging industries in the Netherlands
(European Cluster Observatory, 2016)**

Emerging industries	Rank (out of 10)		Region	City
Blue Growth industry	5		Zuid-Holland	Rotterdam
Creative Industries	3		Utrecht	Utrecht
	4		Noord-Holland	Amsterdam
	8		Zuid-Holland	Rotterdam
Experience Industries	5		Noord-Holland	Amsterdam

One of the largest European clusters of exact sciences is located in *Amsterdam Science Park* and offers scientific opportunities for life sciences industry, together with high technologies, physics and chemistry. The cluster's development is strongly supported by academic and scientific institutions such as University of Amsterdam, VU University Amsterdam, the Academic Medical Centre Amsterdam, the Neuroscience Campus Amsterdam and the Pan-Amsterdam Technology Transfer Office (Leading Life Sciences Clusters in Europe Report, 2016). The *Utrecht Science Park* hosts the highest number of research institutions on a small area of 300-heactare and is focused on life sciences and health activities. More than 80 businesses are located in this cluster, together with the University Medical Centre Utrecht and the Utrecht University. Starting with 2012, a new business park supports the life sciences industry in the Netherlands, the *Pivot Park*, located in Oss. This cluster developed as mix of initiatives of government, existing companies and private equity investors. The pharmaceutical company MSD together with the municipality of the city and of the province, the Ministry of Economic Affairs and Ministry of Health, Welfare and Sports were the principal actors for this clusters' development. The financial support was offered by the Brabant Development Agency (BOM). Another very important life sciences hub in the Netherlands, is the *Zernike Campus Groningen*, founded in 1960s. In this park, there are around 150 companies, with more than 4,000 employees and researchers and approximatively 35,000 students. The University of Groningen and the Hanzehogeschool supports the clusters' knowledge (PharmInvestHolland, 2018).

The Life Sciences Cluster

The life sciences industry combines advanced technologies for developing medical facilities, pharmaceuticals, and other healthcare appliances. The European Cluster Observatory considers the biopharmaceutical and the medical devices as two different emerging industries but taking into consideration that these industries develop together in clusters, and they are closely interconnected, they are perceived as one industry.

According to the data provided by Biotechgate Database, the industry of life sciences in the Netherlands is developing from year to year, based on the number of companies which are active in this sector (including both the companies which are directly involved and related companies as well) and the number of new technologies created each year. The following table presents a short overview about the Dutch life sciences industry.

Table 2. Overview of Life Sciences Industry in the Netherlands
(The Dutch Life Sciences Trend Analysis 2014-2017, www.biotechgate.com)

Description/Year	2014	2015	2016	2017
No. of Dutch biotech companies	280	411	404	462
MedTech companies	102	116	102	122
HealthTech companies	29	40	38	39
Medical Facilities and other public organizations	116	135	128	181
No. of other life sciences related companies	659	813	803	877
No. of technologies developed	174	220	209	162

The life sciences and health industry's potential can be assessed also by taking into consideration the Dutch Association Innovative Medicines' initiative to transform the Netherlands into the "choice in Europe when it comes to research and development of medicines" (PharmInvestHolland, 2018). The life sciences and health industry is one of the nine key sectors of the Dutch economy, with more than 3,000 active companies and research organizations (PWC Report 2017). The Dutch life sciences companies exported more than 37 billion EUR in 2017, out of which 25 billion EUR are revenues from pharmaceutical products (PharmInvestHolland, 2018).

The development of this industry, not only in the Netherlands, but at the global level as well, started around 1590 with the invention of the microscope (Hans and Zacharias Jensen), and continued with other great discoveries, scientific, for example microbiology (Antoni van Leeuwenhoek), human anatomy (Andreas Vesalius) or physiology (Herman Boerhaave), or mainly technical, for example electrocardiogram (Willem Einthoven), or different medical appliances such as heart-lung machine and artificial heart (Willem Kolff), according to PharmInvestHolland report (2018).

According to Euro Health Consumer Index 2017, the Netherlands is the best country based on the healthcare system, because of the significant number of health providers, who act in competition, compared with other EU countries. The industry is supported by significant investments made in research and development, more than 2 billion EUR per year, according to the PWC Report (2017).

The *Leiden-Rotterdam-Delft-De Hague/West Holland* region is home of the leading life sciences cluster in the Netherlands, home of the three largest bio sciences parks and more than 400 companies, highly supported by five research and educational institutions and ten R&D facilities (West Holland Life Sciences Hub). The cluster's most important members are as follows:

1. Large industry players. The West Holland cluster hosts a significant number of large healthcare and pharmaceutical companies, which strongly influenced the evolution of the region. Some examples are: Crucell, Pfizer, DSM, Janssen (part of Johnson and Johnson), Thermo Fisher Scientific, 3M, Siemens Healthineers and MSD. Two of the most

important innovative solutions developed by the companies located in this cluster are for auto-immune diseases and the first vaccine for five childhood diseases.

Big players of the life sciences industry were supported by private equity firms in their early stages of development, such as Crucell (in late 1990), Viroclinics Biosciences (in 2001), and PanGenetics (in 2005).

Big players of the life sciences industry were supported by private equity firms in their early stages of development, such as Crucell, Viroclinics Biosciences and PanGenetics.

-*Crucell*, a Leiden-based company, was backed in late 1990 by the leading life sciences investor, Life Sciences Partners. In 2000, the company was listed on the Euronext Amsterdam stock exchange, and later merged with another life sciences company, Introgen. It continued as a public company until 2011 when it was acquired by the global pharmaceutical company, Johnson and Johnson, and today the company is one of the most important actors in the vaccines industry.

-*Viroclinics Biosciences*, a Rotterdam-based company, was founded in 2001 as a spin-off from the department of virology of Erasmus Medical Centre Rotterdam. It became a global clinical trial operation companies after it was backed by Gilde Healthcare, in 2014, and it continues its development with a new capital inflow from Parcom Capital, after it changed its main shareholder in 2017.

-*PanGenetics* is another example of private equity-backed company located in the West Holland (Utrecht) which rapidly grew up because of private capital inflow. According to Business Weekly (2006), the company received two rounds of funding for its drug development. Soon after its establishment in 2005, a 2 million USD seed round supported the research activities of PanGenetics.

2. *Knowledge institutions*. More than 6,000 students at renowned technical universities – TU Delft University, Leiden University, Erasmus University Rotterdam, Leiden Medical University Center and Erasmus Medical Center Rotterdam – are engaged in the cluster's research and development activities. For this purpose, there are ten R&D facilities available and three incubators.

3. *Government*. At regional level, the local authorities support this cluster through the West Holland investment agency which facilitates the companies' development, together with fiscal incentives for innovation. The West Holland region benefits of the Health Ministry located in this cluster. The Association of Innovative Medicine is another national authority, located in The Hague, which tries to create the best conditions for pharmaceuticals' development and manufacturing. In the same way, HollandBio supports the biotechnology companies. The local authorities support the life sciences companies not only through direct grants, but also through support to private equity funds. In 2010, around 35% of the funds raised came from the governmental institutions, according to Invest Europe statistics.

The public-sector supports the industry's development also through collaboration between the European Investment Fund (EIF) (part of the European Investment Bank) and the Dutch Minister of Economic Affairs for financing innovative companies. According to the EIF's website, the first collaboration, namely the Dutch Venture Initiative I, ended up in December 2016 with a total amount committed of EUR 148 million, to 13 different venture and growth capital investment funds, out of which 5 are exclusive dedicated to life sciences sector. In 2016, the second program was launched with focus on med-tech and life sciences alongside with ICT, clean-tech and renewable energy, fact that indicates the high level of innovation of these industries and how attractive they are for investments. Moreover, in September 2017, the Dutch Growth Co-

Investment Program was launched to support the transition of companies from early-stages to growth lifecycles.

4. *Patient Organizations.* For healthcare policies, the patient organizations (such as The Netherlands Patient and Consumer Federation (NPCF), Dutch Cancer Federation and other disease specific organizations - Parkinson Association and the Epilepsy Association) have a crucial role, especially for the new regulations. They play the role of sophisticated buyers for the cluster and all the research activities are conducted in order to satisfy their medical needs through innovative drugs or appliances (Van de Bovenkamp & Trappenburg, 2011).

5. *Supporting Industries.* The logistics hub from Rotterdam significantly influences the pharmaceutical imports and exports, not only in this area, but in the whole Europe. The Port of Rotterdam and The Hague Airport are vital for the international trade with medical and pharmaceutical products, as well as for strong connectiveness with other cities. High-technology companies supply life sciences companies with new solutions, for instance the 3D-printing used for medical appliances. In the same way, the chemical industry provides high-quality inputs for drugs development.

6. *Private Equity Investors.* Because the life sciences sector's activities are high research intensive, the demand of funding is substantial. The product development of healthcare companies requires more funding rounds compared with other business sectors. In some cases, after years of research, these companies obtain a prototype after 4 or even 5 investments rounds. In the West Holland region, Innovation Quarter, an economic development agency, supports financially the life sciences companies in this area. Alongside with this regional investor, there are also other private equity firms with a broader focus, such as Life Sciences Partners, Merck Ventures, Gilde Healthcare and Forbion Capital Partners.

According to Invest Europe statistics, the investments made in the West Holland regions, in the biotechnology and healthcare sector represents in average 21% of the total investments made in this industry (2007-2016 data). More than 60% of the investments are made in small and medium companies, in early stages of development. Also, in 2016, 23,29% of the total fundraising in the Netherlands was raised by funds oriented to life sciences companies (Invest Europe data). This inflow of funds, the highest since 2007, explains the increasing potential of the life sciences industry in the Netherlands and how attractive it has become for private investors.

The local authorities support the life sciences companies not only through grants, but also through support to private equity funds, therefore the aid is not only financial, but also strategic because of the business expertise of these firms. Another significant categories of investors for this industry is represented by the corporations, which can activate in the same sector or related, and academic institutions. The following graphs shows the type of investors which invest in life sciences funds in the Netherlands.

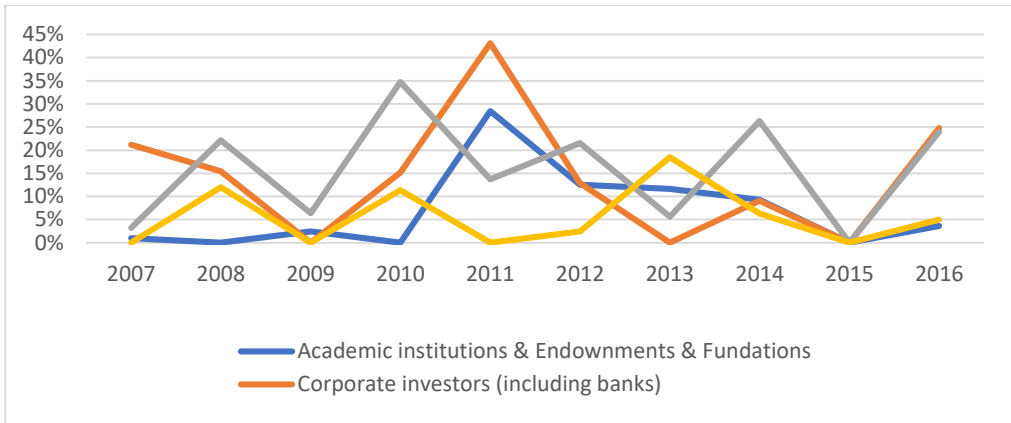


Figure 4. Type of investors in the Dutch life sciences funds (Invest Europe/European Data Cooperative)

The number of private equity backed-companies did not change significantly from 2007 until 2017, in average 11 companies received capital each year leading to increased workforce.

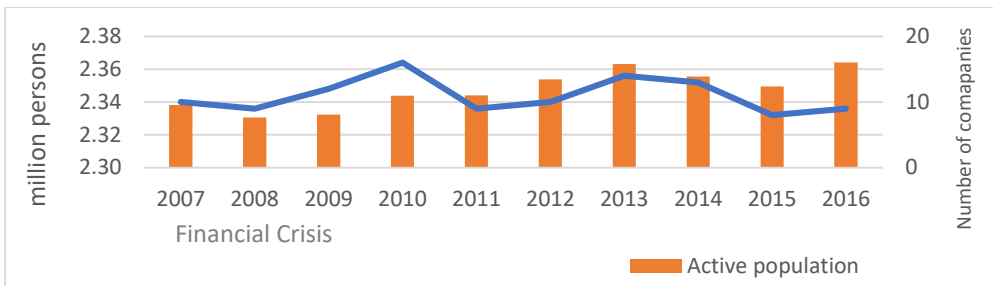


Figure 5. Number of private equity-backed companies and economically active population in the West Holland region (Invest Europe/European Data Cooperative, Eurostat)

Considering the economic growth of this region, mostly endorsed to the life sciences industry, around 13% of the increasing welfare is justified by the private equity investments made in the life sciences companies clustered in the West Holland, based on Invest Europe and Eurostat data.

Conclusions

Competitiveness at cluster level is enhanced through the high number of private equity-backed companies and follow-on investments which support the research and development activities. In the same way, new funding rounds increased productivity at the company level through expansion. But mostly, the private equity investments support the innovation in the West Holland life sciences cluster, throughout industry players, related-companies and governmental initiatives.

As this paper has emphasized, the success of the West Holland Life Sciences cluster is explained by a local context of strong cooperation between (1) large industry players, (2) knowledge institutions, (3) government and (4) patient organizations, (5) private

equity investors and (6) supporting industries, enhanced by the high competitive level within the region due to the large number of companies (the 18th most competitive European region according to Regional Competitiveness Index 2016).

The private capital inflows in this area are expected to increase in the following years due to the re-location of the European Medicine Agency from London to the Amsterdam. In the same way, some big industry players may change their operational activities in the European Union to take advantages of the community benefits, therefore the West Holland can become a better option for private equity investors instead of the United Kingdom, and a more successful life sciences cluster at the international level.

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LABOR PRODUCTIVITY GROWTH AND ITS IMPACT ON GROSS AVERAGE EARNINGS IN THE INDUSTRIAL SECTOR

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Abstract. *Labor productivity represents an economic growth factor together with labor and capital. Productivity affects inflation and exchange rate. Mismatching between wage costs and productivity favors increasing inflation. The competitiveness of a country is often analyzed through the correlation between wages and productivity. In this paper, we analyzed whether there is a correlation between productivity and wages in the industrial sector. In the analyzed period, January 2005-January 2017, the two variables – gross average earnings and labor productivity index – were strongly correlated, there is a very close linear association between them, which means that the evolution of the gross average salary in the industrial sector was closely related to the evolution of the labor productivity index in this sector. The industrial sector helped prevent the emergence of imbalances and dysfunctions in the economy by respecting these fundamental correlations between the gross average earnings and the labor productivity index.*

Keywords: *gross average salary; labor productivity index.*

Introduction

In this paper, based on data provided by the National Institute of Statistics, we aim to assess the impact of labor productivity on gross average wages in the industrial sector. In order to do this, we performed a statistical analysis of two selected indicators, which includes normality testing, correlation analysis and regression modeling (Druica, 2012). Based on the discovered association of the two variables, we built, as a result, the linear regression model which explains the nominal wages depending on the index of labor productivity in the industry (Duguleana, 2012).

We found this analysis suitable taking into account that the growth of labor productivity represents the foundation of real incomes increase and standard of living, and is the basis of income distribution in society as a necessary condition to avoid imbalances in the economy.

Theoretical aspects of salary, gross average wages, and labor productivity

Salary is one of the fundamental forms of income in the economy and it is of utmost importance in determining correlations between consumption and income, or between savings and investments. "The salary is the price at which transaction is made to exercise the factor production-work in a market economy" (Prahoveanu, 1998).

Salary is both revenue and cost. This double meaning gives it two opposite trends in establishing its size. The employee wants a salary increase to better meet the unlimited needs that s/he has, and the employer wants to reduce salary as a component of product cost. "In determining salary size, the economic rationality should be a priority, i.e. the ratio between the labor production factor productivity and the cost incurred by the company for this factor" (Prahoveanu, 1998).

According to Gheorghe (1999) "the substance of salary consists, at the same time, in the cost of the workforce and labor productivity. What the employee receives is a portion of labor product, conditioned by the labor productivity level".

"Labor productivity is somewhat a synthesis of the use of all production factors... However, because it is conditioned by the human production factor, labor productivity remains as important as man is to his creations, because all the other production factors – including the capital – are man's creations (as household means), while the coverage of human needs is the very purpose of household management" (Manoilescu, 1929).

The productivity or yield of the production factors is the efficiency of combining the production factors oriented to obtain the maximal effect with minimum resources (costs as small as possible). In the broad sense, productivity can be defined as the ratio between the quantity of wealth produced and the number of resources absorbed during production. Thus, it is basically determined as the ratio between the outputs (production - the output of an economic unit) and the efforts made in order to obtain them (the production factors used, i.e. the inputs). There are different ways of approaching productivity. Thus, in terms of the manner of measuring the established results, productivity is classified as:

- physical productivity - which measures the yields (in-kind) of the use of the production factors; it is expressed in physical units (natural or natural-conventional)
- measured productivity - which allows efficient financial-monetary measurement. It is widely used in the management of modern enterprises.

Another typology of productivity refers to the notions of:

- Gross productivity - which measures the production as a whole, with respect to the factors used (or the factor used). In this case, production is regarded as "final production", i.e. as a sum of the values added by various production activities.
- Net Productivity - which aims at eliminating – from the final production – the value of external acquisitions and the cost of using the installed capital (reductions in value, payments) in order to autonomize what is directly dependent on the productive effort of the analyzed company.

However, in the literature, productivity is addressed particularly in terms of the two consecrated types, namely:

- global productivity - which captures the effects of combining all production factors, measuring their overall performance and efficiency (Barre & Teulon, 1997).
- partial productivity - of each production factor, expressing the production obtained by using each consumed production factor (labor, capital, etc.)

Increasing labor productivity is the process whereby, with the same amount of work, we obtain a greater quantity of goods and services or vice versa, the same quantity of goods is made with less labor; it has a lawlike nature.

This implies a change in the production factors, in the way of combining them and, therefore, in the way of carrying out the working process. The productivity level of individual and national labor is under the influence of many primary and secondary, direct or indirect factors, which intertwine and sometimes act in different ways. Among these, we mention the following:

- technical factors - take into account the attained level of science and technology at a given moment;
- the economic and social factors - are connected to production and labor organization, both at the micro- and macroeconomic level, in terms of labor and living conditions;
- human and psychological factors - related to school education, culture level, adaptability to labor conditions, satisfaction offered, family life, the influence of religion and tradition in choosing the job. The workforce – the performers – and its rational use are decisive factors in the continuous increase of labor fruitfulness and, of course, of labor productivity.
- natural factors - related to climate conditions, soil fertility, accessibility of natural resources;
- structural factors - influence the level of labor productivity through changes in the structure of the national economy, by branches and sub-branches.

The economic agents are constantly concerned with increasing the yield of production factors and their efficient use, by resorting to different methods, depending on the material, human, natural and financial possibilities. Automation, robotization, the promotion of new techniques – essential coordinates of contemporary technical progress – entail productivity gains because they ensure higher productivity with the same labor costs, favor the diminishing of other expenses on products in general and increase savings.

Technical progress has increased the share of intellectual effort compared to physical effort, entailed more labor promptness and accuracy. In this context, the continuous raising of labor force qualifications is a prerequisite for the efficient use of human resources. Improving the organization of management, production and labor represents a complex, dynamic and continuous process that involves the adoption by the management of the economic units of a set of measures and the use of methods and techniques established on the basis of technical and economic calculations, which take into account new scientific findings.

Continuing vocational/ professional training and development represent the main self-capitalization and development way of the human factor, in order to capitalize better on the creative and anticipative human potential. This underlies the responsiveness and speed of adaptation to the new and the possibility of rapidly reintegrating the human

resources in other activities that are useful to the society. Labor material co-integration – it conditions the income of the population on their work results.

In this respect, it is very important to implement an apportionment system, which, on the one hand, determines as accurately as possible the size of each worker's salary, i.e., what is due for the work performed, and, on the other hand, a modern system of work norms whereby to determine the contribution of each person to social activity. Any neglect in this area is reflected unfavorably, sooner or later, in the sense of insufficient co-integration, when the incomes do not increase adequately according to the work performed, as in the case of higher revenues than the activity carried out, attracting the failure to observe a fundamental economic correlation, i.e. the increase in labor productivity and salary growth. It is widely accepted that, in order to have an efficient economic activity, productivity dynamics must be superior to salary dynamics.

Increasing labor productivity is of particular economic importance for the entrepreneur because:

- it creates the premises for reducing the total average (unitary) cost;
- it increases company competitiveness and its ability to cope with competition on the domestic and international market;
- it is possible to save the consumed production factors;
- it is possible for the owners of the production factors to obtain higher incomes when the produced goods are sold at the same prices or even lower, etc.

The effects of productivity growth are also felt at the consumers' level through:

- nominal salary growth;
- saving work time;
- increasing the satisfaction of needs, etc.

Productivity growth is also important for the national economy as a whole, because:

- more wealth is produced with the same volume of production factors;
- there is a mitigation of the tension between needs and resources;
- the population welfare increases;
- the national income per capita increases, etc.

The labor productivity level, among other factors, is a key element used for determining the salary level on categories of employees, observing the correlation between the dynamics of labor productivity and that of the average wage in the economy being essential in meeting efficiency-equity ratio in the economy (Ignat, 2004).

The theory of efficiency salary belongs to the American H. Leibenstein. The author starts from the idea that "individual productivity is an increasing function of the real wage (the number of goods that the employee gets). Therefore, an increase in salary attracts the increase in the direct cost of labor unit and labor productivity. On this basis, it is determined the efficient use of labor as work volume balanced with its productivity" (ASE, 1995).

"The return on labor capital-labor productivity expresses the efficiency with which labor is used, defined as the ratio between the amount of wealth produced and the number of resources absorbed during its production." (ASE, 1995).

The distribution of fundamental income in the economy – wages, profit, interest, annuity – must be correlated with labor productivity growth to avoid imbalances and dysfunctions in the economy.

It is very important that “labor productivity grows alongside the increase in employees’ wages, but this increase in wages must be, however, correlated with the personal contribution of each individual to labor productivity growth, wages not being able to increase faster than the rise in the newly created value” (Gheorghe, 1999).

We are among the leaders of Europe in terms of hours worked, but we earn among the lowest salaries on the continent. Employees in Romania work on average for almost 41 hours a week. Thus, we rank the 9th in the European Union in terms of the number of hours worked. For example, in one week, the Romanians work one hour more than the Spanish and about two hours more than the French or the Italians. It is also true that the Romanians work a little less than the British, who ranks first in this top.

Nevertheless, Romanians have among the lowest salaries in the European Union, i.e. 565 Euros per month, on average. Only Bulgarians earn less than we do, i.e. almost 460 Euros per month. Moreover, if we looked at the western states where people work less, we would notice that the net salaries are higher. Employees in Spain and Italy earn approximately 1,700 Euros per month and those in France and Germany earn over 2,200 Euros.

This phenomenon – as explained by specialists – is triggered by the fact that the Romanians work a lot but produce little. According to statistical data, labor productivity accounts for almost 62% of the European average. Even in this case, only the Bulgarians have lower productivity. On the other hand, in Western Europe, this indicator exceeds the European average.

Table 1. Labor productivity and revenues in the EU (Source: Eurostat)

Country	Hours worked per week	Average salary (euro)	Labor productivity (% of UE average)
Great Britain	42,3	1.990	101,1%
Poland	41,1	832	74,2%
Bulgaria	41	457	45,4%
Romania	40,7	565	61,6%
Germany	40,4	2.270	105,8%
Spain	39,9	1.749	101,9%
France	39,0	2.225	114,8%
Italy	38,8	1.758	107,4%

In the context of the recent economic monitoring at the EU level, the role of salary developments in influencing macroeconomic performance has attracted increasingly more attention. Salary changes represent one of the main channels of labor supply and demand adjustment and directly affect employment outcomes. Therefore, too high or too low salary growth (compared to productivity and rising prices) may indicate imbalances in the labor and product markets. This phenomenon can induce inflationary or deflationary pressures and may lead to a decrease or increase in the attractiveness of employing and retaining workers in the workforce. It can also affect job offers, including the decisions to participate in the labor market (European Commission, 2017).

Among the European countries, Romania has recorded the highest percentage increase of the minimum salary over the last 10 years, i.e. 195%. However, our salary level is still incomparably lower than the salary level in Western countries. Why does this happen?

According to KeysFin analysts, "The wages reflect, to a significant extent, the economic realities. Even if there is a significant economic growth, it comes largely from consumer spending thus not solid, sustainable in the long-term" (KeysFin, 2018).

The labor productivity in our country is still low, and companies avoid investing heavily in employees. By increasing salaries in the public sector, the state is trying to boost the market, but given the unstable economic framework, too few investors have followed this trend. In the absence of favorable investment conditions, such as infrastructure or the tax system, Romania remains attractive to investors, especially through low labor costs. In order to change this trend, macroeconomic policies are needed to support the horizontal development of investments. KeysFin analysts also explained that "only when the economy will not be that fragile will we see a real increase in Romanians' disposable incomes" (KeysFin, 2018).

Beyond the reality of 2018, the future of the labor market is quite bleak. The decline of the birth rate, the retirement of a whole generation of employees in the coming years and, in particular, the exodus of the labor force towards the West will cause Romania to face a growing labor force crisis in the coming years.

The education system, as it is currently set up, is completely useless in front of the challenges faced by the labor market. There are still being rolled out generations of unemployed graduates – i.e. with high school and university diplomas – that are not connected to economic realities", argued the experts.

According to them, the Romanian state needs to invest significantly in reorienting the educational system to the needs of the economy. "We need craft schools in all fields, from auto to agriculture, from materials processing to craftsmanship. It is also necessary to develop a real program of fiscal and financial support for firms that employ the young labor force. Without such measures, the crisis will deepen, and the alternative will be bringing workers from poor countries, from Africa and Asia, with inherent social consequences, as is the case in Germany", said KeysFin experts (KeysFin, 2018).

In this paper, we analyzed two indicators – the monthly gross average salary and the index of labor productivity per employee in the industry – to see if there is a connection between them and if labor productivity influenced the earnings.

The gross average salary represents (INSSE, 2017) "the ratio between the gross amounts paid to employees by economic units in the reference period, for whatever period it is due, and the average number of employees". In our case, we are interested in the industrial sector.

The ratios of labor productivity per employee in the industry are calculated according to the indexes of industrial production and the indexes of the average number of employees for the economic units with industrial activity (Sowell, 2007).

Statistical analysis of indicators

The statistical analysis of the economic indicators used in this study concentrated on the analysis of each indicator in terms of descriptive statistics and normality of the distribution. Then, we investigated the association between them. Q-Q plots were employed in order to visually analyze the distribution, but Kolmogorov-Smirnov tests were also considered in order to add significance to the study. Pearson correlation coefficient was computed to test the existence of the linear association between the two indicators. Based on the results, a linear regression model was calculated and the analysis of its residuals proved they are Gaussian white noise (Seskin, 2007).

The data series contains 145 monthly values recorded in the time interval January 2005 – January 2017, it was obtained from INSSE (2017). The statistical analysis was performed using SPSS (IBM Corp, 2013).

Based on the data from Tables 2 and 3, we calculated, for the two indicators, descriptive statistics – maximum, minimum, average, standard deviation, skewness coefficient, and kurtosis coefficient (see Table 4).

Table 2. Average gross monthly

Unit: Lei												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2005	835	819	877	923	913	921	941	954	968	939	971	1075
2006	952	944	1051	1048	1046	1059	1085	1098	1109	1101	1134	1254
2007	1129	1151	1274	1288	1267	1271	1321	1333	1319	1364	1375	1544
2008	1379	1385	1456	1626	1556	1583	1646	1598	1654	1627	1628	1836
2009	1615	1604	1688	1776	1704	1745	1820	1768	1802	1797	1796	1983
2010	1780	1775	1959	1867	1879	1905	1953	1932	1953	1915	1964	2180
2011	1945	1920	2044	2100	2022	2042	2077	2055	2064	2029	2094	2288
2012	2038	2021	2152	2208	2170	2147	2209	2155	2153	2160	2193	2389
2013	2111	2099	2221	2326	2260	2241	2326	2257	2262	2246	2308	2533
2014	2248	2240	2395	2445	2406	2389	2466	2375	2423	2394	2465	2720
2015	2409	2391	2563	2607	2536	2596	2637	2522	2573	2561	2663	2891
2016	2548	2556	2737	2831	2750	2807	2825	2777	2795	2774	2919	3144
2017	2891											

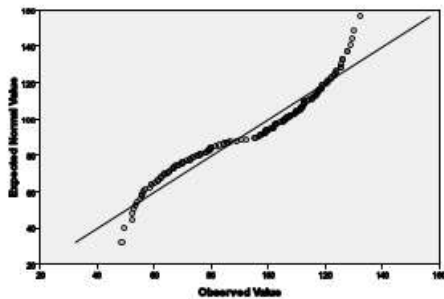
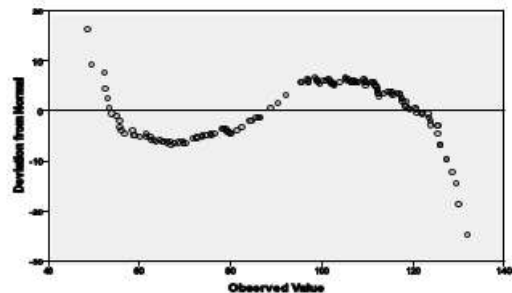
We notice that both have negative skewness coefficients, so there is some moderate skewness of the distribution. In terms of the kurtosis coefficient, we see that it is smaller than 0, thus the distribution has short tails (we call it 'light tailed'), without outliers. Since the values of these two indicators are moderate, we shall test the normality of the data using other complementary methods (Q-Q plot and the Kolmogorov-Smirnov test).

Table 3. Labor productivity ratios in the industry

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2005	48.6	49.5	56.1	53.9	52.4	55.7	53.3	52.5	58.8	58.4	61.5	55.6
2006	53.0	55.0	62.4	56.7	63.3	64.5	61.4	58.8	66.8	69.4	69.5	60.0
2007	62.6	66.1	75.0	65.2	73.7	72.6	72.5	67.0	71.6	79.9	79.3	67.7
2008	70.1	76.4	78.0	74.7	79.9	78.9	79.7	68.5	81.4	84.5	75.8	63.6
2009	65.2	73.8	82.4	79.1	85.6	90.3	92.1	78.3	95.6	100.3	97.0	86.1
2010	84.2	88.7	102.1	95.2	99.0	105.6	103.9	86.5	109.2	111.5	112.6	102.2
2011	98.7	102.6	115.6	101.5	109.5	106.4	105.2	97.0	112.0	112.2	115.1	98.5
2012	99.2	101.6	112.4	99.5	112.2	105.7	107.1	96.8	109.6	117.0	115.4	97.0
2013	102.7	106.3	112.4	117.7	109.5	110.8	119.2	100.9	120.6	129.9	125.9	107.6
2014	113.6	116.4	123.7	118.4	122.1	120.8	123.8	99.0	125.9	131.9	123.4	108.0
2015	111.6	117.1	125.3	117.4	118.3	121.8	125.3	101.9	127.4	128.5	123.2	109.3
2016	107.0	114.4	125.4	118.8	117.4	120.4	118.4	105.1	129.4	125.9	127.4	111.2
2017	111.6											

Table 4. Descriptive statistics

	N	Min.	Max.	Mean	Std. Dev.	Skewness		Kurtosis	
	Stat.	Stat.	Stat.	Stat.	Stat.	Stat.	Std. Err.	Stat.	Std. Err.
Ratios of labor productivity	145	48.60	131.90	94.39	23.66	-.331	.201	-1.200	.400
Gross average salary	145	819.00	3144.00	1909.80	581.86	-.202	.201	-.938	.400
Valid N (listwise)	145								

**(a)****(b)****Figure 1. Normal Q-Q Plot (a) and Detrended Normal Q-Q Plot (b) for ratios of labor productivity**

The graph Q-Q plot for productivity (Figure 1) index shows a seemingly normal character of the distribution, but a nonlinear trend of data is visually observed. The Kolmogorov-Smirnov test has the value $p < 0.05$ (0,047) - see Table 5, thus rejecting the hypothesis of data normality.

By visually analyzing the graph Q-Q of the variable monthly gross average salary it is seen that the data follows a normal distribution (all the points are close to the diagonal) (Figure 2). KS test obtains the p-value of 0.367, thus we conclude that there is no information which could lead to the rejection of the hypothesis that the distribution of salary is normal. Therefore, we can say that the monthly gross average salary is a normally distributed statistical variable.

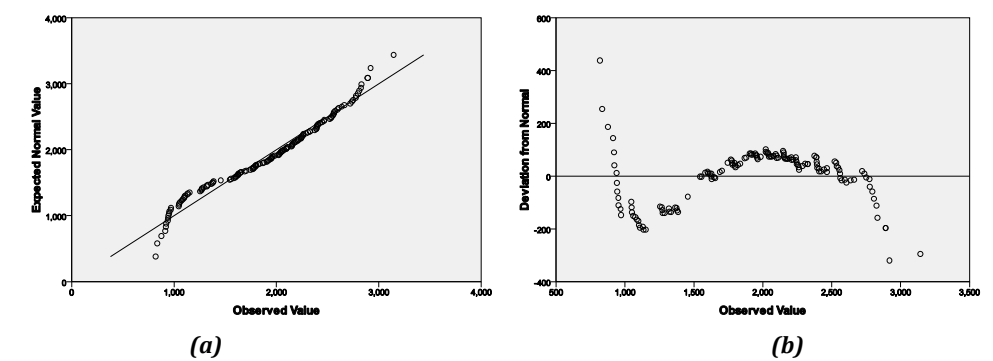


Figure 2. Normal Q-Q Plot (a) and Detrended Normal Q-Q Plot (b) for gross average salary

Table 5. One-Sample Kolmogorov-Smirnov Test			
		ratios of labor productivity	gross average salary
N		145	145
Normal Parameters ^{a, b}	Mean	94.39	1909.80
	Std. Deviation	23.66	581.85
Most Extreme Differences	Absolute	.114	.076
	Positive	.075	.076
	Negative	-.114	-.072
Kolmogorov-Smirnov Z		1.370	.919
Asymp. Sig. (2-tailed)		.047	.367
a. Test distribution is Normal.			
b. Calculated from data.			

The histograms of the two indicators, accompanied by the normal curve, also show some deviation of the data from normality. The productivity ratio has a multi-modal distribution (analyzing the shape of the histogram) (see Figures 3 and 4).

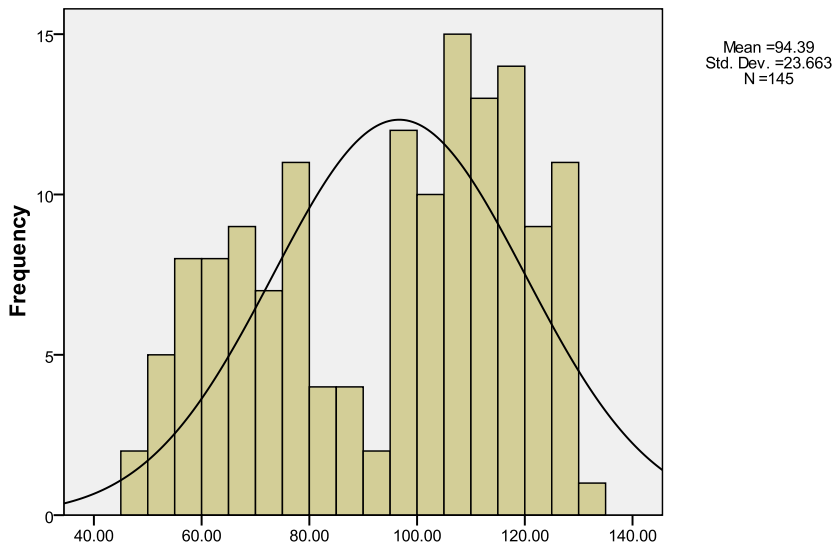


Figure 3. Evolution of ratios of labor productivity

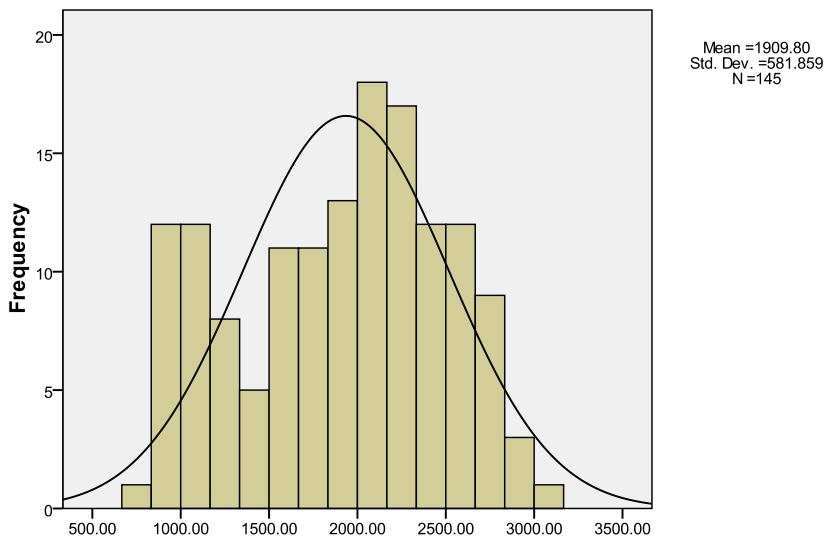


Figure 4. Evolution of gross average salary

For the analysis of the linear association between the two variables, we calculate the correlation coefficients. The calculated correlation coefficients reveal that the two variables are closely correlated. Pearson correlation coefficient is 0.922- see Table 6, which indicates a very close linear association between the two variables (the associated p-value is smaller than 0.01, so the coefficient is also statistically significant).

Table 6. Correlations

		Ratio of labor productivity	Monthly gross average salary
Ratio of labor productivity	Pearson Correlation	1	.922**
	Sig. (1-tailed)		.000
	N	145	145
Monthly gross average salary	Pearson Correlation	.922**	1
	Sig. (1-tailed)	.000	
	N	145	145
**. Correlation is significant at the 0.01 level (1-tailed).			

Given the documented association of the two continuous variables and that there are no significant outliers, we built the linear regression model which explains the salary based on the productivity index – see Table 7.

Table 7. Correlations^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-230.240	77.458		-2.972	.003
	Ratio of labor productivity	22.672	.796	.922	28.477	.000
a. Dependent Variable: Monthly gross average salary						

Thus, the model is: $-230.24 + 22.67 \cdot \text{index} = \text{salary}$

The Anova table characterizes the linear regression model. The significance level is <0.01 , thus, the regression model is statistically significant to predict the salary on the basis of productivity index – see Table 8.

Table 8. ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.144E7	1	4.144E7	810.960	.000 ^a
	Residual	7308096.025	143	51105.567		
	Total	4.875E7	144			
a. Predictors: (Constant), Ratio of labor productivity						
b. Dependent Variable: Monthly gross average salary						

The residuals of the linear regression model follow a normal distribution – see Table 9 and Figure 5. This is important in order to have a well fit model.

Table 9. Residual Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	871.62	2760.20	1909.80	536.47	145
Residual	-468.86	853.10	.00	225.27	145
Std. Predicted Value	-1.93	1.58	.00	1.00	145
Std. Residual	-2.07	3.77	.00	.99	145
Dependent Variable: Monthly gross average salary					

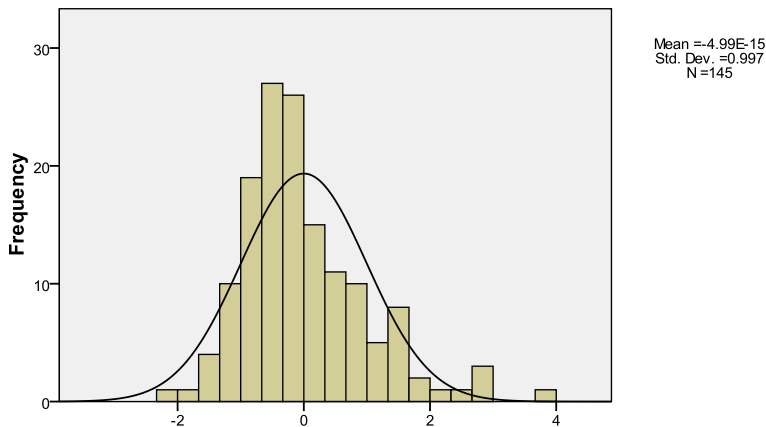


Figure 5. – Regression Standardized Residual (Dependent Variable: Monthly gross average salary)

Conclusions

Gross average earnings and the labor productivity index were analyzed over a period of 145 months, between January 2005 and January 2017. The two variables were found to be strongly correlated, with a strong linear association. A linear regression model was built to model the evolution of the gross average salary in the industrial sector as a function of the labor productivity index in this sector. The industrial sector helped prevent the emergence of imbalances and dysfunctions in the economy by respecting these fundamental correlations between the gross average earnings and the labor productivity index.

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THE IMPACT OF FISCAL AND MONETARY POLICY ON INFLATION: AN EMPIRICAL STUDY RELATED TO ROMANIA

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Abstract. *The study would develop an econometric Vector Error Correction Model (VECM model) that would determine the impact of fiscal policy and monetary policy on the evolution of inflation rate. There were used quarterly time series data over the period of 2007 (1st quarter) – 2017 (4th quarter) on the case of Romania. In order to explain the impact of fiscal policy and monetary policy on the evolution of inflation rate, the econometric model involved endogenous variables such as the growth rate of the money supply, the rate of change in the inflation rate and the rate of change in the public budgetary balance. Furthermore, the analyzed econometric model was used to forecast over a period of $t+4$ (4 quarters) the evolution of the variable budgetary balance along with the evolution of money supply using as an exogenous variable the annual target value computed by the central bank for the inflation rate. Thus a positive impulse or a negative impulse in the value of the rate of inflation could explain any influence on the value of money supply or the value of budgetary balance. The Granger causality test applied to the VECM model revealed a unidirectional causality form between the variable budgetary balance to the variable rate of inflation and from the variable inflation to the endogenous variable represented by the value of money supply. This revealed that an increase in the level of budgetary balance would be computed in an increase in the level of the inflation rate. Moreover, an increase in the rate of inflation would lead to an increase in the value of money supply according to the results generated on time series data taken into consideration over the analyzed period. The VECM model revealed under the variance decomposition that the fiscal policy such as the evolution of public revenues and of public spending would have a significant impact on inflation. On the other hand, monetary policy tended not to have a significant impact on the evolution of inflation over the analyzed period of time.*

Keywords: *fiscal policy; monetary policy; inflation; money supply; Vector Error Correction Model; forecast; Granger causality test.*

Introduction

Fiscal and monetary policies would generate an impact on the evolution of macroeconomic indicators. Fiscal policy could influence macroeconomic variables through each type of tax implemented by the state in order to generate higher public revenues or by implementing different values in the distribution of public revenues to public spending. Monetary policies could generate higher or lower money supply in the entire economy of a state that would further influence the level of interest rates and the level of inflation rate along with the market price levels which could further impact other macroeconomic indicators such as consumption, investment level, unemployment rate. Types of fiscal and monetary policies applied by the state in terms of inflation rate fluctuations have a significant impact on the entire development of the economy.

The first part of the article presents the recent specialty literature which involves econometric models that revealed the relationship between fiscal and monetary policy and their implications on inflation. The second part involves the methodology, namely the estimation of the econometric Vector Error Correction Model (VECM) with the chosen endogenous variables such as the variation of the inflation rate, the variance on the budgetary balance, the rate of change in the money supply. Fiscal policies would be generated in this study by analyzing trends in public spending and public revenues and their subtraction under the value of budgetary balance. Monetary policy would be reflected by analyzing the evolution of money supply generated in the market. The level of prices on the market will be reflected in this study by analyzing the evolution of the inflation rate.

The last part involves the conclusion consisting in forecasting the values of the endogenous variables chosen in the econometric model using as exogenous variable the annual target rate for inflation revealed on the statistical data published by the central bank.

Literature review

The impact of fiscal and monetary policy on inflation has been analyzed on several recent econometric studies. Boiciuc (2015) analyzed a Vector Autoregressive Model in order to explain the impact of fiscal policy on the main macroeconomic variables such as gross domestic product, inflation, interest rate, employment. The impact of fiscal shocks on macroeconomic variables related to Romania over the period of 2000:1 – 2012:4 was revealed not to be so significant. The variables used in order to compute the Vector Autoregressive Model were real output, inflation, interest rate, government expenditure, tax revenues.

Agbonlahor (2014) analyzed a Vector Error Correction Model on time series related to United Kingdom over the period of 1940-2012. The econometrical model revealed the impact of monetary policy on economic growth. The study revealed a long-term relationship between these variables. Inflation rate and money supply seemed to be significant to the evolution of economic growth.

Georgantopoulos and Tsamis (2011) analyzed a Variance Correction Model in order to develop the causality between budget deficit, consumer price index, gross domestic product and nominal effective exchange rate related to Greece over the period of 1980-2009. Empirical evidence revealed a cointegration between the chosen variables among with one-way causalities from effective exchange rate to budget deficit and from budget deficit to gross domestic product. It was also revealed a bidirectional causality link between effective exchange rate and consumer price index. The study disclosed no significance link between budget deficit and inflation in case of Greece.

Giordano, Momigliano, Neri and Perotti (2007) analyzed a Vector Autoregressive Model in order to study the effects of fiscal policy on private gross domestic product, on inflation and on the long interest rates using time series data related to Italy over the period of 1982:1 to 2004:4. Regarding the inflation, it was revealed that the response of inflation to fiscal policy has a small and short-term impact.

Cheung, K.I. and Cheung, L. (1993) applied the J-test to a IS-LM model consisting using as variables the rate of change in inflation rate, the rate of change in government tax revenue, the rate of change in government spending, the rate of change in money supply for Australia over the period of 1961-1990. Empirical findings revealed no significant impact of money supply on inflation. Fiscal policy revealed to be significant in explaining the level of inflation and unemployment.

Methodology

The econometric model chosen for this study would explain the impact of fiscal and monetary policy on the inflation rate. The study used quarterly statistical time series related to Romania for the period from 2007 (1st quarter) to 2017 (4th quarter). Time series were generated by using the Eurostat database and the data provided by the National Bank of Romania reports.

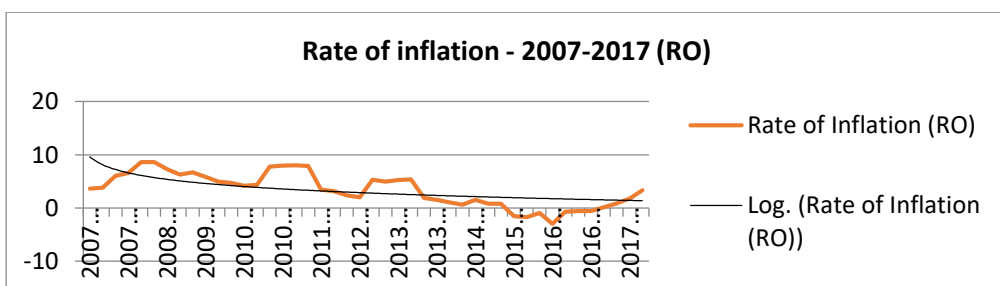


Figure 1. Evolution of the rate of inflation – Romania on the period of 2007-2017

As it can be displayed on Figure 1, the inflation rate recorded a downward slope from 2008 to 2016 – 2nd quarter, when it was registered a deflation rate of 2.63 percent. Before the year 2016, the value of inflation rate began to increase, the slope started to register an ascending trend and is maintaining this trend up to 2018.

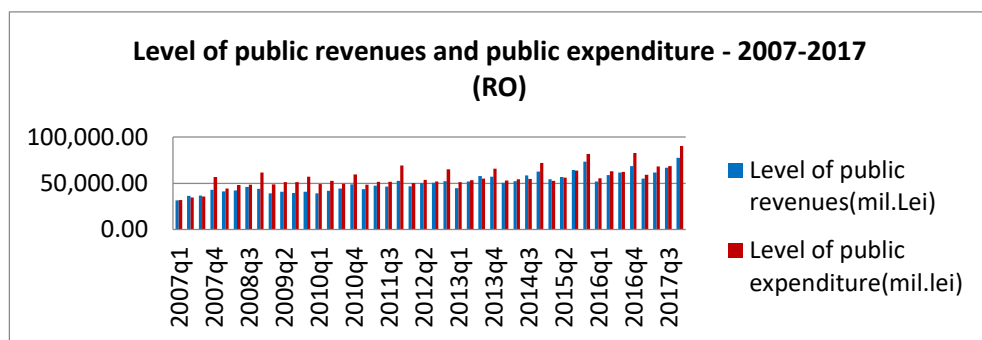


Figure 2. Evolution in the level of public revenues and public expenditure – Romania - 2007-2017

There is an upward slope in terms of public revenue and government spending. According to Figure 2, the tendency is that public expenditure overcomes the level of public revenue over the analyzed period, registering in this way a deficit in the value of budgetary balance.

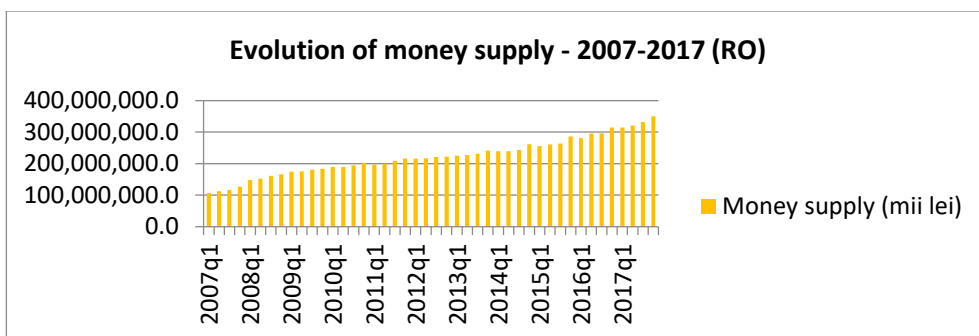


Figure 3. Evolution in the level of money supply – Romania – 2007-2017

The chosen econometric model comprises as endogenous variables the rate of change in inflation, the rate of change in the budget deficit, the rate of increase in the money supply on the Romanian market. The econometric model was developed using 44 observations with quarterly frequency, respectively 2007(1st quarter) - 2017(4th quarter). The econometric model was implemented using Eviews software.

Table 1. Notations of the endogenous variables used in the VECM model
(Source: author's own research)

The name of the variable	Notations
Rate of change in inflation (%)	inflation
Rate of variance in budgetary balance(%)	budgetary balance
Rate of growth in money supply (%)	money supply

In order to reveal the influence of fiscal policy and monetary policy on inflation rate, the chosen econometric model chosen would be represented by the following equation:

$$\text{inflation}_{1t} = \alpha + \beta_1 \text{inflation}_{t-1} + \beta_2 \text{inflation}_{t-2} + \dots + \beta_z \text{inflation}_{t-z} + \gamma_1 \text{budgetary\_balance}_{t-1} + \gamma_2 \text{budgetary\_balance}_{t-2} + \dots + \gamma_z \text{budgetary\_balance}_{t-z} + \delta_1 \text{money\_supply}_{t-1} + \delta_2 \text{money\_supply}_{t-2} + \dots + \delta_z \text{money\_supply}_{t-z} + \varepsilon_t \quad (1)$$

Where:

- β, γ, δ represents the coefficients that could significantly have an impact on the inflation rate;
- budgetary balance, inflation and money supply represent the endogenous variables used for the Vector Error Correction model;
- ε_t represents the error term;
- z represents a notation that refers to the fact that time series start from z and end up to a p number of lags.

Regarding the stationarity of the time series values, as shown in the values displayed on Table 2, inflation and budgetary_balance would be stationary at level, respectively integrated at grade I(0). In terms of time series generated for money_supply variable, t-static at first difference is -9.89 while p-value is 0.00 and the critical value is equal to -4.20. Because the probability is less than 5%, we will consider money_supply variable integrated of order one I(1). The step of evaluating the stationarity for the chosen variables was implemented in order to deseasonalized and remove any trend or shock

in the evolution of the time series which would further be necesarrelly in the prediction of the future values of the chosen time series.

Table 2. Augmented Dickey-Fuller test
(Source: author's own research using Eviews software)

Unit root test at level		Intercept			Trend with intercept		
		P-value	T-static	Critical value	P-value	T-static	Critical value
Variable	inflation	0.0000	-6.97	-3.59*	0.0000	-6.95	-4.19*
	budgetary_ balance	0.0000	-6.37	-3.59*	0.0000	-6.70	-3.59*
	money supply	0.9773	0.3346	-3.60*	0.9906	-0.20	-4.20*

Asterisk * denotes statistically significant values at 1% level.

Table 3. Lag Length Selection Criteria
(Source: author's own research using Eviews software)

Lag	LogL	Sequential modified LR test statistic	Final prediction Error	Akaike Information Criterion (AIC)	Schwarz Information Criterion (SC)	Hannan-Quinn information Criterion (HQ)
0	-97.54071	na	0.039876	5.291616	5.420899	5.337614
1	-80.82670	29.90928	0.026631	4.885616	5.402748	5.069608
2	-68.21455	20.57773	0.022251	4.695502	5.600484	5.017488
3	-52.38657	23.32544	0.015932	4.336135	5.628966	4.796115
4	-31.21341	27.85942*	0.008809*	3.695442*	5.376123*	4.293416*
5	-26.26172	5.733528	0.011824	3.908512	5.977042	4.644479
6	-14.12528	12.13644	0.011398	3.743436	6.199815	4.617397

As shown in Table 3, p number of lags that would be included in the prediction and in the deduction of the causality between the chosen endogenous variables would consist in a number of 4 lags. As seen in Table 3, the lag length criteria would consist in choosing the minimal values computed for Akaike Information Criterion and Schwarz Information Criterion.

Table 4. Cointegration Rank Test
(Source: author's own research using Eviews software)

Number of cointegrating vectors	Eigenvalue	Trace Statistic	0.05 Critical value	Probability
None*	0.474453	40.51658	24.27596	0.0002
<=1*	0.235145	13.49731	12.32090	0.0316
<=2	0.051901	2.238438	4.129906	0.1588

As displayed in Table 4, the Cointegration Rank Test indicated 2 cointegrating number of vectors at the 0.05 level due to the p-value which is higher than 5%. The evidence of existing of vectors at the 0.05 level shows a long-run relationship between the chosen endogenous variables. Thus, a Vector Error Correction model would be implemented using as endogenous variables such as inflation, money supply and budgetary balance.

Table 5. The results of the VECM Model
(Source: author's own research using Eviews software)

Variable	Coefficient	Standard Error	t-Statistic	Probability
CointEq1	-0.118712	0.33826	2.80684	
D(budgetary_balance(-1))	-0.120158	0.02114	-5.68485	0.1231
D(budgetary_balance(-2))	-0.032917	0.02313	-1.42331	0.8758
D(budgetary_balance(-3))	0.004894	0.04365	0.11212	0.5228
D(budgetary_balance(-4))	-0.028214	0.03162	-0.89235	0.5487
D(inflation(-1))	0.246130	0.246130	1.16245	0.5023
D(inflation(-2))	0.424070	0.15574	2.72287	0.0282
D(inflation(-3))	-0.22736	0.31091	-0.73129	0.5780
D(inflation(-4))	-0.48646	0.20788	-2.34008	0.9166
D(money_supply(-1))	3.904774	3.49622	1.11686	0.3807
D(money_supply(-2))	4.946580	3.39689	1.45621	0.7028
D(money_supply(-3))	-4.253700	6.99637	-0.60799	0.3894
D(money_supply(-4))	-4.357590	6.40185	-0.68068	0.4717
c	0.60898	0.13028	0.46742	0.0276
R-squared	0.821108			
Adjusted R-squared	0.728084			
F-statistic	8.826862			

By implementing the VECM Model, the results showed that 82.11% in the evolution of inflation would be explain by the evolution of money supply and of the budgetary balance.

Table 6. Serial LM Test
(Source: author's own research using Eviews software)

Lags	LM-Stat	Probability
1	19.0	0.0247
2	14.1	0.1164
3	5.57	0.7812
4	9.14	0.4236

According to *Table 6*, by implementing Serial LM Test and Heteroskedasticity Test, the validity of VECM model was approved due to the probability which registered a level higher than 5%.

Results displayed on *Table 7* indicate a unidirectional causality from budgetary balance to inflation variable and from budgetary balance to money supply due to the value of probability less than 5%. This indicates that any increase in the level of budgetary balance would consist in an increase in the level of inflation rate and money supply. Furthermore, due to the p-value generated of less than 5%, an increase in the rate of inflation would lead in an increase in money supply according to the results generated on time series used on Romania. As a consequence, it was generated that any change in budgetary balance could have a further impact on the forecast of the values of money supply and of the inflation. Due to the fact that no bidirectional causality was released, the contrary could not be explained on the case of Romania.

Table 7. Granger Causality Test
(Source: author's own research using Eviews software)

Null Hypothesis	Obs	F-Statistic	Probability
Inflation does not Granger Cause budgetary_balance	40	2.86068	0.0398
Budgetary_balance does not Granger Cause Inflation		5.92965	0.0012
Money_supply does not Granger Cause Budgetary_balance	40	1.88229	0.1385
Budgetary_balance does not Granger Cause Money_supply		6.27470	0.0008
Money_supply does not Granger Cause Inflation Inflation does not Granger Cause Money_supply	40	4.03130	0.0096
		1.21858	0.3230

Source: author's own research using Eviews software.

According to data displayed in *Table 8*, the variance of inflation is explained at about 38.1% by the evolution of budgetary balance while money supply seemed to have an insignificant influence of only 3.84% at period 10 when explaining the variance of inflation.

Table 8. Variance decomposition
(Source: author's own research using Eviews software)

Variance Period	S.E.	Money supply	Budgetary balance	Inflation
1	0.774973	0.237526	10.86440	88.89807
2	0.778206	0.236928	11.20895	88.55412
3	1.007510	0.836379	35.93789	63.22573
4	1.074887	3.393001	32.52943	64.07756
5	1.078873	3.439681	32.37753	64.18279
6	1.119804	3.243895	30.41560	66.33990
7	1.165756	3.972310	28.40518	67.62251
8	1.319639	3.458759	37.18038	59.36086
9	1.338833	3.846348	37.43903	58.71463
10	1.348905	3.846561	38.10182	58.05162

After the development of the causality forms generated between the variables, a forecast of the values of budgetary balance and money supply was implemented over a period of t+4 (4 quarters). The inflation was used as exogenous variable as it was generated in the reports retrieved from the National Bank of Romania reports. Due to the fact that on the first quarter of 2018 the inflation rate in Romania was approximately 0.5% higher than it was on the 4th quarter of 2017, on the first scenario of forecast (Baseline) we assume that the inflation rate on the first quarter of 2018 was higher with 0.5% than the previous quarter and furthermore in order to reach the annual target value computed for inflation rate by the central bank, we assumed that the inflation rate would decrease each quarter with 0.5% than the previous quarter until the 4th quarter of 2018.

Table 9. Generating scenarios in order to predict the evolution of variables
(Source: author's own research using EvIEWS software)

Forecasted periods	Baseline - scenario		
t = 2017(q4)	Budgetary_ balance	Inflation (%variation)	Money_ supply
t+1 (q1)	13.14424	+0.5	0.11
t+2 (q2)	4.401088	-0.5	0.11
t+3 (q3)	5.239381	-0.5	0.06
t+4 (q4)	4.962510	-0.5	0.07

Source: author's own research using EvIEWS software.

The results of the econometric model presented in *Table 9* represent the forecasted values of budgetary balance and money supply using as exogenous value the annual target value for the inflation rate. In case of decreasing the level of inflation rate with 0.5 percent each quarter as the previous quarter over the period of 2018: 2nd quarter – 2018 :4th quarter, the budgetary balance would increase with 4.96 percent in the last quarter of 2018, while for the value of money supply the increase would not be so significant, namely 0.07 percent.

Conclusion

The main object of this study was to reveal the impact of fiscal policy and monetary policy on the evolution of inflation. The empirical study explained the causality and variance between budgetary balance, inflation rate and money supply over the period of 2007 (1st quarter) – 2017 (4th quarter) on the case of Romania. These macroeconomic variables are significant for the improvement of any policy and strategy implemented by each state in order to stabilize the level of prices on the market. In order to adjust the effects of a high inflation, public authorities should implement sustainable monetary and fiscal policies. Empirical studies have revealed that any increase in the level of prices could be adjusted by public authorities by implementing new policies on the system of taxation or in the components of public spending. Most empirical findings revealed that increasing taxes would lead to a decrease in the level of disposable income which further contributes to a decrease in consumption and further on with consequences on inflation rate.

In case of Romania, the VECM model implemented revealed the existence of cointegrating number of vectors between the endogenous variables inflation rate, money supply and budgetary balance. Due to this fact, a long-run relationship could be developed and explained when taking into consideration the endogenous variables used on the development of the analyzed VECM model. The results of the economic model revealed that 82.11% in the evolution of inflation could be explained by the evolution in time of variable money supply or of the variable budgetary balance. The variance decomposition of 10 periods determined the fact that the variance of inflation rate could be explained at a maximum level of 38.10% while the money supply had an insignificant influence of only 3.97% at the period 7. As a consequence of implementing this model on the case of Romania, it was revealed that budgetary balance has a higher impact on the evolution of inflation rate than the evolution of money supply. Furthermore, the Granger Causality test revealed unidirectional causality forms from budgetary balance to inflation, from budgetary balance to money supply and from money supply to inflation. This indicated that any increase in the level of budgetary balance would consist in an increase in the level of inflation rate and of money supply. No bidirectional

causality form was released on the analyzed VECM model. Using scenarios on the analyzed VECM model, it was generated that in case of a prediction of the budgetary balance and money supply assuming that the inflation rate would decrease with 0.5% each predicted quarter, the budgetary balance and money supply would increase. The increase would be more significant in case of budgetary balance than in case of money supply. The results of the analyzed VECM model revealed that the inflationary tendency from the last years could be removed by implementing sustainable fiscal policies than to adjust the level of money supply.

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REGIONAL DEVELOPMENT OF THE WESTERN BALKANS MAY NOT BE ESSENTIAL IN THE EU ACCESSION PROCESS

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Abstract. *Regional development is a widely debated topic, not only in the EU but also in the Western Balkan countries: Albania, Bosnia and Hercegovina, the former Yugoslav Republic of Macedonia, Kosovo, Montenegro, and Serbia. Majority of these countries have still felt the effects of the Yugoslav Wars so that their growth path is limited. Nowadays, the Western Balkan countries are aiming to be a member of the European Union. However, the accession path is considered to be a long and tough process with a number of criteria to be met. Many researchers suggest that regional development should be considered as one of the first issues to be addressed in the EU Accession Process. However, this paper takes the position that while regional development is indeed of great importance, it need not be a requirement to join the EU. The paper suggests that these countries should focus on meeting different EU accession criteria in the first place. Then once they become an EU member, they will have time and all necessary funds and financial aids to comply with regional development. The paper is based on a critical and synthetic literature review on the problem of regional development of the Western Balkans and in the perspective of the potential EU enlargement. It clearly addresses the issue of whether the Western Balkans should focus on the regional development and once it is achieved, the EU accession will come naturally. Many researchers think in that way, however, it seems that such a process might be time-consuming, so instead of focusing on regional development, the WBs countries need to focus on their economic, institutional, legal and political environment to speed up the EU integration process.*

Keywords: *regional development; Western Balkans (WBs); regional integration; EU accession, Yugoslavia.*

Introduction

The term Western Balkans (WBs) is designed for a group of countries in Southeastern Europe which are not yet EU member states. This group consists of the following countries: Albania, Bosnia, and Hercegovina (BiH), the Former Yugoslav Republic of Macedonia (FYROM), Kosovo, Montenegro, and Serbia. Except for Kosovo and BiH which are the potential EU candidates, they are all the EU candidate countries.

Regional development is crucial for the EU member states, which are supported by the European Regional Development Fund (ERDF) to help underdeveloped regions grow. However, the WBs are not the EU members so the ERDF does not apply to them. Considering economic integration, Bartlett (2008) rightly observes that the WBs are diverging not only in economic growth but also in living standards. As a reason for that, he blames trade liberalization that imposed deeper deindustrialization. There are a number of research papers and reports that clearly indicate that the WBs should develop regional integration further, as they are a new candidate or potential candidates

countries. This paper argues that there is no need to do so in the first place as they all still face their internal problems like high unemployment rate, high level of corruption, issues with the rule of law, etc. They are all placed in the specific EU chapters that have to be closed before a country accesses the EU. The time for regional development will come when the country becomes an EU member, as then it will receive EU funds and financial aids to address this issue. This paper takes the position that regional development in the WBs is not necessarily required for EU accession. Nevertheless, it is indeed a tremendous asset to have when applying for the EU membership. However, due to its complex nature involving money and proper functioning institutions, the WBs may face serious difficulties in achieving it without the substantial financial help from the EU. Instead, the paper argues that there should be the following order: at first, a country should join the EU and then (with help of the ERDF) develop its regions. Alternatively, this paper suggests the WBs to work on their institutions which are not efficient (Efendic & Pugh, 2015). Better functioning institutions have their positive impact on regional development (Rodríguez-Pose, 2013).

Firstly, this paper considers the necessary information on the economic overview of the WBs' economy. Then, it describes the role of regional development and institutions. Furthermore, it focuses on the regional perspective of the EU accession by the WBs. Then, this paper points out why regional development is not a necessary step in the EU accession. In the last section, it concludes.

Research methodology

This paper clearly addresses the issue of European Integration for the WBs from the perspective of regional development. The paper starts with the economic overview of the WBs' economy so it contains data on the past, current at the future economic situation. Further on, this paper mainly focuses on the problem of regional development and the question whether it should be a first step towards the EU integration of the WBs or not. In order to proceed with such an analysis, it should be mentioned that such a complex issue that is related to economic and political perspectives, seems to be unsolvable from the quantitative analysis because it would be difficult to build a model that contains all factors. It could be even more difficult to comment on the result and draw a reasonable conclusion. Therefore, this paper takes the descriptive approach and formulates the problem based on the literature on this topic. A critical review of the literature and its synthesis makes this paper clear and comprehensive.

The economic overview of the Western Balkans' economy

Almost all of the Western Balkans countries, except for Albania, used to form in the past a country of Yugoslavia. Uvalic and Cvijanović (2017) indicate that in the case of the former Yugoslavia, three phases of economic development can be distinguished, starting from 1989. The first period is the 1990s that can be described by the high political and economic instability, intensified conflicts, sanctions and, consequently, the breakup of Yugoslavia. Not without reason, this period is often referred to as "lost decade", integration with the EU (Hayoz, Jesien & van Meurs, 2005). The second period started from 2001 and lasted until 2008 that was the beginning of the integration with the EU characterized by the acceleration of economic reforms, a period of rapid economic growth based mainly on growing dependence on foreign capital (foreign direct investment), a credit boom, accumulation of structural problems. However, this phase

was interrupted by the global financial and economic crisis. Last period started in 2009, with the recession and a much lower rate of economic growth and even a negative result of economic growth.

A comprehensive analysis of the economic growth of the countries of former Yugoslavia is difficult because some of the currently existing countries have changed over the years. An extreme example is then Serbia, which has changed five times to the present. In the years 1945-1991 it was the Socialist Federal Republic of Yugoslavia, then in the years 1992-2003 the Federal Republic of Yugoslavia. Then, today's Serbia in 2003 - 2006 functioned as the Union of Serbia and Montenegro, in 2006. declare independence, and finally in 2008. Kosovo separated from it, despite the fact that Serbia still does not recognize this fact until today. Therefore, it is legitimate to ask which countries or groups of countries should be analyzed and where to get the data that could be compared.

Another problem is the availability of data. Data from the World Bank are not collected for countries that no longer exist, in this case for Yugoslavia. Eurostat for these countries only leads the latest statistics, but not for each country. Until recently, there was only one database, which had statistics for the countries of former Yugoslavia, unfortunately only available until 2010 (Uvalic, 2018). However, it has recently been updated until 2016 inclusive. Thus, the figure below shows the real GDP per capita in Yugoslavia and the countries that emerged after its collapse.

Yugoslavia was a rapidly growing economy at the time, and the records of increases up to the 1980s were impressive (Kukić, 2017). It should also be added that Yugoslavia was also a well-placed country in the international arena. This is evidenced by the Yugoslavian passport, which at that time was one of the "best" in the world because it enabled traveling both to the East and the West (Dijk, 2008, p.898). Unfortunately, in the 1990s, due to conflicts and political disputes that led to the breakup of Yugoslavia, the economies of the former Yugoslavia countries recorded a relatively high drop in GDP per capita.

One of the most common goals of each country in the world is to enter the path of long-term economic growth. It also applies to the countries of former Yugoslavia. In order to be able to refer to their current economic situation, one should look at the path of economic growth of these countries.

Figure 1 shows GDP per capita in the Western Balkans. It is worth noting that all the countries of the former Yugoslavia and each state separately characterize a similar trend of changes in GDP per capita over the years. At the beginning of the analyzed period, the republic with the highest GDP per capita was Montenegro, followed by Croatia, Serbia, Yugoslavia, Macedonia, Albania, and BiH respectively. The economic growth of all republics and total Yugoslavia to the early 1980s was impressive. Then, as a result of intensifying conflicts, stagnation took place. At the beginning of the breakup of Yugoslavia, in 1991, at the top of ranking this time Montenegro followed by Croatia, and then respectively: Serbia, Macedonia, Yugoslavia, BiH, and Albania. In addition to political tensions, there were also disproportions in economic growth in these republics. After a sharp drop in GDP per capita in all the republics at the beginning of the 1990s, these countries slowly began to rebuild their economies. This was not without temporary fluctuations (declines in GDP per capita) such as the second half of the 1990s

or 2008 when the global financial crisis took place. At the end of the analyzed period, disproportions among the leading countries in the GDP per capita ratio have widened. The country that is leading is Croatia and then: Montenegro, Yugoslavia (if it still existed), Serbia, Macedonia, Albania, and BiH.

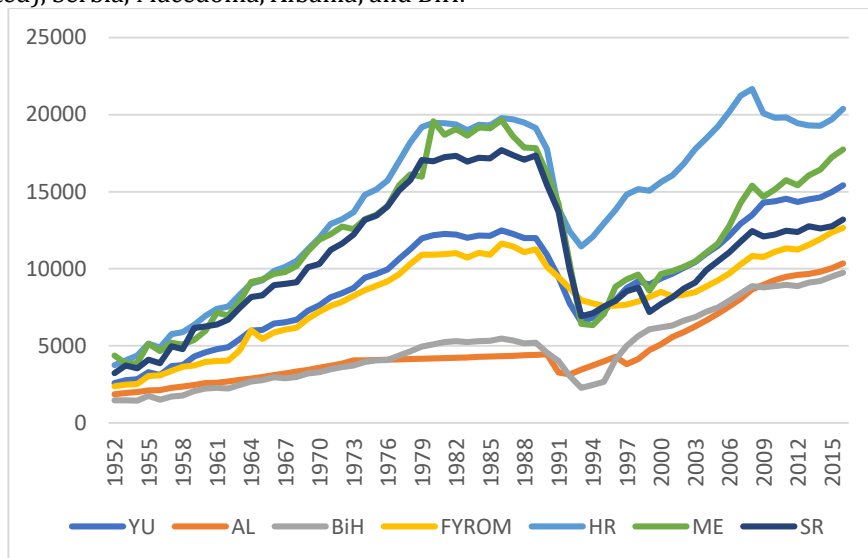


Figure 1. Real GDP per capita in 2011US \$ in the Western Balkans countries for the period 1952 - 2016, benchmark 2011
(Own elaboration based on Maddison database, Bolt et al., 2018)

Table 1. Real GDP growth in the WBs, in a percentage scale for the period 2016-2019 (own elaboration based on the World Bank, 2018, p.9)

	2016	2017*	2018*	2019*
Albania	3,4	3,8	3,6	3,5
BiH	3,1	3	3,2	3,4
Kosovo	4,1	4,4	4,8	4,8
FYROM	2,9	0	2,3	2,7
Monenegro	2,9	4,3	2,8	2,5
Serbia	2,8	1,9	3	3,5
WB	3,1	2,4	3,2	3,5

Note: * estimated and forecasted data

As it is indicated in table 1, GDP growth in the Western Balkans decelerated from 3.1 percent in 2016 to an estimated 2.4 percent in 2017. Regional growth slowed in Serbia due to the severe winter and stopped in FYROM, where the political crisis discouraged both public and private investments. BiH noticed a similar growth as in the last two years. The dynamics of the smaller economic actors of WBs: Albania, Kosovo and Montenegro contributed to the regional increase in 2017, with the support of the higher growth of trade partners, increased prices of goods and the implementation of large investment projects (World Bank, 2018).

Although the increase in the number of jobs was slower than in 2016, it is noticeable that around 190,000 new jobs were created in the first nine months of 2017 in the

region. Professional activity was at a higher level in most countries because more people successfully entered the labor market. In addition, over 80 percent of new jobs concerned services, mainly retail and wholesale, supported by increased consumption. Although the level of unemployment declined in most countries, it still varies from 13.5 percent in Serbia to 30.4 percent in Kosovo. The level of poverty continued to decrease, in spite of rising food and energy prices. Albeit revenues increased in general, not all of the WB countries benefited from the possibility of reducing budget deficits. Only two countries managed to achieve surpluses in 2017, which are: Serbia and BiH; while all the others recorded deficits caused by a high level of recurrent expenditure, often due to poorly targeted social benefits and subsidies. Three WB countries: Albania, Montenegro, and Kosovo are currently working on reviving capital investments to boost economic growth. As it is advised, careful financial, public and budgetary management will help minimize fiscal risks associated with investments, which should ease the pressure on medium-term debt service capacity. Regional GDP growth is forecasted to increase from 2.4 percent in 2017 to 3.2 percent in 2018 and 3.5 percent in 2019. The WB countries are estimated to grow faster, supported by expected growth in Europe with the exception of Albania and Montenegro. There are the following threats for the WBs to be considered: trade protectionism, interest rate normalization on a global scale, low growth and uncertainty as to internal policy (World Bank, 2018).

The role of institutions in regional development

The reason the term regional development exists is that there are economic disparities between regions. The ERDF was created in order to address this issue and to make the chances of all regions equal by reducing economic disparities among regions. Brühlhart and Koenig (2006), empirically proved that border regions and capital regions are on higher development levels than the others. This is due to the following reasons: better access to the market, favorable initial conditions, and better economic environment to attract FDI. In order to foster regional development, the EU has its Cohesion Policy and Structural Funds.

The natural question then is if there are other options to improve regional development. Those can potentially be found in the New Institutional Economics (NIE) which may be helpful to address regional development for the WBs countries that do not receive such financial aids as EU member states. The approach towards the role of institutions in economic development had changed with the implementation of the NIE which considers institutions to be a crucial factor for economic development. The NIE was introduced by Coase, North and Williamson who originated the way of thinking about institutions as a key concept in expounding differences in performance among industries, nations, and regions (Brousseau & Glachant, 2008). Rodríguez-Pose (2013), however, goes one step further and asks whether institutions matter for regional development. He admits that policymakers would not have thought of this question until the 1990s because the institutions were not perceived as causing problems. His research clearly indicates that institutions play a significant role in regional development. When functioning properly, they cannot be overestimated in contributing to the economic growth in regions. However, the extent to which they impact the regional development still remains unknown. Albeit that he states that institutions are vital for economic development in regions, he does not provide ready-to-implement solutions on how institutional reforms should be undertaken. Instead, he underlines that there is no 'one-size fits all' policy and the key point is to properly define institutions and the way to measure them. That, however, is not an easy task.

Western Balkans on their way towards the EU integration: regional perspective

Regional cooperation was of great importance for the Western Balkans since it created a ground for peace and democracy as well as taken away potential conflicts (Erler, 2004, p.11). There were numerous regional initiatives in the Western Balkans undertaken in the period of 2001-2008 such as: Energy Community, European Common Aviation Area Agreement, South East Europe Transport Observatory, CEFTA and Bilateral Free Trade Agreements, Stability Pact for SEE, European Charter for Small Enterprises, Investment Compact, Electronic Southeast Europe Initiative, and Stability Pact for South East Europe that contributed to the removal of Non-Tariff Barriers initiative (Qorraj, 2018).

According to Bieber and Kmezić (2016, p.2), there is “optimism” for the WBs since the EU integration is considered to be the main driving force for change in the level of democracy and potential reforms.

There have been a number of programmes and funds directed to the Western Balkans. They aimed to improve the economic and financial situation to foster regional competitiveness. These programmes: CARDS 2000-2006, IPA 2007-2013 RSED2, IPA II 2014-2020, were designed to fully make use socio-economic, cultural and historical potentials for the WBs (Tošović-Stevanović & Ristanović, 2016).

In order to become an EU member state, a country needs to meet certain criteria which are officially called *acquis communautaire* (EU *acquis*) and are divided into specific chapters. In the 5th EU Enlargement, there were 31 chapters, and during the current 6th one, there are 35 chapters which have to be first opened and then closed. This means that a candidate country needs to work on 35 different matters, such as customs union, free movement of goods, energy, environment, taxation, etc. They need to comply with the requirements of each chapter and it is essential that they will close the chapter, which means they will manage to fulfill all necessary points from the checklist. The most advanced country from the WBs in this process is Montenegro with 28 chapters opened and 3 closed, then Serbia with 10 and 2, respectively (European Commission, 2017). Both Albania and FYROM have no chapters being opened, and remaining BiH and Kosovo are potential candidate countries so they have not even started the process yet.

Chapter 22 of the EU *acquis* entitled: “Regional policy and coordination of structural instruments” clearly states what needs to be done in terms of regional policy:

The acquis under this chapter consists mostly of the framework and implementing regulations, which do not require transposition into national legislation. . . .

The Member States must have an institutional framework in place and adequate administrative capacity to ensure programming, implementation, monitoring, and evaluation in a sound and cost-effective manner from the point of view of management and financial control. (European Commission, n.d.)

However, neither regional economic integration nor regional development was mentioned. There is only an emphasis put on institutions that should be able to transfer funds, (e.g. from the EU Cohesion Policy) to regions. Every candidate state does receive pre-accession funds, however, not as much as the funds for the EU member states, which access the ERDF.

Regional development as a (un)important element of the EU accession process

As Seroka (2008) rightly notices, one of the most prominent reasons why the EU wants the WBs to be integrated is to ensure security, political stability, and economic prosperity. He also admits that the EU accession conditions are set at a higher level for the WBs compared to the 2004 EU Enlargement. The underlying idea of promoting regional integration is to ensure that the WBs will focus on cooperation instead of going into potentially long-term conflicts or political disputes, which could eventually lead to the war. Therefore, in order to avoid the latter issues, it is very convenient for the EU to ask the WBs to deal with the problem of regional integration before joining the EU. In this way, the EU is not obliged to financially support this process, which normally would have to be supported if a country is an EU member state.

According to Sklias and Tsampra (2013), regional integration in the WBs is still not developed, so it negatively affects the socio-economic situation in these countries. This is indeed true, but we argue that not being a part of the EU is negatively affecting the WBs to a much higher extent. There is an extensive economic literature on regional integration and EU accession process (Börzel & Risse, 2009; Brusis, 2001). However, every accession process is different and so is the WBs one. Scalera (2017) indicates that a threshold for the EU membership is set at a higher level than ever before, which corresponds to the following logic of EU officials: the farther from Central Europe, the more difficult it is to become an EU member. As mentioned earlier, the EU demands more from the WBs in the field of regional integration. As Kathuria (2008) observes:

The eventual goal [for the WBs], of course, is full EU membership, which would allow the region to take advantage of a framework that in practice constitutes the deepest integration between countries. This report makes the case that regional integration is a stepping stone to the eventual goal of the EU membership. (p.69)

In this respect, we can draw an analogy between EU 2004 Enlargement and their approach to regional integration. It was the largest EU enlargement in its history and all these countries were quite diverse at that time. Nevertheless, there has been one official regional integration within four of these countries, namely the Czech Republic, Hungary, Poland, and Slovakia, which form the Visegrád Group. However, six other countries (Cyprus, Estonia, Latvia, Lithuania, Malta, and Slovenia) that joined the EU in 2004 did not establish such a group and could still manage to become an EU member state. Cyprus and Malta were outliers in terms of geographic location which are small island countries. Analyzing the current perspective of the EU accession by the WBs countries, one may express the connection between them and Croatia at the stage before the EU accession. Croatia joined the EU in 2013 but before that, it was considered to be (unlike Slovenia) a part of the WBs. Contrary to Kathuria (2008), we do not support the idea that a country needs to make all the effort to address regional integration as a priority on the EU accession path. We do not consider Croatia as a country that put more emphasis and efforts on regional integration in the pre-accession period. Owing to meeting all EU acquis, Croatia joined the EU and it seems that Croatia was not extremely active in regional integration in comparison to the other WBs countries. Seroka (2008) states that regional integration was perceived as a key element for the EU accession process of the WBs. Following this concept, at first, the WBs should be integrated, and then all of them should join the EU. However, this did not happen because Croatia joined the EU in 2013. Croatia was the most advanced country in the EU enlargement process and at some point, EU officials realized that they can no longer postpone Croatia's accession. If we assume that the idea of fully integrated WBs failed when Croatia joined the EU in 2013,

then we can simply treat regional integration as a voluntary activity, not as a requirement, in the EU accession path.

Conclusion

Fostering a regional growth in the WBs is still a significant challenge due to political disputes and events from the past, where the majority of WBs formed a single country called Yugoslavia. This paper clearly takes the position that regional development in the WBs should not be addressed in the very first place (before the EU accession), as they face many different economic problems which correctly resolved may truly contribute to the EU accession. Regional development only appears in the EU *acquis* in the institutional dimension. It requires a candidate country to be ready to transfer money, mainly from the ERDF, to regions. Instead of focusing on regional development *per se*, a country should consider a strategy that would positively impact institutions. Well-functioning institutions which are economically efficient have a positive impact on regional development. Most existing research papers directly relate the EU accession of the WBs with regional development. More specifically, they argue that weak regional development in the WBs excludes them from joining the EU and, in that sense, they recommend that this 'burning issue' needs to be treated with the priority. Out of all EU new member states, no country was perfectly regionally integrated, however, all of them managed to meet all the criteria (EU *acquis*) and owing to that become a member of the EU. It is much easier for them to work on regional development as an EU member, through the Cohesion Policy and Structural Funds, than doing so with their own resources, which would in many cases be, the so-called mission impossible.

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FOSTERING SUSTAINABLE INDUSTRY, INNOVATION AND INFRASTRUCTURE AS A PART OF SUSTAINABLE DEVELOPMENT AGENDA IN THE EU COUNTRIES: SPATIAL ANALYSIS

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Abstract. *The EU has prepared a sustainable development package that is a part of the 2030 Agenda for Sustainable Development. The core of this agenda is sustainable development goals. One out of the seventeen sustainable development goals set by the EU is to promote inclusive and sustainable industrialization as a powerful driver for improving standards of living and ending poverty worldwide. This goal is measured by seven independent indicators including CO2 emissions, employment in medium and high technology manufacturing sectors, gross domestic expenditure on R&D, patent applications to the European Patent Office, R&D personnel, collective transport modes in total passenger land transport, and rail and inland waterways activity in total freight transport. The aim of this paper is to analyze industry, innovation, and infrastructure in the EU countries in order to find out: (1) which countries are leading in this field, (2) which countries need to work on these issues so that they can catch up with the leaders. The following methods are used in order to address the above-mentioned research questions: the taxonomic measure of development, linear ordering, spatial trend models, and spatial autocorrelation approach.*

Keywords: *EU countries; industry; innovation; infrastructure; sustainable development goals (SDGs).*

Introduction

The 17 Sustainable Development Goals and 169 related tasks are a continuation of the Millennium Development Goals. The aim of the Sustainable Development Goals and related tasks is to respect human rights for all people and to achieve gender equality and empower all women. The goals of Sustainable Development are interdependent and indivisible and provide a balance between the three aspects of sustainable development: economic, social and environmental.

United Nations (2015) imply that the 9th sustainable development goal (SDG 9) is to promote inclusive and sustainable industrialization as a powerful driver for improving standards of living and ending poverty worldwide. This goal aims to build a stable infrastructure, promote sustainable industrialization and support innovation. All these should be done by the following objectives: (1) by building a reliable, stable and sustainable infrastructure quality, including regional and cross-border infrastructure, supporting development of economic and human well-being. Ensure equal access of all people to infrastructure at an affordable price. Moreover, (2) sustainable and inclusive industrialization should be promoted and by 2030 significantly the aim is to increase the share of industry employment in generating GDP, taking into account national circumstances and doubling this share in the least developed countries. Next step that

shall be taken is to (3) increase access to financial and affordable services loans and turn them into value chains and provide them with market share, particularly for small and medium-sized enterprises, including industrial ones, in especially developing countries. In addition, (4) SDG 9 intends to modernize infrastructure and industry to ensure its sustainable development, while increasing the efficiency of the use of resources: clean and environmentally friendly technologies and production processes, with the participation of all countries, according to their capabilities, until 2030. Innovation is based on the research, so the next goal is to (5) strengthen research and increase the technological level in all countries, especially in developing countries, and by 2030, foster innovation by a significant increase in the number of employees the research and development sector for every million people and through increasing public and private financing for development. The United Nations also aim to (6) facilitate the development of sustainable and stable infrastructure in countries developing by increasing financial, technological and technical support for African countries, the least developed countries, and developing countries. In addition to that, there is a need to (7) support national technological development, research and innovation in developing countries, including policies that aim for industrial diversification and an increase in the added value of commodities. Last but not least, there shall be (8) a significant increase in access to information and communication technologies and provide affordable and universal access to the internet in the least-developed countries by 2020.

In line with these goals, table 1 presents some facts and statistics prepared by the United Nations (n.d.) in order to better address the problem of this specific SDG.

**Table 1. Facts and statistics about issues concerning SDG 9
(based on the United Nations, n.d.)**

In many developing countries there is a lack of basic road infrastructure, sanitary and water systems, electricity and information and communication technology.
Around 2.6 billion people in developing countries do not have 24-hour access to electricity.
2.5 billion people are deprived of basic sanitation and almost 800 million people have no access to water, of which hundreds of millions live in sub-Saharan Africa and South Asia.
About 1 - 1.5 billion people in the world do not have access to reliable telephone services.
Good infrastructure is associated with achieving social, economic and political goals.
Poor quality infrastructure leads to a lack of access to markets, labor, information, and training, and is a major barrier to business development.
Poorly developed infrastructure limits access to health care and education.
In many African countries, especially those with lower income, insufficient infrastructure reduces the productivity of enterprises by around 40%.
Manufacturing plants are an important employer - in 2009, they employed about 470 million people, i.e. about 16% of the world's workforce estimated at 2.9 billion people. It is estimated that in 2013 over half a billion people worked in such enterprises.
The effect of multiplication of jobs as a result of industrialization has a positive impact on society. Each workplace in manufacturing plants creates 2.2 jobs in other sectors.
The most important for the early phase of industrialization are small and medium-sized enterprises that carry out production and processing activities, which usually create the most jobs. They create 90% of global business and employ 50-60% of the workforce.

Available national statistics show that 2.3 million people currently work in the renewable energy sector. Given that the data on this subject are not complete, this figure is very undervalued. It is predicted that due to the growing interest in alternative energy sources by 2030, 20 million jobs will be created in the renewable energy sector.

Least developed countries have enormous economic potential in the production of food and beverages (agricultural industry), textiles and clothing. It is also good for the future of a generation that will benefit from sustainable employment and greater productivity.

Middle-income countries can benefit from industry and metal processing, which offers a whole range of products sought after in international markets.

In developing countries, only less than 30% of agricultural production is subject to industrialization. In turn, in high-income countries, this percentage is 98%. This illustrates how great opportunities for developing countries are created by agricultural business.

Many of the above-mentioned facts do not apply to Europe, however, it is of great importance that SDGs should be applicable in every country. It means that Europe may not have the same problems as African countries but Europe needs to work on every single SDGs as others because there is always room for improvement. Improving its performance in SDGs, Europe can also improve the performance of others in a direct (by directly helping weaker countries) or indirect way (by showing an example to follow).

Therefore, this paper is to analyze the EU countries in terms of their performance in SDG 9. It is interesting to see if the EU countries improved their level of SDG 9 measures and which countries are leading in this field. Although, European countries are in a comfortable position in comparison to some underdeveloped countries, e.g. in Africa, Asia, and South America, because they do not need to focus on addressing some burning issues like i.e. problems with water or electricity, they can still improve their performance in SDGs so that they can help those in needs (World Bank, 2017). However, one should remember that it is very problematic to achieve a sustainable way of an economic system in Europe in time of omnipresent phenomena of globalization (Barry et al., 2004).

Walz et al. (2017) clearly indicate that achieving sustainable development goals requires innovation. They also add that green innovation is of great importance in the sustainable development concept. The role of innovation in the prevention of global ecological catastrophe has been embedded in the North-South economic development from the very beginning. According to the Environmental hypothesis of the Kuznets Curve (EKC), environmental pressure is growing faster than income in the first stage of economic development. Then, there is a second stage, in which environmental pressure continues to grow, but slower than GDP. After reaching a certain level of income, the pressure on the environment decreases in spite of constant income growth.

Sarangi (2017) implies that science, technology, innovation and Capacity Building Technology are at the core of social, economic and environmental development. It is essential that there are a knowledge and technology transfers from developed to developing countries. This ensures an access to technology since many technologies are initially developed in developed countries. Technology transfer includes a complex process of sharing knowledge and adapting technologies so they can meet local conditions. Therefore, there is a need to implement scientific and technological knowledge in national development plans and strategies so that innovation can be fully

exploited. Thus, Gusmão Caiado, et al. (2018) underline that SDGs are to create more inclusive and equal nations all over the World. This may be done by i.e. encouraging co-creative practices in order to stimulate collaboration in innovative sustainable practices, especially in such a transfer of innovation between developed and developing countries.

Data and methodology of the research

The research concerns the situation of SDG 9 in EU countries. Data for this research are available in Eurostat (2018), however, due to the fact that some of the indicators are measured only from 2008, this paper focuses only for the period starting from 2008 and ending in 2016. SDG 9 is measured using seven indicators listed in table 2.

Table 2. Facts and statistics about issues concerning SDG 9

gross domestic expenditure on R&D by sector (S)
employment in high- and medium-high technology manufacturing sectors and knowledge-intensive service sectors (S)
R&D personnel by sector (S)
patent applications to the European Patent Office (S)
share of collective transport modes in total passenger land transport by vehicle (S)
share of rail and inland waterways activity in total freight transport (S)
average CO2 emissions per km from new passenger cars (D)

Note: (S) – stimulant, (D) – factors with opposite effects to stimulant

Statistical Office of the European Communities (2016, p.80) also proposes the eco-innovation index as ‘more holistic approach to measuring innovativeness of EU countries.’ However, it is omitted for the need of this paper, since the focus is to present official indicators set by the United Nations which are then approved by the European Commission and applied by Eurostat.

Patent applications indicator is excluded in this research because the data are only available up to 2014, whereas for all the others (except for transport modes where data are available until 2015) the data are available for at least until 2016. It should be noted that some of the missing data in indicators of SDG 9 (for some countries in some years) are estimated by Eurostat and some estimation is done for the need of this paper using estimating missing data methods, including trend models and cluster analysis.

In order to measure their performance in this SDG, the following methods are used: the taxonomic measure of development (TMD), linear ordering, spatial trend models (Schabenberger & Gotway, 2005, p.235), spatial autocorrelation approach (Moran, 1950; Schabenberger & Gotway 2005, p.21) and panel data models (Baltagi, 2008). The taxonomic measure of development is used in order to find out which EU countries are leading in the performance of fulfilling SDG 9.

Initially, we have to choose a set of diagnostic variables and determine their character. Due to the initial heterogeneity of variables, there is a need to make them comparable using normalization procedure. In this research, 0-1 scaling standardization is applied (Sobczyk, 2006, p.83). Then, standardized variables are used to designate the so-called Hellwig’s development pattern (Hellwig, 1968). After this, the distance of each point (country, in this case) from the development pattern is determined using a Euclidean distance (Pluta, 1977, p.21). The next step is to normalize synthetic measure for EU

countries for the period of 2008-2016. The synthetic measure is determined in line with Pluta (1977, p.25) and it is named in this paper as SDG 9. It should be noted that Croatia is excluded from this analysis due to the lack of complete dataset for the analyzed period. Malta and Cyprus are also excluded, partially because of incomplete data (not to this extent as in the case of Croatia), because they do not have neighbors since they are islands. Using the above mentioned spatial methods, there is a common border criterion that a country needs to have in order to proceed with the analysis, which Malta and Cyprus do not have. Table 3 shows the explanation (categories) of sections used in maps in figures 1 and 3.

Table 3. Category of countries according to SDG 9

Category	Section
The highest score of SDG 9 / GDP	>Median+Q
Medium score of SDG 9 / GDP	[Median, Median+Q)
Low score of SDG 9 / GDP	[Median-Q, Median)
The lowest score of SDG 9 /GDP	<Median-Q

All calculations and figures are made using the following software Gretl, R-Cran, Python and MS Excel.

Research results and findings

Table 4 presents the rankings of SDG 9 in EU countries for the period of 2008-2016. It is clearly seen that DE has been a leader in terms of SDG 9 throughout the analyzed period. Second and third positions are taken either by DK or FR depending on the year in the research period. It can be easily observed that the best performing countries (top 10 – the first 10 records in table 2) in this measure are the so-called the old EU member states. The first country from the new EU member states is the Czech Republic that is placed on the eleventh position in 2016. However, the Czech Republic is the only country from the new member states that managed to be above the EU 28 average in 2016 in SDG 9 indicator. It does mean that the Czech Republic is performing very well in this indicator while all the other new member states are lagging behind the EU 28 average.

Table 4. Rankings of SDG 9: innovation, industry, and infrastructure for the EU countries in the period of 2008-2016

Rank	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	DE	DE	DE	DE	DE	DE	DE	DE	DE
2	DK	DK	DK	DK	DK	DK	DK	DK	DK
3	DK	DK	DK	DK	DK	DK	DK	DK	DK
4	BE	BE	BE	BE	SE	SE	BE	AT	AT
5	AT	AT	AT	SE	BE	BE	AT	SE	SE
6	FI	FI	SE	AT	AT	AT	SE	BE	BE
7	IT	SE	FI	NL	NL	NL	NL	NL	NL
8	SE	UK	UK	FI	FI	FI	FI	FI	FI
9	UK	IT	IT	UK	UK	UK	UK	UK	UK
10	LU	LU	LU	IT	IT	IT	IE	IE	IE
11	EU28	EU28	NL	EU28	EU28	CZ	IT	EU28	CZ

Rank	2008	2009	2010	2011	2012	2013	2014	2015	2016
12	NL	NL	EU28	LU	CZ	EU28	CZ	CZ	IT
13	CZ	IE	IE	IE	LU	LU	EU28	IT	EU28
14	HU	HU	CZ	CZ	IE	IE	LU	LU	LU
15	ES	ES	HU	HU	SI	HU	SI	SI	SI
16	IE	CZ	ES	ES	HU	SI	HU	HU	HU
17	SI	SI	SI	SI	ES	ES	ES	ES	ES
18	SK	SK	SK	SK	GR	GR	GR	GR	GR
19	PL	PL	PL	GR	SK	SK	SK	SK	SK
20	GR	EE	GR	EE	EE	EE	PL	EE	PT
21	PT	PT	PT	PT	PL	PT	EE	PL	EE
22	EE	GR	EE	PL	PT	PL	PT	PT	PL
23	RO	RO	LV	LV	LV	LV	LV	BG	BG
24	BG	BG	BG	BG	BG	BG	BG	LV	LV
25	LV	LV	RO	RO	RO	RO	LT	LT	LT
26	LT	LT	LT	LT	LT	LT	RO	RO	RO

Figure 1 illustrates the spatial differentiation of taxonomic measure of development for SDG 9 in the years 2008 and 2016 in EU countries. The best performing countries are marked with the darkest blue color. In 2008, the best performing countries in this measure are Scandinavian countries and western EU countries, on average. While the central and eastern EU countries are the ones with the lowest score in SDG 9. In 2016, the situation, on average, seems similar to the year 2008, however, there are some changes in individual countries. Countries that managed to improve their situation (compare to median measure) in this measure are Ireland, the Netherlands, Slovenia, and Sweden. In turn, the following countries worsened their position: Spain, Italy, Poland, Hungary, and Finland.

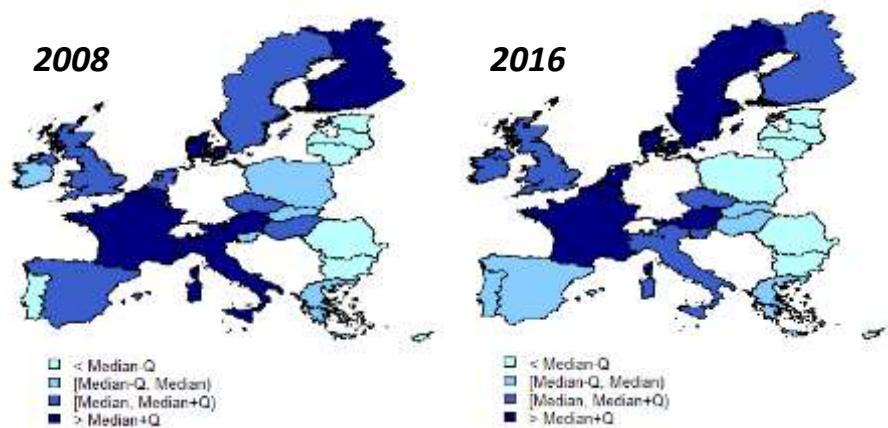


Figure 1. A taxonomic measure of development for SDG 9 in the years 2008 and 2016 in EU countries

Note: White color in the above maps represent Germany that is the so-called outlier with the highest value of the variable.

Source: own elaboration.

Figure 2 presents the trend surfaces of the TMD of SDG 9 for the 2008 and 2016. It shows the supposition of the presence of the second-degree spatial trend. It would mean that on average, Scandinavian and western EU countries score the highest in SDG 9 while central and eastern EU countries are worse off.

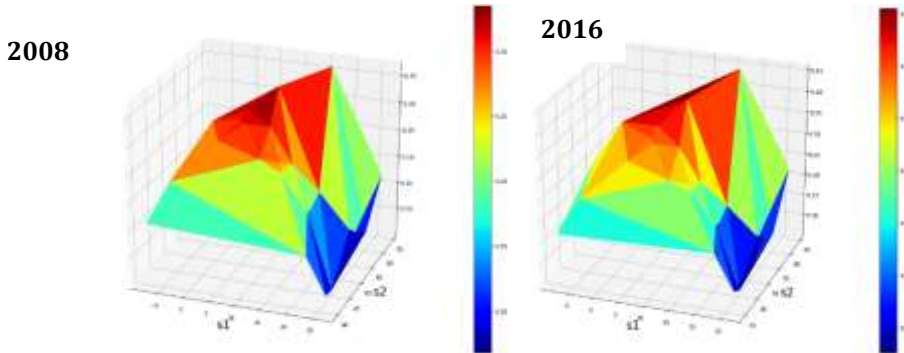


Figure 2. Trend surfaces of taxonomic measure of development for SDG 9 across EU countries in the years 2008 and 2016

In order to find out about the spatial structure of SDG 9 in EU countries, the degree of spatial trend and Moran's test for spatial autocorrelation are applied, and the results are presented in table 5. There is indeed, a second-degree spatial trend for SDG 9 so it confirms the preassumption from figure 2 in the period of 2008 - 2016. The results from Moran's test imply that there is no spatial autocorrelation since the p-value for Moran's I statistics in every year is greater than the level of significance, which is 0.05. Therefore, it can be noted that the after taking into account the spatial trend, countries with similar values of the examined measure do not form clusters.

Table 5. Results of spatial trend and autocorrelation in the synthetic measure of SDG 9

Year	The degree of spatial trend	Moran's I	p-value
2008	2	-0.2464	0.1419
2009	2	-0.2599	0.1259
2010	2	-0.2838	0.1037
2011	2	-0.2582	0.1299
2012	2	-0.2619	0.1254
2013	2	-0.2890	0.0998
2014	2	-0.3497	0.0548
2015	2	-0.3290	0.0678
2016	2	-0.3268	0.0687

Analyzing innovation, industry, and infrastructure in EU countries, one should note that meeting the goal set by the United Nations may be related to how rich a particular country is. Therefore, intuitively, the next procedure checks whether GDP *per capita* has something to do with SDG 9. Therefore, the following research hypothesis is constructed: EU countries that are doing better, on average, in meeting SDG 9: industry, innovation, and infrastructure; at the same time, they are richer than the others in terms of GDP *per capita*.

$$GDP_{i,t} = \theta_{00} + \theta_{10}s_{1i,t} + \theta_{01}s_{2i,t} + \theta_{20}s_{1i,t}^2 + \theta_{11}s_{1i,t}s_{2i,t} + \theta_{02}s_{2i,t}^2 + \alpha SDG9_{i,t} + \beta SDG9_{i,t-1} + \varepsilon_{i,t} \quad (1)$$

where:

$s_{1i,t}, s_{2i,t}$ - coordinates of locations of the spatial units

GDP - Gross Domestic Product per capita

SDG9 - level of innovation, industry, and infrastructure SDG 9 measured with the use of a taxonomic measure of development

Figure 3 presents the spatial differentiation of GDP *per capita* in EU countries the years 2008 and 2016. The general tendency seems to be similar to SDG 9 in figure 1, on average, Scandinavian and western EU countries are richer than central and eastern European countries.

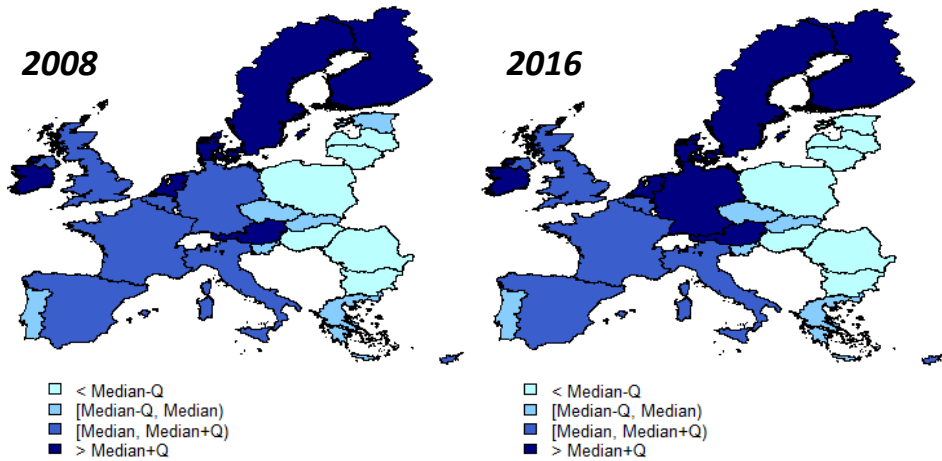


Figure 3. Spatial differentiation of GDP per capita in the years 2008 and 2016 in the EU countries

Figure 4 presents trend surfaces for GDP per capita across EU countries in the years 2008 and 2016. Figure 4 indicates the supposition of the presence of the second-degree spatial trend. In this case, there is also a similarity between GDP per capita and SDG 9 spatial distributions (this can be seen not only on the maps but also in the adjusting trend surfaces).

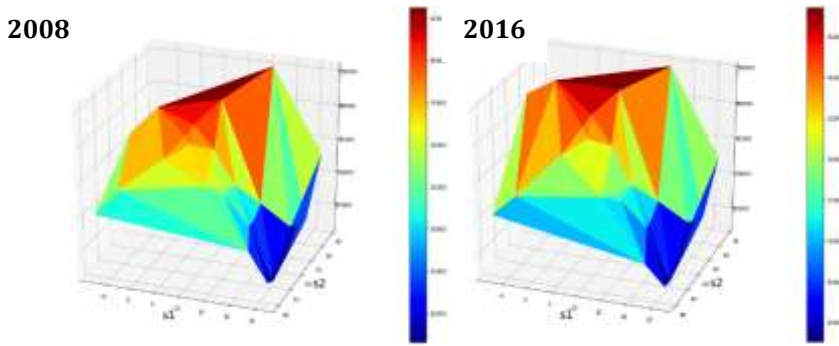


Figure 4. Trend surfaces for GDP per capita across the EU countries in the years 2008 and 2016

The results from panel data model are included in tables 6 and 7. After excluding statistically insignificant variables (which p-value is greater than 0.05) we do have the model that implies that the first time-lag SDG 9 do influence the performance in GDP *per capita*.

Table 6. Results of testing hypothesis – panel data model, random effects

Parameter	Estimate	Std. error	z-statistics	p-value
θ_{00}	154395.000	151807.000	1.017	0.309
θ_{10}	2171.760	1995.930	1.088	0.277
θ_{01}	-6378.630	6214.040	-1.026	0.305
θ_{20}	-49.114	27.240	-1.803	0.0714
θ_{11}	-40.716	40.874	-0.996	0.3192
θ_{02}	77.661	63.861	1.2160	0.224
α	-4585.740	10661.100	-0.430	0.667
β	26761.900	9356.890	2.860	0.004
Breusch-Pagan test: $\chi^2 = 663.636$ p-value = 0.000				
Hausmann test: $\chi^2 = 0.734$ p-value = 0.693				

Table 7. Final results of testing hypothesis – panel data model, random effects

Parameter	Estimate	Std. error	z-statistics	p-value
θ_{00}	7541.170	9509.320	0.793	0.428
θ_{20}	-38.490	10.622	-3.624	0.000
θ_{02}	8.929	3.740	2.388	0.017
β	24913.200	7039.180	3.539	0.000
Breusch-Pagan test: $\chi^2 = 670.539$ p-value = 0.000				
Hausmann test: $\chi^2 = 0.054$ p-value = 0.816				

The very last step of this paper is to check the rate of growth in SDG 9 across EU countries, for the year 2016 in comparison to 2008, what is shown in Figure 5. It is calculated by the difference in TMD of SDG 9 from 2016 to 2008 which is then divided by TMD of SDG 9 in 2008. The rate of growth in SDG 9 for EU countries is 0.1124. Countries that worsened their results, scored less than 0 and are marked with green color. Then, countries that scored between 0 and 0.1124 are marked with bright red. Finally, the best performing countries that score more than the rate of growth for the EU, are colored with dark red.

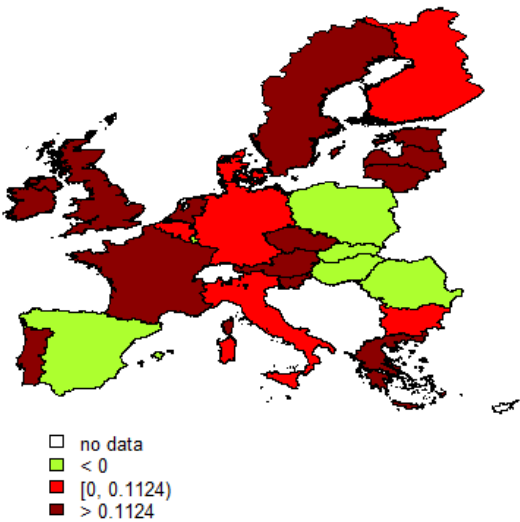


Figure 5. The rate of the growth in SDG 9 across EU countries

It is interesting to analyze the countries with a declining trend of performance in SDG 9, what is illustrated in figure 6. Countries that are lagging behind the others in terms of rate of growth in SDG 9 are LU, HU, ES, SK, PL and RO which is the worst-off.

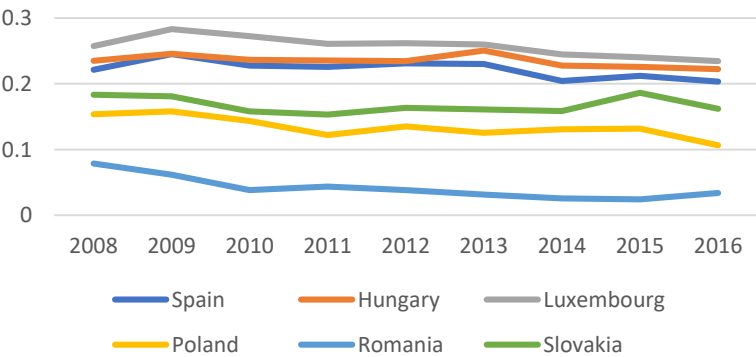


Figure 6. The values of the SDG 9 in 2008-2016 for the countries with a declining trend of SDG 9

Sustainable development goals are indeed needed in the contemporary World but it turns out that it is not necessarily an easy task to fulfill them. One can expect that all countries would be trying to follow the 2030 agenda and improving their performance,

even slightly, in all measure. However, this paper shows that there is room for improvement for EU countries, in particular, central and eastern EU countries, in meeting SDG 9. The focus of the European Commission (2017) is to monitor progress in R&D, innovation, industry, and infrastructure, but the question for a debate is whether the EU can implement some strategy across its member states so the progress can be expected in the future in all SDGs.

Conclusion

Sustainable development goals have been set in order to improve the quality of life of human being on the planet. Although there is a common will in fulfilling agenda 2030, the economic measures of particular statistics show that more effort is needed. Analyzing innovation, industry, and infrastructure as SDG 9, it is clear that old EU member states are doing better than new EU member states, on average. The richer the EU country in terms of GDP *per capita* is, on average, the more advanced it is in fulfilling SDG 9: industry, innovation, and infrastructure. The rate of growth in SDG 9 across EU countries is quite differential what makes it more difficult to indicate what is the overall EU approach to this problem, which seems to be more country-specific one. Further research on innovation, industry, and infrastructure in the EU will: (1) include a wider range of indicators than only those supported by the SDGs, (2) focus on the regional dimension of a particular EU country or group of countries.

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SPATIO-TEMPORAL ANALYSIS OF THE CONVERGENCE OF CONSUMPTION EXPENDITURES IN THE EUROPEAN UNION COUNTRIES

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Abstract. *The paper presents an analysis of the convergence process of the households' final consumption across European Union countries in the period of 2004 – 2016, considering spatial dependencies. The consumption is the main factor of the Gross Domestic Product. Previous studies focused on the economic convergence – a few researchers analyzed consumption convergence. This paper is based on previous studies on consumption convergence. The primary aim of the study is to verify hypothesis about the occurrence of the convergence process in households' final consumption expenditures across EU countries. The second aim is to verify whether the sustainable consumption significantly influences the researched process. The sustainable consumption is one of the several Sustainable Development Goals (SDGs) defined in the 2030 Agenda for Sustainable Development. However, some EU countries that want to align the level of consumption expenditures do not pay attention at sustainability. It depends among others on the consumerism idea. In the analysis, the level of the households' final consumption expenditures per capita is applied as the consumption. The sustainable consumption process is calculated using Hellwig's taxonomic measure of development (TMD), based on four diagnostic variables: final energy consumption, energy productivity, share of renewable energy in gross final energy consumption, resource productivity and domestic material consumption (DMC). To verify spatial dependencies in considered processes the spatial autocorrelation is tested. Consumption convergence process is verified with absolute and conditional β -convergence approach. In the first place, β -convergence panel data models are estimated and verified. Then, models are supplemented with a spatial factor – the dependence on the neighborhood countries. The spatial autoregressive and spatial error β -convergence panel data models are used. In the investigation of the conditional convergence the following indicators are added: the sustainable consumption and the period of financial crisis. The financial crisis slowed down the consumption convergence process in EU countries. As a result of the study, the sustainable consumption does not have a significant influence on the convergence process.*

Keywords: *convergence process; households' final consumption; spatial autocorrelation; spatial panel data models; sustainable consumption; sustainable development.*

Introduction

One of the most important goals for a country is to grow fast and to catch up with the richer and more developed economies. That is why many researchers are interested in the convergence process, e.g. Barro et al. (1991), Carnicky et al. (2016), Corrado et al. (2005), Dall'Erba and Le Gallo (2008), Górna et al. (2013), Górna and Górna (2014), Kulhánek (2012) and von Lyncker and Thoennessen (2017). The convergence process means that the level of the Gross Domestic Product (GDP) of countries is becoming more

and more similar. Consumption is the main component of the GDP in most economies. According to Huang and Rust (2011) the final consumption expenditures of households mainly reflect the standard of living in every country. Many authors analyzed the convergence of the level of living (e.g. Attia & Bérenger, 2009; Kuc, 2014; Muszyńska & Müller-Frączek, 2015), but only a few of them identified this process with the level of consumption. The households in the EU poorer economies are seeking to increase the consumption in order to overcome the differences in its level. In some of them, sustainability in consumption can be violated. Sustainable consumption and production is one of the goals of the sustainable development.

The primary aim of the investigation is to analyze spatial dependence in the formulation of households' final consumption level across the European Union countries (excluding Croatia, Cyprus and Malta) in the period of 2004-2016. Next aim is to evaluate the convergence of the consumption process using absolute and conditional β -convergence approach for pooled time series and cross-sectional data (TSCS). In the conditional approach the influence of the level of sustainability in consumption on the convergence process is considered.

Sustainable development and sustainable consumption

The sustainable development is defined in many different ways. The most popular is Brundtland Report definition: "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (WCED, 1987). Other definitions have offered a slight change in emphasis or added further requirements. Sustainability is the basis for today's leading global framework for international collaboration – the 2030 Agenda for Sustainable Development. In this Agenda the Sustainable Development Goals (SDGs) are presented. The one of them is the 7th goal called Sustainable Consumption and Production (SCP). Analysis of this topic and relation between the SCP and the economic growth was conducted e.g. by Alshehry and Belloumi (2015), Bhattacharya et al. (2016), Lukman et al. (2016), Salimath and Chandna (2018). The following specific goals in SDG7 are identified (the 2030 Agenda for Sustainable Development):

- a) "ensure universal access to affordable, reliable and modern energy services",
- b) "increase substantially the share of renewable energy in the global energy mix"
- c) "double the global rate of improvement in energy efficiency"
- d) "enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology"
- e) "expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support".

Subject and scope of the investigation

The study concerns the consumption convergence process in the European Union Countries (excluding Croatia, Cyprus and Malta) in the period of 2004-2016. Moreover, the influence of the level of sustainable consumption on this process is considered. The households' final consumption per capita indicator has been analyzed. The indicator of

the sustainable consumption (SCP) has been evaluated using Hellwig's taxonomic measure of development (TMD). Table 1 presents the diagnostic variables used in enumeration of this measure.

Table 1. Diagnostic variables used in enumeration of the TMD
(author's own elaboration)

Variable	Process	Character
X ₁	Final energy consumption (millions of TOE)	destimulant
X ₂	Energy productivity (euro per kilogram of oil equivalent)	stimulant
X ₃	Share of renewable energy in gross final energy consumption	stimulant
X ₄	Resource productivity and domestic material consumption (DMC) (euro per kilogram)	stimulant

In the Eurostat database, there are more variables characterizing sustainable production and consumption goal (for example CO₂ emission). However due to incomplete data these characters are not included in the investigation.

The adopted spatial aggregation and time range of this study makes it easy to adopt tools of the spatial econometrics to analysis of the consumption convergence process. The spatial dependence is investigated using the spatial autocorrelation (based on the Moran's *I* statistics). In the previous analysis of the consumption in EU the spatial dependence approach was used by Author (Jankiewicz, 2018). The pooled TSCS data models and spatial panel data models are estimated in order to verify the convergence hypothesis.

The first hypothesis in this study concerns the large diversity of the households' final consumption expenditures in the EU countries. The second one applies to significant influence of the spatial location on the consumption convergence process. Moreover, the third hypothesis concerns the dependence of the consumption on its sustainability (whether the improvement in the sustainable consumption and production has a positive impact on the consumption convergence).

Data

The data applied in this study come from the Eurostat database. All analyzed variables are taken directly from database. The calculations and figures are made using R-Cran software (version 3.4.1).

First of all, the spatial differentiation of the households' final consumption per capita (Y) in the first and the last year of the investigation is analyzed. Figure 1 shows the spatial formation of values in this process. High level of consumption is observed in West (except Portugal in 2004 as well as Spain and Portugal in 2016) and North part of Europe. Maps in Figure 1 clearly indicate the fact that the EU is divided into two parts: Central-Eastern and Southern-Western. Most of the EU countries that joined the EU in 2004 (except Cyprus and Malta) are characterized with a low level of consumption per capita (less than mean) in both years of the study.

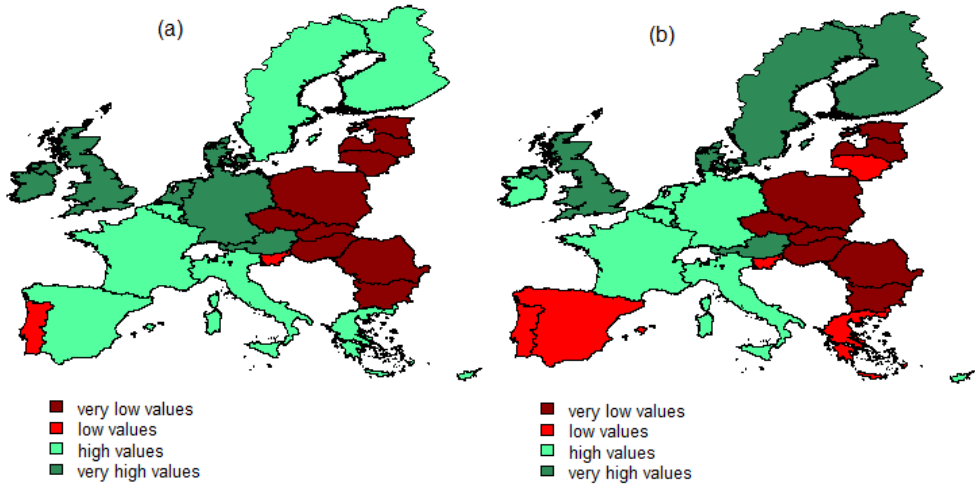


Figure 1. Spatial differentiation of the households' final consumption expenditures per capita across the European Union countries in the years 2004 (a) and 2016 (b) (author's own elaboration)

Methodology

The research starts with a calculation of the SCP indicator. The synthetic variable is calculated with the use of the TMD. Few steps are needed to get the value of TMD. The first step is to choose the diagnostic variables – the ones which characterize the process. The diagnostic variables used in this research are presented in Table 1. Next step is to define a character of these variables – which is a stimulant (having a positive influence on measured process) and which is a destimulant (having a negative influence on measured process) (Kolenda, 2006). The third step of calculation is to normalize values of variables. The standardization formula was used:

$$x_i' = \frac{x_i - \bar{x}}{S(x)},$$

where: x_i' - standardized value of the process X for i^{th} object, x_i - real value of the process X for i^{th} object, $\bar{x}$ - mean value of the process X , $S(x)$ - standard deviation of the process X .

Next step of the TMD calculation is to determine the pattern of development (fixed for all period of analysis) – vector of standardized coordinates:

$$Q = [z_{01}, z_{02}, z_{03}, z_{04}],$$

where coordinates of pattern are identified as follows:

$$z_{0j} = \begin{cases} \max_i x_{ij}', & \text{for } j \in \{S\} \\ \min_i x_{ij}', & \text{for } j \in \{D\} \end{cases}$$

where: $\{S\}$ and $\{D\}$ are sets of stimulants and destimulants respectively.

After determining the pattern of development the distance of all objects (countries) from the pattern. The Euclidean distance formula is used:

$$d_{i0} = [\sum_{j=1}^4 (z_{ij} - z_{0j})^2]^{0.5} \quad (i = 1, \dots, 27).$$

The TMD is identified as follows:

$$SCP_i = 1 - \frac{d_{i0}}{d_0} \quad (i = 1, \dots, 27),$$

where: $d_0 = \bar{d}_0 + 2s_0$ – the norm of distance d_{i0} , where $\bar{d}_0$ is mean of distances of all objects, s_0 – standard deviation.

Based on this synthetic measure rankings of countries were created.

Next step of the study is to analyze spatial dependence of households' final consumption expenditures and sustainable consumption. The spatial dependence is evaluated using Moran's test based on Moran's I statistics (Moran 1950, Schabenberger and Gotway 2005). The test statistic takes the following form (Suchecky, 2010):

$$I = \frac{1}{\sum_{i=1}^n \sum_{j=1}^n w_{ij}} * \frac{\sum_{i=1}^n \sum_{j=1}^n w_{ij} [y_i - \bar{y}][y_j - \bar{y}]}{\frac{1}{n} \sum_{i=1}^n [y_i - \bar{y}]^2} = \frac{n}{S_0} * \frac{\mathbf{z}^T \mathbf{W} \mathbf{z}}{\mathbf{z}^T \mathbf{z}},$$

where:

y_i – an observed value of the phenomenon in the region i ,

$\mathbf{z}$ – a column vector with elements $z_i = y_i - \bar{y}$,

$S_0 = \sum_{i=1}^n \sum_{j=1}^n w_{ij}$ – a sum of the corresponding elements of the weights matrix (in the study weights matrix based on the common border criterion is used),

n – number of regions.

Spatial autocorrelation investigates whether the values of spatial process in neighboring spatial units are similar or not. Statistically significant positive value of the Moran's I statistics says that the processes in the neighboring spatial units are at the similar level. The negative value of this statistics says that the processes in the neighboring spatial units are at the different level. Random position of the values of the considered process is verified when Moran's I statistics is statistically non-significant.

After the investigation of spatial dependence, the convergence of the households' consumption expenditures is verified. The β -convergence approach is used (Barro & Sala-i-Martin, 1992) and the panel data and spatial panel data models are estimated (Baltagi, 2008; Suchecky, 2012). Models take the following forms:

1. Absolute convergence pooled model (Pooled)

$$\ln Y_{i,t} = \alpha_0 + (1 + \beta) \ln Y_{i,t-1} + \varepsilon_{i,t}$$
2. Absolute convergence panel data model with individual fixed effects (FE_IND)

$$\ln Y_{i,t} = \alpha_i + (1 + \beta) \ln Y_{i,t-1} + \varepsilon_{i,t}$$
3. Conditional convergence pooled model (Pooled)

$$\ln Y_{i,t} = \alpha_0 + (1 + \beta) \ln Y_{i,t-1} + \gamma \ln SCP_{i,t} + \delta CR + \varepsilon_{i,t}$$

4. Conditional convergence panel data model with individual fixed effects (FE_IND)

$$\ln Y_{i,t} = \alpha_i + (1 + \beta) \ln Y_{i,t-1} + \gamma \ln SCP_{i,t} + \delta CR + \varepsilon_{i,t}$$

5. Absolute convergence spatial autoregressive model (SAR_pooled)

$$\ln Y_{i,t} = \alpha_0 + (1 + \beta) \ln Y_{i,t-1} + \rho W(\ln Y_{i,t}) + \varepsilon_{i,t}$$

6. Absolute convergence spatial autoregressive panel data model with individual fixed effects (SAR_FE_IND)

$$\ln Y_{i,t} = \alpha_i + (1 + \beta) \ln Y_{i,t-1} + \rho W(\ln Y_{i,t}) + \varepsilon_{i,t}$$

7. Absolute convergence spatial error model (SE_pooled)

$$\ln Y_{i,t} = \alpha_0 + (1 + \beta) \ln Y_{i,t-1} + \eta_{i,t}, \quad \eta_{i,t} = \lambda W(\eta_{i,t}) + \varepsilon_{i,t}$$

8. Absolute convergence spatial error panel data model with individual fixed effects (SE_FE_IND)

$$\ln Y_{i,t} = \alpha_i + (1 + \beta) \ln Y_{i,t-1} + \eta_{i,t}, \quad \eta_{i,t} = \lambda W(\eta_{i,t}) + \varepsilon_{i,t}$$

9. Conditional convergence spatial autoregressive model (SAR_pooled)

$$\ln Y_{i,t} = \alpha_0 + (1 + \beta) \ln Y_{i,t-1} + \gamma \ln SCP_{i,t} + \delta CR + \rho W(\ln Y_{i,t}) + \varepsilon_{i,t}$$

10. Conditional convergence spatial autoregressive panel data model with individual fixed effects (SAR_FE_IND)

$$\ln Y_{i,t} = \alpha_i + (1 + \beta) \ln Y_{i,t-1} + \gamma \ln SCP_{i,t} + \delta CR + \rho W(\ln Y_{i,t}) + \varepsilon_{i,t}$$

11. Conditional convergence spatial error model (SE_pooled)

$$\ln Y_{i,t} = \alpha_0 + (1 + \beta) \ln Y_{i,t-1} + \gamma \ln SCP_{i,t} + \delta CR + \eta_{i,t}, \quad \eta_{i,t} = \lambda W(\eta_{i,t}) + \varepsilon_{i,t}$$

12. Conditional convergence spatial error panel data model with individual fixed effects (SE_FE_IND)

$$\ln Y_{i,t} = \alpha_i + (1 + \beta) \ln Y_{i,t-1} + \gamma \ln SCP_{i,t} + \delta CR + \eta_{i,t}, \quad \eta_{i,t} = \lambda W(\eta_{i,t}) + \varepsilon_{i,t}$$

The CR variable denotes the financial crisis period (years 2008-2010), Y is the level of the households final consumption expenditures, SCP – level of consumption sustainability, $W(Y)$ – spatial lagged dependent variable, ε – spatio-temporal white noise.

The convergence process is confirmed when in models (1) – (12) the parameter β is negative and $(1+\beta)$ is statistically significant. The significance of parameters ρ/λ confirms the meaningful influence of the spatial dependencies on the considering convergence process. Choice between the spatial autoregressive (SAR) model and the spatial error (SE) model is done using the Lagrange Multiplier tests (LM) and their robust versions (RLM) (Anselin et al., 2004; Arbia, 2006). The β parameter serves to calculate the $t_{half-life}$ value, which presents the time needed to reduce the difference by half. It is expressed as follows (Kusideł, 2013):

$$t_{half-life} = \frac{\ln(2)}{b},$$

where: $b = -\ln(1 + \beta)$ expresses the convergence rate.

Results of the research

The first step of the investigation is to analyze the spatial dependence of the considered variables. The level of the consumption sustainability for all EU countries is evaluated using the TMD. The spatial differentiation of the variable Y is shown in the Figure 1. Figure 2 presents the spatial differentiation of the level of consumption sustainability

across EU countries in the years 2004 (a) and 2005 (b). The Central-Eastern EU countries are characterized by a low and very low level of the considered process. Despite the very high values of the consumption in Germany and United Kingdom in 2004 (see Fig. 1), its sustainability is at the level below the EU average. The situation changed for the UK in the 2016 (level of the sustainability increased above the EU average). The consumption in the Northern-Western EU countries (except Germany and UK in 2004 and also Germany and Belgium in 2016) is more sustainable than in the rest part of the continent. Some countries with high level of the households' consumption expenditures are characterized by low consumption sustainability and vice versa. It is not a certain tendency in formation of the *SCP* variable.

Table 2 shows the rankings of countries based on the level of the households' final consumption expenditures (*Y*) and *SCP*. The certain differences in the rankings for both processes are observed. Portugal is in the second part of the ranking of the *Y* process (positions 15-16), while in the ranking of the *SCP* process is in the first part (positions 4-8). Countries with the highest level of the *SCP* process are the Scandinavian countries – Sweden and Denmark, while the lowest level of this variable is noted in Poland and Bulgaria. In Germany the consumption level is high, but less sustainable in comparison to other countries (Germany is at the bottom of the sustainability ranking). The rankings of the *Y* and *SCP* variables are slightly different.

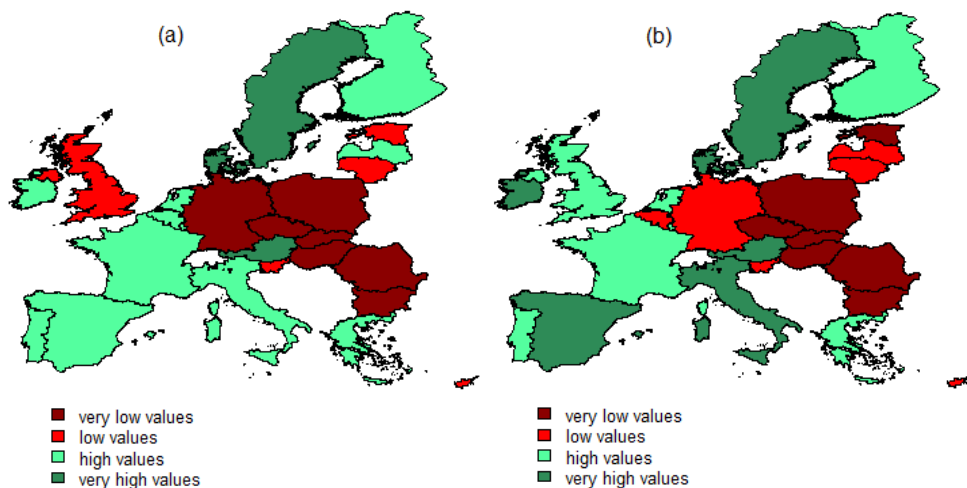


Figure 2. Spatial differentiation of the level of the consumption sustainability across the European Union countries in the years 2004 (a) and 2016 (b) (author's own elaboration)

Table 2. Rankings of countries based on the level of households' consumption and consumption sustainability (author's own elaboration)

Rank i	Final households consumption per capita			SCP		
	2004	2010	2016	2004	2010	2016
1	Luxembourg	Luxembourg	Luxembourg	Sweden	Denmark	Denmark
2	United Kingdom	Denmark	United Kingdom	Denmark	Sweden	Sweden
3	Denmark	United Kingdom	Denmark	Austria	Austria	Austria
4	Ireland	Austria	Finland	Portugal	Luxembourg	Ireland
5	Netherlands	Sweden	Austria	Finland	Ireland	Italy
6	Germany	Finland	Sweden	Luxembourg	Portugal	Spain
7	Austria	Germany	Germany	Netherlands	Italy	Luxembourg
8	Sweden	Ireland	Ireland	Italy	Spain	Portugal
9	Italy	Netherlands	Belgium	Greece	Finland	United Kingdom
10	Belgium	Belgium	Netherlands	Ireland	Netherlands	Netherlands
11	Finland	France	France	Latvia	Greece	Finland
12	France	Italy	Italy	Spain	France	Malta
13	Cyprus	Cyprus	Cyprus	France	United Kingdom	France
14	Spain	Greece	Spain	Belgium	Slovenia	Greece
15	Greece	Spain	Portugal	Slovenia	Belgium	Belgium
16	Portugal	Portugal	Greece	United Kingdom	Malta	Slovenia
17	Malta	Slovenia	Slovenia	Cyprus	Latvia	Latvia
18	Slovenia	Malta	Malta	Malta	Cyprus	Cyprus
19	Czech Republic	Czech Republic	Lithuania	Lithuania	Lithuania	Lithuania
20	Hungary	Slovakia	Estonia	Estonia	Hungary	Germany
21	Estonia	Lithuania	Slovakia	Romania	Romania	Romania
22	Slovakia	Poland	Czech Republic	Germany	Germany	Slovakia
23	Lithuania	Estonia	Latvia	Hungary	Estonia	Czech Republic
24	Poland	Latvia	Poland	Czech Republic	Slovakia	Hungary
25	Latvia	Hungary	Hungary	Slovakia	Czech Republic	Estonia
26	Romania	Romania	Romania	Poland	Poland	Poland
27	Bulgaria	Bulgaria	Bulgaria	Bulgaria	Bulgaria	Bulgaria

Table 3 shows the results of analysis of spatial autocorrelation using Moran test. For variable Y, the Moran's *I* statistics is positive and statistically significant (p-value is less

than the adopted level of significance – 0.05) in whole period of the study. It means that countries with similar values of the level of consumption are located close to each other. For variable SCP the Moran's I statistics is not statistically significant. It means that the spatial autocorrelation does not occur.

Table 3. The results of the Moran test for processes Y and CSP (author's own elaboration)

Year	Final consumption per capita (Y)		Sustainable consumption and production (SCP)	
	Moran's I	p-value	Moran's I	p-value
2004	0.6629	0.0002	0.1030	0.2260
2005	0.6599	0.0002	0.1286	0.1877
2006	0.6529	0.0002	0.1156	0.2058
2007	0.6462	0.0002	0.1549	0.1526
2008	0.6206	0.0004	0.1401	0.1719
2009	0.6055	0.0005	0.1623	0.1434
2010	0.6403	0.0003	0.1327	0.1817
2011	0.6555	0.0002	0.1907	0.1135
2012	0.6569	0.0002	0.1840	0.1201
2013	0.6579	0.0002	0.1304	0.1853
2014	0.6535	0.0002	0.1750	0.1299
2015	0.6516	0.0002	0.1860	0.1181
2016	0.6697	0.0002	0.1851	0.1192

Figure 3 presents comparison of the spatial differentiation of the level of consumption in the first year of investigation and its speed of growth. The certain tendency at the both maps in Figure 3 is presented. The countries with the lowest level of the households' consumption expenditures in 2004 have the highest speed of growth. Based on Figure 3, a presumption about occurrence of the convergence process is formulated.

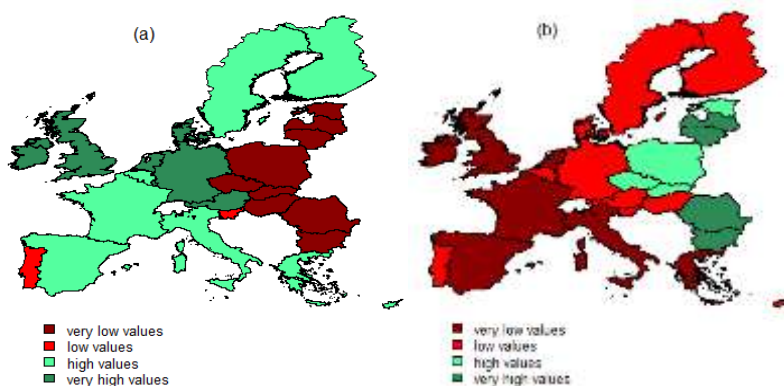


Figure 3. Spatial differentiation of the households' final consumption expenditures per capita across the European Union countries in 2004 (a) and its pace of growth in the period of 2004-2016 (b) (author's own elaboration)

To verify convergence process of consumption, the panel data model is estimated and verified. Table 4 shows the results of estimation and verification of β -convergence panel data models.

Table 4. The results of estimation and verification of the β -convergence panel data models (author's own elaboration)

Parameter	Absolute Convergence		Conditional Convergence	
	Pooled	FE_IND	Pooled	FE_IND
α_0	0.4500 (0.0000)	-	0.3852 (0.0001)	-
$1+\beta$	0.9550 (0.0000)	0.7529 (0.0000)	0.9616 (0.0000)	0.7673 (0.0000)
γ	-	-	-0.0087 (0.3860)	-0.0087 (0.6670)
δ	-	-	-0.0366 (0.0000)	-0.0327 (0.0000)
Moran test	0.6344 (0.0000)	0.5995 (0.0000)	0.5947 (0.0000)	0.5567 (0.0000)
LM_{err}	119.1900 (0.0000)	106.4400 (0.0000)	104.7600 (0.0000)	91.7840 (0.0000)
LM_{lag}	1.9681 (0.1607)	33.2320 (0.0000)	1.1768 (0.2780)	26.7670 (0.0000)
RLM_{err}	117.4200 (0.0000)	74.5350 (0.0000)	103.9800 (0.0000)	66.4340 (0.0000)
RLM_{lag}	0.2060 (0.6500)	1.3282 (0.2491)	0.3906 (0.5320)	1.4172 (0.2339)
Speed of convergence	0.0460	0.2838	0.0391	0.2648
$t_{half-life}$	15.0540	2.4421	17.7080	2.6172

Four types of models are estimated – absolute convergence pooled and fixed effect and also conditional convergence pooled and fixed effect models. The parameter $(1+\beta)$ is statistically significant in all types of models and β is negative. It means that the convergence process of the consumption occurs. Considering models with individual fixed effects the pace of convergence is higher than for the pooled models. For residuals of all models the Moran's I statistics is statistically significant. That is why, it is reasonable to supplement models with spatial factor. Based on the LM and RLM statistics the spatial error model better reflects source of spatial dependencies. Table 5 presents the results of estimation and verification of the absolute β -convergence spatial panel data models.

As in the models without spatial dependencies the parameter $(1+\beta)$ is statistically significant in all types of models and β is negative. Spatial dependencies are not statistically significant only for spatial autoregressive pooled model (SAR_pooled). Spatial autoregressive (SAR) models show the spatial autocorrelation in residuals. Based on the AIC criterion spatial error models better reflects spatial dependencies in convergence process (AIC is lower than in spatial autoregressive models). Next, the conditional β -convergence spatial panel data models are considered. Table 6 presents the results of their estimation and verification.

Table 5. The results of estimation and verification of the absolute β -convergence spatial panel data models (author's own elaboration)

Parameter	Absolute Convergence			
	SAR_pooled	SAR_FE_IND	SE_pooled	SE_FE_IND
α_0	0.4038 (0.0000)	-	0.4216 (0.0000)	-
$1+\beta$	0.9465 (0.0000)	0.6444 (0.0000)	0.9580 (0.0000)	0.7748 (0.0000)
ρ	0.0135 (0.1628)	0.1892 (0.0000)	-	-
λ	-	-	0.5641 (0.0000)	0.5255 (0.0000)
Moran test	0.6155 (0.0000)	0.3285 (0.0000)	-0.0815 (0.0869)	-0.0930 (0.0594)
AIC	-845.8200	-942.1800	-980.6300	-1027.0000
Log likelihood	426.9083	499.0881	494.3155	541.5141
Speed of convergence	0.0550	0.4395	0.0429	0.2551
$t_{half-life}$	12.6038	1.5772	16.1659	2.7172

Table 6. The results of estimation and verification of the conditional β -convergence spatial panel data models (author's own elaboration)

Parameter	Conditional Convergence			
	SAR_pooled	SAR_FE_IND	SE_Pooled	SE_FE_IND
α_0	0.3673 (0.0001)	-	0.5435 (0.0000)	-
$1+\beta$	0.9536 (0.0000)	0.6827 (0.0000)	0.9475 (0.0000)	0.7509 (0.0000)
γ	-0.0066 (0.5168)	-0.0223 (0.2287)	0.0117 (0.1052)	0.0357 (0.0523)
δ	-0.0360 (0.0000)	-0.0279 (0.0000)	-0.0347 (0.0057)	-0.0273 (0.0074)
ρ	0.0103 (0.2794)	0.1694 (0.0000)	-	-
λ	-	-	0.5515 (0.0000)	0.5183 (0.0000)
Moran test	0.5829 (0.0000)	0.3098 (0.0000)	-0.0760 (0.1032)	-0.0819 (0.0861)
AIC	-863.6400	-957.8200	-987.1500	-1035.8000
Log likelihood	437.8175	508.9076	499.5735	547.9108
Speed of convergence	0.0475	0.3817	0.0590	0.2864
$t_{half-life}$	14.5796	1.8161	12.8601	2.4120

To verify hypothesis about conditional convergence, models are supplemented with the following indicators: sustainable consumption level (SCP) – parameter γ and binary variable characterized financial crisis period (CR) – parameter δ . Like in previous models the parameter $(1+\beta)$ is statistically significant, and β is negative. Parameter δ is statistically significant and parameter γ is not significant in all models in Table 6. In spatial error panel data model with individual fixed effects the significance of the parameter γ is close to adopted level of significance. The spatial error models have better characteristics than the spatial autoregressive models – the AIC value is lower and residuals do not show the spatial autocorrelation.

Conclusion

In the analysis the consumption convergence process is considered. The investigation shows the differences between the Central-Eastern and Northern-Western part of the European Union. The level of consumption in Central-Eastern part of Europe is lower than in the remaining part of continent. However, their pace of growth is higher. It means that the households consumption expenditures are becoming more and more similar. Sustainability of consumption (as specified in this paper) does not have a significant impact on its convergence process. It can be the result of the consumerism idea. Countries, which want to increase their consumption spending or stay at its high level (like Germany), do not pay attention to the sustainable consumption. The financial crisis period implied that the consumption expenditures decreased and the convergence process slowed down. Moreover, a formation of processes (not included in investigation) in neighboring countries (except for consumption expenditures level) has a significant influence on the consumption convergence process.

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THE CIRCULAR ECONOMY IN CENTRAL AND SOUTH-EASTERN EUROPE - THE NEED FOR ACTION

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Abstract. *This paper provides an introduction to some of the principles and approaches related to the concept of a circular economy which is relatively new at the European level especially in Central and South-Eastern Europe. In essence, a circular economy represents an alternative to the currently predominant linear take-make-consume-dispose economic model, which is not sustainable and in many cases is causing the wasting of natural resources. The circular economy according to the Ellen MacArthur Foundation aims to maintain the utility of products, components and materials and retain their value. It thus minimizes the need for new inputs of materials and energy, while reducing environmental pressures linked to resource extraction, emissions and waste. In the article there are presented main schools of thought in which circular economy has its origins. Among analyzed concepts are: cradle to cradle, industrial ecology, biomimicry, dematerialization and performance economy. The concept of circular economy is essential for whole Europe, however Central and South-Eastern Europe is in a specific situation because on one hand, some indicators, for example recycling rate and the amount of waste going into landfills without treatment are much higher than in Western European countries, but on the other hand, in the countries of Central and South-Eastern Europe, the amount of waste generated per capita is many times lower than in Western Europe. Wise implementation of circular economy programs can cause that in these countries waste management systems will be significantly improved in a relatively short time. In the article the comprehensive assessment of the European waste management systems and circular economy programs - which aim to manage all natural resources more efficiently and sustainably - are analyzed. European Commission Circular Economy Package which is going to stimulate Europe's transition towards a circular economy has been also analyzed. In the paper benefits related to the implementation of circular economy programs have been analyzed: environmental benefits which bring less environmental impact; economic benefits which bring opportunities for economic growth and innovation and social benefits which bring sustainable consumer behavior and job opportunities. Moreover, new business models which play an important role in the circular economy and have significant potential for increased economic, social and environmental benefits are presented. Among analyzed models are: remanufacturing and reuse; selling services rather than goods and sharing economy business model.*

Keywords: *circular economy; recycling; resource recovery; waste management; remanufacturing.*

Introduction

Among the important challenges in today's economy, one of the most important is the availability of resources. That is why the idea according to which today's goods are tomorrow's resources becomes very promising and worth deepening knowledge and further analysis. Nowadays in the EU, each person consumes 16 tons of materials annually, of which 6 tons are wasted, with half going to landfill. Trends show, however, that the era of plentiful and cheap resources is over (European Commission 2011). Businesses are facing rising costs for essential raw materials and minerals, their scarcity and price volatility are having a damaging effect on the economy. Thus, the transition to this new circular economy is inevitable, however, the question is how and how fast the countries will develop and implement the relevant new business models.

Nowadays it is possible to observe many cases of unsustainable overuse of resources and also increasing environmental degradation. That is why the developing of the concept of circular economy can contribute to decoupling economic growth from environmental degradation. Clean cycles of resources could radically decrease the amount of pollutions which are released to the environment and at the same time can foster prosperity of societies.

Most of the world economies in the XXI-st century remain locked into a system where everything from production economics to contracts, and from regulation to mind-sets, favors the linear model of production and consumption. Replacing this linear world with new circular business models seems to be a challenge for decades not only for European Union countries but also for all countries in the world. The greatest resistance associated with the transition to the new model is related to the fear that revenue and profits of companies will be decreased due to the lower demand for incremental sales.

In the article there are presented principles and approaches related to the concept of a circular economy and the selected aspects of the transition path to a circular economy in the region of Central and South-eastern Europe.

The genesis of the concept of circular economy

The concept of circular economy has its origins in a few schools of thought such as cradle to cradle; industrial ecology, biomimicry, dematerialization or performance economy.

- Cradle to Cradle concept as a design philosophy was developed by Michael Braungart and Bill McDonough. It is built on three principles: 'Waste equals food'— 'Use current solar income'— 'Celebrate diversity'. They consider all material involved in industrial and commercial processes to be nutrients, of which there are two main categories: technical and biological. According to this design philosophy, the flow of industrial materials could be guided in a way similar to biological materials - „biological metabolism” as a model for „technical metabolism”. For such an effective recycling system precisely defining the molecular composition of materials is needed. (McDonough & Braungart, 2002)
- Industrial Ecology concept is focusing on the restoration of natural capital and social wellbeing. In practice, it concentrates on connections between operators within the „industrial ecosystem”. The aim of this concept is to create closed-loop processes in which waste serves as a raw material. It adopts a systemic point of view and assumes designing production processes in accordance with local ecological constraints. This

approach is enabling the elimination of an undesired by-products. Moreover, its principles can also be applied in the services sector.

- Biomimicry concept it was created by Janine Benyus, author of „Biomimicry: Innovation Inspired by Nature“. She defines her approach as „new discipline that studies nature's best ideas and then imitates these designs and processes to solve human problems“. Biomimicry relies on three key principles: Nature as model: Study nature's models and emulate these forms, processes, systems, and strategies to solve human problems; Nature as measure: Use an ecological standard to judge the sustainability of our innovations; Nature as mentor: View and value nature not based on what we can extract from the natural world, but what we can learn from it.
- Dematerialization and ephemeralization - there are two similar concepts of which first refers to reduction in the quantity of materials required to supply needs of societies and serve economic functions in society and the second refers to increase in the efficiency of achieving the same products and services while requiring less resources, time and effort (Bailey, 2001)
- Performance Economy is the vision from the 70's presented in the report to the European Commission „The Potential for Substituting Manpower for Energy“. In the vision there was presented an impact of economy in loops on job creation, economic competitiveness, resource savings, and waste prevention. Moreover, the author of the report - professor Walter Stahel who founded in 1982, the Product-Life Institute - Europe's oldest sustainability consultancy - pursues four main goals: product-life extension, long-life goods, reconditioning activities, and waste prevention. The institute also promote the importance of selling services rather than products, and the concept of 'performance economy' and circular economy which is perceived as a coherent model ensuring further development in conditions of limited resources and high prices of natural resources.

Above schools of thought contributed to the creation of the concept of circular economy, which is the most often characterized as an „industrial system that is restorative or regenerative by intention and design It replaces the 'end-of-life' concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims for the elimination of waste through the superior design of materials, products, systems, and, within this, business models" (Towards the Circular Economy, 2013, p.8)

As Daly and Farley says waste is just a resource we have not yet learned to use (Daly & Farley, 2004, p.41). Nowadays, not only in Europe but also in another developed country in the world most of the production-consumption processes are still traditional linear patterns, which in short can be describe as take-make-dispose approach. In this model raw materials are extracted from the environment, transformed into products and eventually disposed of. It is leading to scarcity, and higher levels of pricing. One of the threshold condition for the transition towards this new circular economy is also the change of consumer behaviors. Unfortunately, very often consumption does not follow real needs, but it is wasting consumption. Using the figures of World Bank Indicators, it follows that the wealthiest 20% of the world accounted for 76.6% of total private consumption; the middle 60% consume 21,0 % and the poorest 20% just 1.5% (Shah, 2014) Moreover the United Nations organization for many years alerts that: „the dynamics of the consumption-poverty-inequality-environment nexus are accelerating. If the trends continue without change — not redistributing from high-income to low-income consumers, not shifting from polluting to cleaner goods and production

technologies, not promoting goods that empower poor producers, not shifting priority from consumption for conspicuous display to meeting basic needs — today's problems of consumption and human development will worsen." (UNDP, 1998, p.1), according to what UN presents the real issue is not consumption itself but its patterns and effects.

The core principles of circular economy were outlined in the report of Ellen Macarthur Foundation „Towards the Circular Economy" and there are as follow:

- Waste are „design out" from processes. It determines that component and product have to circulate in economy. Reusing and recycling for the large scale prevent from disposal of materials.
- Demarcation between consumable and durable components of a product is introduced. Consumables component/products are made of biological renewable ingredients and durables one such as metals and most plastics are designed for reuse.
- Energy for production processes should come from renewable sources.

Moreover, in circular economy, in case of durable technical products the concept of consumer is assumed to be replaced with the concept of user. Such a shift from consumer to user means that instead of buy-and-consume approach the new solutions are promoted such as: leasing, renting or sharing. And for the consumer who are buying products there are incentives ensuring the return of the product, which could be reuse or could be recycled.

The „Towards the Circular Economy" report also indicates four sources of value creation by circular economy:

- The 'power of the inner circle' refers to minimizing comparative material usage vis-à-vis the linear production system.
- The 'power of circling longer' refers to maximizing the number of consecutive cycles
- The 'power of cascaded use' refers to diversifying reuse across the value chain,
- The 'power of pure circles', finally, lies in the fact that uncontaminated material streams increase collection and redistribution efficiency while maintaining quality (Towards the Circular Economy, 2013, p.30)

The concept of circular economy has a potential to create multifaceted economic, social and environmental benefits for economies, companies and customers. Benefits for Economies include substantial net material savings, mitigation of price volatility and supply risks. According to OECD, positive economic effects can arise from the availability of cheaper materials diverted from waste as an alternative to virgin materials, moreover costs of waste disposal can be reduced and residual economic value of existing material streams can be captured (OECD, 2013) Economies may also benefit from reducing the dependence on imported resources and providing new economic opportunities and contributing to long-term competitiveness. Benefits expected for companies include both short-term benefits, consisting mainly of cost reduction and some longer-term strategic opportunities. Key benefits include reduced material bills and warranty risks and improved customer interaction and loyalty. Benefits for customers consist of shortening the premature aging of ready-to-use products or reusable products. For the customer, this will mean a reduction in the cost of ownership. Benefits also include increasing the choice and convenience of customers because manufacturers can adjust the duration, type of application and ingredients of the product to a specific customer, offering a wider set of contractual options

Among the environmental and social benefits of the transition towards circular economy there are preserving and improving the quality of the environment, especially natural resources and better human health.

Policy supporting circular economy

In the face of challenges and opportunities related the transition from linear into circular model of economy, the EU aims to evolve its economic and social systems. Through the strategy for Europe 2020 – the EU has already expressed its belief in necessity to move to a more restorative economic system that drives substantial and lasting improvements of our resource productivity. The transition is supported by the EU Directives such as Waste Framework Directive 2008/98/EC, in which EU's five-step waste hierarchy prioritizing the prevention of waste generation was established, and another Directives such as: Directive 1999/31/EC on the landfill of waste; Directive 94/62/EC on packaging and packaging waste; Directives 2000/53/EC on end-of-life vehicles; Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators, and Directive 2012/19/EU on waste electrical and electronic equipment.

Even though, the waste prevention programs were established in all EU member states, the problem of waste is still a big challenge. In Europe, 2.7 billion tons of waste were generated in 2010, but only about 40% of that was reused, recycled, or composted and digested. Current recycling rate are significant for only a handful of waste types, mostly those that occur in large, fairly homogeneous volumes. A recent UNEP report, for example, notes that only around one-third of the 60 metals it studied showed a global end-of-life recycling rate of 25% or more (UNEP, 2011).

The waste management systems in most of European countries are inefficient. In these systems, most recyclable waste ends in landfills or is incinerated, with potentially harmful environmental impacts and significant economic losses. Over the past two decades many Member States have gradually improved their waste management. In 1995, on average 64% of municipal waste was landfilled in the EU. In 2000, the average had been reduced to 55% while the average recycling rate stood at 25%. In 2016, landfilling of household waste in the EU as a whole dropped to 24%, with recycling having increased to 46%. In 2016, ten Member States still landfilled over 50 % of their household waste and six of them incinerated 40% or more. However, there are huge variation in landfilling between Member States, with rates from 80% to 5% (European Commission, 2018). Municipal waste treatment methods and waste per capita is presented in the Figure 1.

Most of the countries with the highest landfilling rates are states from Central and South-eastern Europe. This is the biggest weakness of the waste management systems in these countries. However, the amount of municipal waste per capita is the lowest in the Central and South-eastern Europe countries and this is the biggest strength. In six countries: Romania, Slovakia, Latvia, Estonia, Czech Republic and Poland the amount of waste is smaller than 300 kg per capita which is much less than EU average: 481 kg per capita. Among the countries that produce the most waste per capita are Western European Countries: Denmark, Germany, Austria, Ireland and the Netherlands.

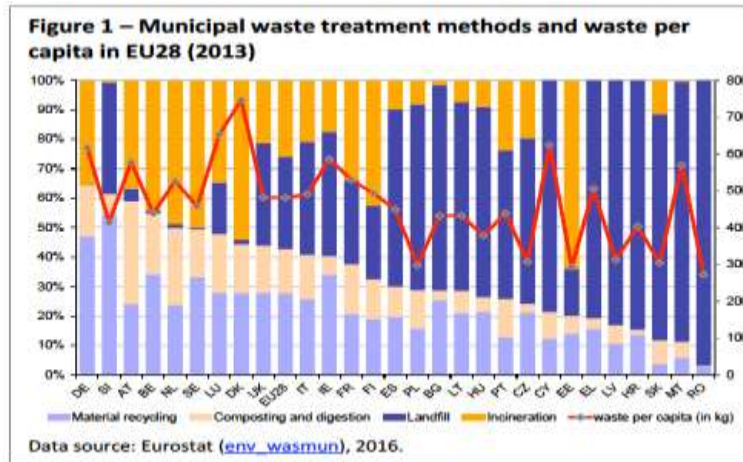


Figure 1. Municipal waste treatment methods and waste per capita in EU28
(Bourguignon, 2016, p. 2)

New business models and circular economy programs

When looking for new business models, which are possible to implementation in Central and South-eastern Europe it is necessary to focus on the specific business sectors especially the resource-intense one and the mainstream products reflecting the specificity of the economies of those countries. Nowadays economy is locked into a system where everything favors the linear model of production and consumption. Among the trends which support the transition from linear take-make-dispose into circular businesses there are following:

- Resource scarcity and tighter environmental standards;
- Advanced information technology enabling to trace materials through the supply chain, identify products and material fractions, and track product status during use. Furthermore, social media platforms exist that can be used to mobilize millions of customers around new products and services instantaneously.;
- New behaviors of consumers that prefer access over ownership (Bourguignon, 2016, p.2)

Among the mainstream products or waste categories with the highest rate of recovery, recycling or reuse are end-of-life vehicles, packaging waste and electrical and electronic waste

In case of end-of-life vehicles (ELV) it is estimated that every year, 8-9 million tons of ELV are generated in the EU and in all Member States. 80% to 100% of materials from ELVs are recovered or recycled. Apart from generating huge amount of waste from ELV, there are significant emissions of pollutants to the air caused by the use of vehicles. That is why in some European countries electromobility programs have been adopted. They have a large potential for improving air quality. The biggest impact on the quality of air in European cities is transport, thus development of electromobility creates real prospects for improving air quality. It will therefore affect not only the improvement of public health but also the reduction of damage to the environment and to the substance of buildings.

One of the first countries in Central-Eastern Europe in which Electromobility Development Plan was adopted is Poland. The government adopted the document in March 2017. The Plan forms the foundation for the development of a completely new and competitive market and it aims to create conditions for the development of electromobility, the development of industry associated with this new sector and the stabilization of the power grid. It is worth noting that among companies producing electric vehicles in Europe, one of the leader is Solaris Bus & Coach company from Bolechowo near Poznań in Poland, in which series production of electric buses began in 2013. Solaris Urbino bus has won a prestigious „Bus of The Year” title in 2017, awarded by Association of Commercial Vehicle Editors.

In case of packaging waste, which are made up of paper and cardboard (40%), glass (20%), plastic (19%), wood (15%) and metal (6%), average rate of recycling in EU is 65%, however material-specific recycling rates varied a great amount: 84% for paper and cardboard packaging; 72% for glass and metallic packaging; 38% for wooden packaging and 36% for plastic packaging. In this category there are wide variations in recycling rates for specific packaging materials across Member States. It is worth noting that among the countries with the highest rates of packaging waste recycling are countries from Central and South-Eastern Europe: Czech Republic, Slovakia, Slovenia and Bulgaria. The recycling rates in packaging waste by materials in EU28 was illustrated in Figure 2.

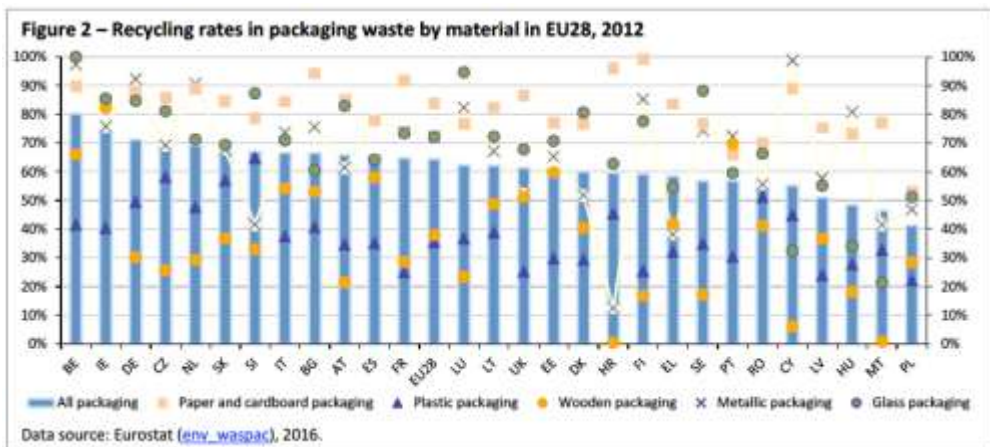


Figure 1. Recycling rates in packaging waste by material in EU28
(Bourguignon, 2016, p.2)

The third category of waste with high rate of recycling is electrical and electronic waste, also referred to as ‚e-waste’. The average rate of recycling and reusing for this category EU-28 is 71%. However, e-waste is one of the fastest growing waste streams, increasing at 3-5% per year (Bourguignon, 2016, p.3).

There are also other diverse products for which circular model works and they are not always small niche segments. To analyze this issue, it is useful to divide all products into three categories:

- Long lived products - this category includes products such as buildings, roads, bridges

- Medium-lived complex products - This category generally includes products which contain multiple parts and are subject to frequent technological innovation. The eight sectors, as categorized by Eurostat, which belongs to this category: machinery and equipment; office machinery and computers; electrical machinery and apparatus; radio, television, and communication equipment and apparatus; medical, precision and optical instruments, watches and clocks; motor vehicles, trailers, and semi-trailers; other transport equipment; furniture and other manufactured goods.
- Short-lived products and consumables — This category include products with a short usage period which are often consumed within days to months of initial production. It includes textiles, food, beverages and other agricultural products

For each of above categories there should be undertaken different steps towards a more circular economy. In case of long lived products, the key approach is eco-design which enable the products for a longer life, enabling refurbishment and remanufacturing. Moreover, such products should be based on the sustainable and minimal use of resources and enabling high-quality recycling of materials at the end of a product's life. Additionally, substitution of hazardous substances in products should enable cleaner material cycles. Circularity for long-lived has a great potential for value retention. The pilot initiatives from USA and Japan demonstrated that replacing demolishing with deconstructing approach may divert huge part of rubble from going to landfill and thus preserve valuable building components and materials for recycling and reuse. Moreover, deconstruction approach creates many additional jobs, which is of great social importance.

In case of medium-lived products repair, refurbishment and remanufacture should be given priority, enabling reuse of products and components. Moreover, in this category high-quality recycling of as much waste as possible should be applied. Enabling factors for this category will include not only development of well-functioning markets for secondary raw materials but also focus on offering product-service systems rather than product ownership; collaborative consumption; collaboration and transparency along the value chain and collaboration between companies whereby the wastes or by-products of one become a resource for another (industrial symbiosis).

In case of short-lived products, the transition should include the shift from technical nutrients to biological one whenever it is possible. Closing the loops for short-lived products will definitely help to build a restorative model that decouples economic growth from natural resource use. Key approach for this category should be innovative design of daily materials and products like biodegradable packaging or easy to disassemble office equipment. In addition, actions may be taken regarding the extension of the use of products or the cascading use of products.

Implementation of new circular business models for all above product categories will require leading corporations and municipal authorities to develop a new set of tools which could reinforce circular economy. It may include developments in resource markets, technology and information systems, and consumer preferences. Some examples of such tools were presented in the report: Towards the Circular Economy: Opportunities for the Consumer Goods Sector: urbanization that centralizes flows of consumer goods and waste streams; new technologies that enables dramatic improvements in the way value is extracted from today's biological waste streams; new

IT capabilities that support more precise management and tracking and tracing of biological flows in the system; new business models that improve control over scarce resources; a new models of collaborative consumerism; new packaging technologies and systems that extend food life and minimize packaging waste (Towards the Circular Economy, 2013, p.10).

An example of well-functioning recovery and recycling market is the market of used tires in Poland. As far as the legal obligations for recovery and recycling are defined for certain types of waste, for used tires it is 75% for recovery and 15% for recycling. The obligations in recovery and recycling of tires can be realized by the tires manufacturers and importers independently or through recovery organizations and the economic instrument to ensure a required level of recovery and recycling of waste is product payment. In Poland, the amount of new tires placed on the market is systematically growing and it has already reached the level of more than 200 thousand tones, few years ago. The required levels of recovery and recycling of waste tires are achieved every year and according to the Ministry of Environment record 36.6% level of recycling was reached in 2010 and a record 96.6% level of recovery was reached in 2013. The data shows that despite relatively low legal obligations the market mechanism are encouraging the entrepreneurs to reach higher levels of recovery and recycling than required.

In Poland, the recovery of used tires takes place primarily through energy recovery, where about 60% of the collected tonnage of used tires goes to cement kilns. The processes of material recycling are much more complicated. The tires should be cut, crushed and subjected to heat treatment. The different size rubber particles which are obtained in these processes, after adding the appropriate binders are used as surfaces of playgrounds and sports fields, and also as a material for sound absorbing and shock-absorbing coverings. Rubber dust is usually used for production of rubber mats. In addition, in recycling process steel and textile waste are also obtained. It is important to be aware that the process of recycling is very energy-intensive - about 125 kWh / 1 ton of tires and that it is accompanied by a large emissions of noise.

There are also research on using rubber as an admixture in a new type of asphalt surface. Some studies shown that such a new asphalt has better parameters than the asphalt produced by traditional methods. The vehicles moving on it, have shorter braking distance and emit less noise. Moreover, in the rain, the cars have better grip and the surface itself has great durability.

Taking into account all weaknesses of linear economy on one hand and opportunities of circular economy on other hands, there can be a few new business model identified. Such business models emerging in the market can somehow jeopardize the fundamentals of the linear economy and somehow they are worrying some of competing companies. There are three key new business model in circular economy:

- 1) **Remanufacturing and reuse** - it is based on a series of manufacturing steps acting on an end-of-life part or product in order to return it to „like-new” functional state and possibly better performance. Such remanufacturing processes are organized by start-up companies who are building their whole business around this approach and also global companies are using remanufacturing as part of their overall product. This model contributes to preserving energy embodied in products and to reducing production of new waste. The main benefits for companies are: reduction

of costs of raw materials, improved product lifecycle knowledge, improved profits, reduced negative environmental impact and also closer relationship with customers. Among industries in which remanufacturing, refurbishment or other reuse strategies are the most developed are: aerospace, automotive, ICT equipment, ink and toner cartridges, and textiles. Development of remanufacturing businesses is also connected with the organization of a reverse logistics system with different levels of renovation or refurbishment.

- 2) **Selling services rather than goods** - this model focus on the shift in business thinking from selling products to providing service solutions to customer needs - selling the function that the products provide not the product itself. This model as it becomes more popular, bring the changes in product design such as modular construction, use of biodegradable components and reduction of the number of different raw materials used in one product. It will also cause the necessary changes in the supply chains. The model provides customers with a high quality of products for the period they need it and moreover customers can avoid transaction costs of having to sell the products on the second-hand market. This model can be used for both brand new product but also for remanufactured products.
- 3) One interesting example is the Romanian company Getpony. It is a small company, started it 2015, that has developed an app which can be downloaded on smartphone. One can book a car, use it, pay 1 leu per minute, leave it whenever she or he finishes the job, the next citizen can use it, and the cycle resumes. The rate of payment varies depending on the model of the car and the duration of renting; the payment is made exclusively with the card. The investors started with an investment of 100,000 euros; in two years they have reached an investment of one million euros, and now they are trying to change the culture of urban transport in Cluj and Bucharest
- 4) **Sharing economy business model** - often called as a peer-to-peer (P2P) economy business model is a decentralized model whereby individuals interact to buy or sell goods and services directly with each other, without an intermediary third party. What is characteristic for this model is that acquiring and sharing access to goods and services are facilitated by a community based on-line platforms. The sharing economy business model utilizes already existing assets, whereas traditional businesses own the assets they use to provide services or goods. There are already many well-known platforms such as platform connecting drivers with passengers: Uber or BlaBlaCar or platform for renting private apartments: Airbnb; but there are constantly new players appearing on the market - also in Central and Eastern European countries. Very interesting and innovative examples are platforms created in Poland: Skilltrade platform for exchanging skills or Trejdoo - the money exchange platform. What drives this business model the most are economic benefits for consumers, thus societies can expect new community based on-line platforms in the coming years.

All of above models have a significant potential for increased economic, social and environmental benefits also in Central and Eastern European countries, however, further researches on a specific groups of products are needed.

The future of circular economy in Europe

More than ten years after the EU Waste Directive was approved, and two years after the adoption of EU Circular Economy Action Plan and creating the European Circular

Economy Stakeholder Platform which is a virtual open space aiming to promote Europe's transition to a circular economy by facilitating policy dialogue among stakeholders, European Union continue effort to transform Europe's economy into a more sustainable and restorative economy. In January 2018 the European Commission adopted a new set of measures, including:

- 1) EU Strategy for Plastics in the Circular Economy and annex to transform the way plastics and plastics products are designed, produced, used and recycled. By 2030, all plastics packaging should be recyclable. A Communication on options to address the interface between chemical, product and waste legislation that assesses how the rules o
- 2) n waste, products and chemicals relate to each other. A Monitoring Framework on progress towards a circular economy at EU and national level.
- 3) A Report on Critical Raw Materials and the circular economy that highlights the potential to make the use of the 27 critical materials in our economy more circular.

In April 2018, the European Parliament and in May 2018, The Council of Europe approved the EU's landmark Circular Economy Package (CEP). It is expected that new rules will make EU the global front-runner in waste management and recycling. The new waste rules include the key target for reduction of landfilled waste which must be 10% or less of the total amount of municipal waste generated, by 2035. It also includes more ambitious recycling targets as shown below in Table 1 and Table 2.

Table 1. EU CEP: Recycling targets for municipal waste (Directive of the European Parliament and of the Council, amending Directive 2008/98/EC on waste; PE-CONS 11/2/18 REV 2 Strasbourg, 30 May 2018)

By 2025	By 2030	By 2035
55%	60%	65%

According to new Circular Economy Package EU member states will be obliged to reach higher targets also for packaging waste:

Table 2. New recycling targets for packaging waste (Directive of the European Parliament and of the Council, amending Directive 2008/98/EC on waste; PE-CONS 11/2/18 REV 2 Strasbourg, 30 May 2018)

	By 2025	By 2030
All packaging	65%	70%
Plastic	50%	55%
Wood	25%	30%
Ferrous metals	70%	80%
Aluminum	50%	60%
Glass	70%	75%
Paper and cardboard	75%	85%

In addition, the Circular Economy Package encourages separate collection of hazardous household waste by 2022, bio-waste by 2023 and textiles by 2025. Moreover 30% reduction in food waste by 2025, and a 50% reduction by 2030 is expected. This equals the sustainable development goals set by the United Nations, however, other than the recycling and landfilling targets, these goals are not legally binding.

Furthermore, new legislation package determines stricter rules for calculating recycling rates and foresees more use of effective economic instruments and other measures in support of the waste hierarchy. Producers to a greater extent will be responsible for

their products when they become waste. In addition, mandatory extended producer responsibility schemes will have to be established for all packaging by 2024.

Despite determining higher and higher indicators regarding waste recycling - which are in fact late for decades - shifting to a circular economy is not a straight forward process. Circular economy is the approach which goes far beyond waste management, recycling and reuse of products. It takes a systemic approach to the vast flow of resources and waste through societies. It also requires substantial changes in the value chain, such as; adapted design of products, better water management, minimization of waste, reduction of consumption and creating products in a way they can be reused, repaired or recycled back into nature or the marketplace. Possibilities related to circular economy are recognized by many companies from the smallest SMEs to the biggest multinational companies and also by many other stakeholders. What is the most needed now and in the future is the shifting of attitude among the citizens and customers who can boost circular economy by their decisions and choices.

Conclusions

Current dominant linear economic systems result from existing educational system and in order to pursue the transition towards circular economy should be preceded by a change of the educational system. Due to the fact that circular opportunities may be lost at various stages in the lifecycle of a product, consumer education becomes particularly important because in developed countries losses are concentrated at the consumer level, whereas in developing countries, more circular opportunities are lost at the manufacturing stage.

The new the Circular Economy Package adopted by European Union represent the most modern waste legislation in the world. Now the move is on the side of the Member States, which have to implement new rules into their legal systems. However, a special challenge is therefore for the countries of Central and South-eastern Europe. Western European countries which are leaders in the field of waste management in can be examples for the countries of Central and South-eastern Europe. Circular economy in CEE countries has a chance to move from the side-lines into the mainstream, however there are some obstacles for circular economy and they include current product design patterns and cultural resistance.

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ROMANIAN CAPITAL MARKET: ON THE ROAD TOWARD AN EMERGENT MARKET STATUS

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Abstract. Capital markets have become one of the drivers of economy growth in frontier and emerging economies and Romanian case is no exception. Bucharest Stock Exchange is the second capital market in Central and Eastern Europe by the number of IPO successfully concluded in 2017 and is the sixth in terms of the largest return among world capital markets. In recent years, Romania's capital market has made significant efforts in order to upgrade to the emergent market status in terms of development of market infrastructure, increasing the accessibility and attractiveness of the Romanian capital market through listing of public and private IPO's. Our research is focused on a quantitative approach – content analysis, by taking into consideration the ratings of FTSE Russell and MSCI considering Romania's country classification. The results of our study indicate that despite the positive changes, Romania's rating as a frontier market implies a set of challenges that Romania must face in order to become an emergent capital market: free and well-developed equity market- market accessibility and facilities for international investors and liquidity. A very important criterion for Romania to achieve the emergent capital market status is represented by listing new public (such as Hidroelectrica and the National Company Bucharest Airports) & private IPO. The evolution of BET and BET-TR as compared with the evolution of CDS over 2007-2017 shows that BVB is very sensitive to the country risk, which also influences foreign capital investments.

Keywords: frontier capital market; emergent capital market; Bucharest Stock Exchange; economic growth; Romania.

Introduction

Capital markets have become one of the drivers of economy growth in frontier and emerging economies and Romanian case is no exception. Bucharest Stock Exchange is the second capital market in Central and Eastern Europe by the number of IPO successfully concluded in 2017 and is now sixth in terms of the largest return among world capital markets (PwC, 2018). Despite significant positive changes in terms of development of market infrastructure, increasing the accessibility and attractiveness of the Romanian capital market through listing of public and private IPO's, Romania will continue to be in 2018 a frontier market. This is due especially to the political and economic local context that on the long term can generate uncertainties or exposure to adverse business, financial, or economic conditions that could lead to the obligor's inadequate capacity to meet its financial commitments on the obligation (Standard &

Poor's, 2018). The evolution of BET and BET-TR as compared with the evolution of CDS over 2007-2017 shows that BVB is very sensitive to the country risk, which also influences foreign capital investments (PwC, 2018).

Our research is focused on a quantitative approach – content analysis, by taking into consideration the ratings of FTSE Russell and MSCI considering Romania's country classification. The results of our study indicate that despite the positive changes, Romania's rating as a frontier market implies a set of challenges that Romania must face in order to become an emergent capital market: free and well-developed equity market-market accessibility and facilities for international investors and liquidity. A very important criterion for Romania to achieve the emergent capital market status is represented by listing new public (such as Hidroelectrica and the National Company Bucharest Airports) & private IPO.

Frontier versus emerging markets: challenges and opportunities

"Frontier markets are among the fastest-growing economies in the world ... In essence, they are the emerging markets of tomorrow" (Rowader, 2015, p.2). Frontier markets are a subset of emerging markets, with lower market capitalization and liquidity or more investment restrictions than more established emerging markets, or both, depending on the country under consideration (Bond & Dyson, 2016, p.147). Being variously described as "emerging-emerging," "next-generation emerging" and "frontier" (EY, 2017) or "pre-emerging markets" are more volatile than other stock markets and are defined by greater social or political instability (Barclays, 2018).

When it comes to the most important opportunities for private equity industry to invest in frontier markets, we can distinguish the following features: 1) Less competition and access to largely untapped markets carries the potential to deliver significant returns with proven business models. Frontier markets contain niches of high economic growth - the opportunity to generate strong returns investing 'off the beaten path', often in assets that are under the radar or not part of the geographic remit of mainstream investors (*Financier Worldwide Magazine*, 2017); 2) Frontier markets tend to have little correlation either with developed markets or emerging markets and this can make them a possible portfolio diversifier (Barclays, 2018). This idea is also emphasized by Rowader (2015) that indicates that frontier markets offer growth potential and low correlations within markets and with other asset classes, along with relatively attractive valuations.

EY (2017) indicates a series of risks and challenges when determining which particular frontier markets to pursue for portfolio diversification: 1) *Regulatory and trading-execution risk* – such as foreign ownership restrictions, currency limits, local custody rules, local funding and registration requirements; also, some markets even require foreign market participants to execute trades via local brokers; 2) *Transaction costs*: high local transaction fees and commissions inflate trading costs; 3) *Currency risk*: investors that seek to build a frontier market portfolio need to be aware that they face a higher risk of investment exposure to potentially volatile currencies; 4) *Governance risk*: standards of corporate governance and financial reporting among listed companies in some frontier markets can be uneven; 5) *Sector and sovereign risk*: part of the attraction of frontier markets is their low correlation with developed and emerging markets. However, investors should be aware that frontier markets are dominated by a few sectors, thus a

sizeable allocation can result in concentrated exposures to certain sectors. Frontier market equities are highly exposed to sovereign risk. 6) *Liquidity risk*: illiquidity is a feature of many frontier markets. Investors may be unable to execute trades when they want, or at the size they want. Bid-offer spreads can also be relatively wide. 7) *Operational risk*: in some frontier equity markets, investing entails increased operational risk. Failed trades may occur more frequently than in developed markets, as settlement processes may be less standardized, less automated and more prone to errors. 8) *Political risk*: many frontier markets have fragile systems of government that can be prone to instability. Turmoil can in turn lead to rapid declines in the market value of securities traded in impacted countries.

J.D. Stanford (2009) defines emerging economies as developing economies that have adopted market-oriented policies and have established stock markets in order to obtain foreign capital to increase economic growth. The defining characteristic of emerging markets is that their economies are still very much in the development phase; they typically boast very young populations, a rising middle class and some, but by no means all, are enjoying robust levels of economic growth and industrialization (Barclays, 2018). The most important features of emerging capital markets are: High growth rates and potential to become developed economies in the mid/long term; A unique risk profile; Lower per-capita income, with differences in consumption behavior when compared to developed economies; Either untapped talent pools or are undergoing specialized labor shortages (e.g. Brazil); Transparency, market regulation and operational efficiency under development; Unique economic and political environments which are still stabilizing (PwC, 2013).

The most important limits of emerging capital markets are: high volatility, the existence of bubbles, panic, speculation, anomalies, high-risk investment opportunities, a low level of liquidity, reduced capitalization, strong correlation with developed capital markets, reduced number of transactions, insufficient development of financial instruments, exchange rate instability (Birău, 2012). Most of the emerging markets lack the institutional strength to take full advantage of an open capital account; this is due to weak financial supervision and poorly developed domestic capital markets (sudden changes in capital inflows may result in significant current account reversals, crises and currency collapses (Edwards & Garcia, 2008, p.2). The challenges for emerging capital markets regarding the availability, diversity and pricing of capital are emphasized by McKinsey Report - *Deepening capital markets in emerging economies* (2017, p.5): 1) *Significant funding gap* - Primary markets are more volatile and less reliable sources of funds for issuers in emerging markets; 2) *Limited choice*: Emerging market issuers lack options to diversify funding and to match funding with their needs. For example, the absence of a long-dated bond market reduces the flexibility of corporate borrowers to align funding structure with assets and future earnings; 3) *Expensive capital*: Issuers in these markets face a more volatile and higher cost of capital compared with developed markets. For example, they pay roughly a 120 percent higher real cost for debt securities.

In comparison with frontier markets, emerging markets could grow around twice as fast as advanced economies on average by 2050 (PwC, 2017). According to J.P.Morgan -*Long-Term Capital Market Assumptions Report* (2018) - despite outperforming in 2017, emerging market equities remain attractive. These points of view can be correlated with the following reasons: 1) *Global growth remains robust* - rates of growth have slowed

from their best levels in the first quarter, but the current pace of activity is still pointing to near double-digit annual gains in corporate profits; 2) *The dollar is unlikely to keep rising* - the U.S. dollar has reached a top for this cycle and could enter a multi-year bear market due to growing U.S. deficits and inflationary pressures; 3) *Commodities prices are going up* - Emerging market returns usually correlate with commodity prices. That hasn't happened this year, mainly because of surprising dollar strength, but it is expected that commodities and emerging markets to start trading more in sync as the dollar weakens; 4) *Capital spending is strong* - S&P 500 companies are continuing to spend on capital projects. That tends to benefit emerging markets, which often supply parts and raw materials for those projects; 5) *China-U.S. trade conflicts could be a benefit* - Long-term, no country wins from trade wars, but in the short-to-intermediate term, emerging markets could get a boost from any potential escalation in trade conflicts between the U.S. and China (Shalett, 2018). When it comes to emerging capital markets, Asia could dominate growth in global equity market capitalization over the next 10 years; at the same time, there is a rapid deepening of intra-regional bank lending, FX, rates and credit markets (Morgan Stanley, 2018).

Financial market development of Romania

Ioana Andrada Moldovan (2015, p.460) indicates that the real economy influences the market capitalization in Romania only on the short run, the financing function being performed almost exclusively by the banking system, while the capital market is small and does not fulfil properly the function of financing the real economy. When it comes to financial market development, The Global Competitiveness Report (2017) that comprised 138 countries - indicates that Romania was ranked 86 (with a score of 3.73), much lower than top 3 countries: New Zealand (5.79), Singapore (5.69) and United States (5.64). Top 5 most problematic factors for doing business in Romania are: access to financing, inefficient government bureaucracy, tax rates, inadequately educated workforce and corruption. The most important indicators of the Financial market development pillar from the Global Competitiveness Report (2017) that ranked Romania between 125-121 out of 138 countries are the aspects concerning financial services meeting business needs, venture capital availability, financing through local equity market and affordability of financial services (*see the figure below*):

8th pillar: Financial market development			
8.01 Financial services meeting business needs	125	3.4	
8.02 Affordability of financial services	121	2.9	
8.03 Financing through local equity market	123	2.8	
8.04 Ease of access to loans	110	3.1	
8.05 Venture capital availability	125	2.1	
8.06 Soundness of banks	90	4.4	
8.07 Regulation of securities exchanges	114	3.5	
8.08 Legal rights index 0-10 (best)	8	10	

Figure 1. 8th pillar: Romania Financial market development
(World Economic Forum, 2017, p.305)

When it comes to the economic development of Romania, Bucharest Stock Exchange has an important role due to the potential of attracting foreign investments: "Romania is now sixth in terms of the largest return among world capital markets and third in the European Union. Moreover, the Romanian stock market is one of the very few in the

entire world sharing consistency as regards the valuations of assets, being in `plus` also in three years' perspective backwards. The Bucharest Stock Exchange has come a long way from where it was five years ago and its continuing efforts to ensure the upgrade to the Emerging Market status are quintessential" (Sobolewski, 2017).

In the last years, the strategy of Bucharest Stock Exchange (2014, pp.4-11) has been focused on:

1) *Enlargement of the local investors' base*: The "Eight Barriers Removal" program served directly or indirectly the interests of local institutional investors, namely the pension investment funds;

2) *Enlargement of the individual investors' base*: initiatives relating to financial education (Investors Clubs, Fluent in Finance, Individual Investors Forums, Financial Expos, InvestQuests, Experts Call Center, Open Doors Day), to new transactional tools (ArenaXT), to the upgrade or release of new communication means (websites, mobile applications), to the creation of new market segment naturally dedicated to retail investors (AeRO), to the decrease of transactional costs and reliability of the dividends distribution and special schemes promoting day-trading (inactive);

3) *Transforming the BVB into a marketplace for financing of already listed issuers*: segmentation of the market, new indexes, including "total return" indexes", new obligations attached to the presence in the "premium" segments and for constituents of the BVB main index. Other initiatives that consisted of organizing investors' meetings with listed companies were arranged by the BVB, including a brand-new project of the "reverse road shows", engaging international investors coming to Bucharest.

4) *Transforming the BVB into a marketplace for financing of new companies*: BVB launched many initiatives aimed directly at potential new listings, both from the private sector and SOEs. The requirements for admission to trading of companies were simplified. Road shows and presentations involving candidates for listings and confronting them with potential investors, the creation of AeRO, are among them.

5) *Enhancement of intermediaries' efficiency*: Partnerships with brokers-members of the BVB in several educational and marketing-intense initiatives, new instruments designed for the brokers (market-making revenue schemes, issuers' market making), instruments giving outreach to retail clients (ArenaXT platform on mobile devices), institution of Authorized Advisors – marked the new approach of the BVB which consisted of real support given to brokerage industry. This line of actions will be continued and intensified;

6) *Modernizing the market infrastructure to face challenges and opportunities*: The most relevant envisaged the separation of trading and post-trading systems, the increased flexibility of settlement on gross basis, the T+2 implementation, and the introduction of two settlements cycles. The trading environment got improved with new market making programs, reduction of suspension from trading, elimination of the Odd-lot market, new tick size, new trading hours and new market stage, implementation of the auction models. The trading tools brought mobile apps and ArenaXT platform enhancements (Bucharest Stock Exchange, 2014, pp.4-11).

Ioana Andrada Moldovan (2015, p.447) indicates that "the development of capital market is a sine qua non condition for modernizing the Romanian economy, by increasing funding potential and enhancing competition in the financial market". The author claims the need for government support and recommends economic policy measures in order to accelerate financial market's expansion in the Romanian economy.

Discussions

At present, Standard & Poor's credit rating for Romania stands at BBB- with stable outlook (Trading Economics, 2018). An obligation rated 'BB' is less vulnerable to nonpayment than other speculative issues. However, it faces major ongoing uncertainties or exposure to adverse business, financial, or economic conditions that could lead to the obligor's inadequate capacity to meet its financial commitments on the obligation (Standard & Poor's, 2018). "The advance of the Romanian economy, focused on consumption, could generate wide external fiscal deficits and could increase the vulnerability of Romania's economy to a sudden drop in activity in the medium term. However, Romania's level of public and external debt is modest and the economy growth could remain solid for a considerable period of time" (Romania Insider, 2017).

When it comes to the FTSE Russell classification, Romania that was added to the Watch List in September 2016 for possible reclassification to Secondary Emerging market status from frontier markets, doesn't meet the criteria. Despite this, FTSE Russell acknowledges the efforts of the Bucharest Stock Exchange to bring IPOs to the market and to improve liquidity levels on the exchange (FTSE Russell, 2018, p.6). The indicators taken into consideration are: 1) *Quality of Market* – the quality of regulation, the dealing landscape, custody and settlement procedures, and the presence of a derivatives market would all be taken into account; 2) *Materiality* – a country needed to be of material size to warrant inclusion in a global benchmark; 3) *Consistency and Predictability* – a pathway to classification changes would be set out by announcing a "Watch List" of countries that were being considered for promotion and demotion as well as the criteria by which countries would be judged; 4) *Cost Limitation* – the cost of implementing a change would be taken into account when assessing a market for promotion or demotion; 5) *Stability* – a phased approach would be taken to the introduction of new countries; a new country would only join as an emerging market; and promotion would only occur in response to permanent changes in market status and global acceptance; and 6) *Market Access* – international investors should be able to invest and withdraw funds in a timely and secure manner at reasonable cost.

The main criteria that Romania doesn't meet are: *Free and well-developed equity market, Custody - Omnibus and segregated account facilities available to international investors, Liquidity - Sufficient broad market liquidity to support sizeable global investment and Off-exchange transactions permitted*. "An important criterion to be achieved is liquidity adequate to the implementation of large international investment," and in practice refers to the need to attract new companies to increase capitalization, free float and consequently share trading. Information is read as a harbinger of promotion of Romania to the "Watch List" by the international rating institutions" (Carpathia Capital, 2017). In comparison with Romania, Saudi Arabia (also included in the watch list from 2016) and Kuwait (included on the watch list from 2008) will be reclassified from September, respectively, December 2018 to Secondary Emerging Market Status (see the figure 2).

The MSCI Market Classification Framework (2018) consists of following three criteria: economic development, size and liquidity as well as market accessibility (see the figure 2). Romania is included by Morgan Stanley Capital International in the category of frontier markets. The MSCI Romania Index is designed to measure the performance of the large and midcap segments of the Romanian market; with 5 constituents, the index

covers approximately 85% of the Romania equity universe: Banca Transilvania, S.N.G.N Romgaz, OMV Petrom, BRD Group Societe Generale and Electrica.

Developed	Advanced Emerging	Secondary Emerging	Frontier
Australia	Brazil	Chile	Argentina
Austria	Czech Republic	China	Bahrain
Belgium/Luxemburg	Greece	Colombia	Bangladesh
Canada	Hungary	Egypt	Botswana
Denmark	Malaysia	India	Bulgaria
Finland	Mexico	Indonesia	Cote d'Ivoire
France	Poland	Pakistan	Croatia
Germany	South Africa	Peru	Cyprus
Hong Kong	Taiwan	Philippines	Estonia
Ireland	Thailand	Qatar	Ghana
Israel	Turkey	Russia	Jordan
Italy		UAE	Kazakhstan
Japan			Kenya
Netherlands		Kuwait	Latvia
New Zealand		Saudi Arabia	Lithuania
Norway			Macedonia
Portugal			Malta
Singapore			Mauritius
South Korea			Morocco
Spain			Nigeria
Sweden			Oman
Switzerland			Palestine
UK			Romania
USA			Serbia
			Slovakia
			Slovenia
			Sri Lanka
			Tunisia
			Vietnam

Figure 2. FTSE classification of markets
(Source, FTSE Russel, 2018, p.1)

The most important sectors in terms of market capitalization are: financials (52,69%), energy (39,67%) and utilities (7,64%). According to MSCI (2018), Romania is included in the category small frontier, along with countries such as: Morocco, Argentina, Sri Lanka, Nigeria, Oman, Bangladesh, Croatia, Ivory Coast, Slovenia, Kazakhstan, Tunisia, Vietnam and Mauritius (MSCI, 2018). The main challenge for Romania in becoming an emergent market is low liquidity. In order for Romania to reach the status of emerging market it must comply with the following aspects: 1) *Size & Liquidity Requirements* – Number of companies meeting the Standard Index Criteria must be 3; company size: USD 1260 mm/ security size: USD 630 mm; security liquidity – 15% ATVR; 2) *Market Accessibility Criteria* – openness to foreign ownership & ease of capital inflows/ outflows – must be significant; Efficiency of the operational framework must be good and tested; Stability of the institutional framework – Modest (MSCI, 2018).



Figure 3. MSCI ROMANIA INDEX (USD)
(MSCI, 2018, p.1)

BNR (2017) indicates that the capital market posted an upward trend in 2017. The index of the top 13 most liquid shares listed on the Bucharest Stock Exchange, namely the BET, reached a nine-year peak in May 2017, followed by a slight correction in 2017 Q3, on the backdrop of uncertainties regarding the future of the Pillar II (private pensions). Nevertheless, the rise in the BET index was below the benchmark indices of the Hungarian and Polish stock markets, yet above the European average. In terms of volatility, evolutions on the Romanian capital market exceeded those recorded by some more developed markets.

January 2017 through September 2017, the most significant dynamics were posted by the BET-FI index, which increased by 26 percent in the first three quarters of the year compared with end-2016, followed by the BET-BK and BET-XT-TR indices, while the sectoral index for utilities, the BET-NG, decreased slightly starting with the second half of the year. Moreover, in August 2017, the average traded value of listed shares was 38 percent higher year-on-year. In order to support portfolio diversification, the local stock exchange could attract new companies to contribute to lowering sectoral concentration, while increasing representativeness in relation to the national economy (BNR, 2017, p.117).

Romania still aspires to advance from the status of frontier capital market to that of emerging market with increased visibility among the investors and implicit benefits in terms of depth and liquidity. In this regard, ASF (2014) developed *STEAM project – Set of Actions Toward Establishing and Acknowledgement of the Emerging Market Status* - a priority project the development of the capital market and its inclusion in the category of emerging market. The set of measures proposed through the STEAM Project are: increasing the accessibility and attractiveness of the Romanian capital market; streamlining financial instrument borrowing and short selling transactions; development of the primary and secondary local market of bonds (municipal and corporate); increasing liquidity and attracting new investors; increasing the visibility of the Romanian companies listed on the capital market, by listing them on other markets; increasing the implementation of corporate governance principles at the level of issuers, intermediaries, market operators, depositories, etc.; improving the accounting system of regulated and supervised entities - by aligning with IFRS.

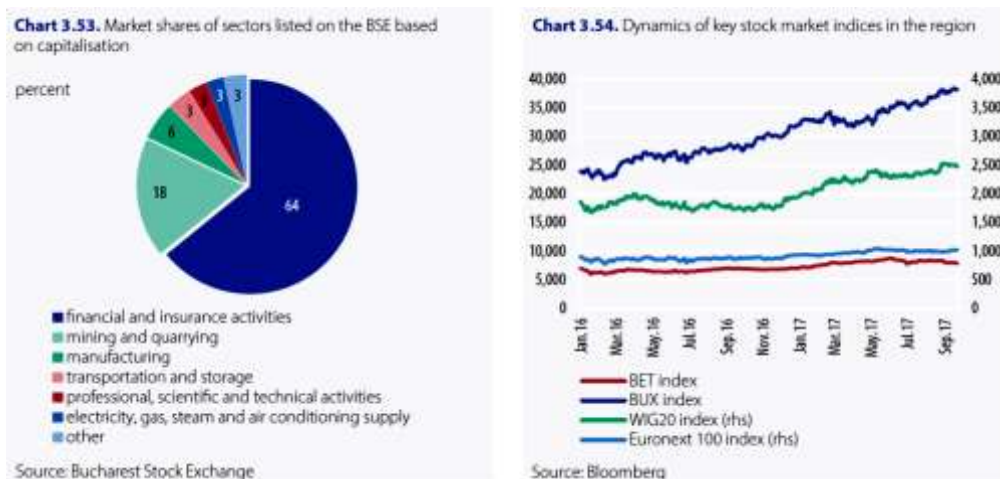


Figure 4. Market shares of sectors listed on the BSE & Dynamics of key stock market indices in the region (Source: BNR, 2017, p.118)

By now, BVB and ASF have improved the legislation through public bills (such as Alternative Investment Funds, Financial instruments etc.), modernization of the capital market infrastructure (merger of BVB and SIBEX, DC reauthorization, CCP in progress), development of bond market, increasing the number of emitents (transfer of the companies from RASDAQ on the principal market or ATS), programs of financial education (Negrițoiu, 2017). An important criterion in order for Romania to achieve the status of emergent market that by now hasn't been attained is represented by public IPO's: Salrom, Hidroelectrica and National Company Bucharest Airports listing are very important for 2018 (Țințeanu, 2018). STEAM project also implies listing other national companies where the state has majority shares such as Distrigaz Sud – GDF and Distrigaz Nord – E.ON, according to ASF (Negrițoiu, 2017).

Despite the significant initiatives taken by BVB and ASF through the STEAM project, liquidity remains an important challenge for the Romanian capital market and affects directly the market efficiency; it is not efficient in light of the fact that the stock price changes can be forecast (Oprean, Tănăsescu & Bucur, 2017, p.1680). The evolution of BET and BET-TR as compared with the evolution of CDS over 2007-2017 shows that BVB is very sensitive to the country risk, which also influences foreign capital investments (PwC, 2018, p.4).

Conclusions

Romania – BVB and ASF- has made significant improvements in order to upgrade from frontier to emergent market status: *Enlargement of the local investors' base*: The "Eight Barriers Removal"; initiatives relating to financial education (Investors Clubs, Fluent in Finance, Individual Investors Forums, Financial Expos, InvestQuests, Experts Call Center, Open Doors Day), to new transactional tools (ArenaXT), to the upgrade or release of new communication means (websites, mobile applications), to the creation of new market segment naturally dedicated to retail investors (AeRO), new indexes, including "total return" indexes, new obligations attached to the presence in the "premium" segments and for constituents of the BVB main index; launched many

initiatives aimed directly at potential new listings, both from the private sector and SOEs; the separation of trading and post-trading systems, the increased flexibility of settlement on gross basis, the T+2 implementation, and the introduction of two settlements cycles. At the same time, the Romanian stock market recorded one of the highest dividend yields in the world in 2016 and 2017. BET total return index, which includes the dividends granted by the blue chips listed on BVB has increased by over 19% in RON terms in 2017 (PwC, 2018).

Despite the positive changes, Romania's rating by FTSE Russell inclusion in the Watch List and MSCI as a frontier market indicate the main challenges that Romania must face in order to become an emergent capital market: market accessibility and facilities for international investors, development of market infrastructure and liquidity. The evolution of BET and BET-TR as compared with the evolution of CDS over 2007-2017 shows that BVB is very sensitive to the country risk, which also influences foreign capital investments (PwC, 2018). Although the initiatives taken by BVB and ASF through the STEAM project are significant, liquidity remains an important challenge for the Romanian capital market and affects directly the market efficiency. A very important criterion for Romania to achieve the emergent capital market status is represented by listing new public & private IPO.

In order to accelerate change, Romania must continue the development of the capital market infrastructure, "so that it can offer a range of services that support financial institutions, companies, governments and investors in building businesses and contributing to growth in the wider economy" (McKinsey, 2017, p.6).

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THE ROMANIAN'S CAPITAL MARKET CHANCES OF BECOMING AN EMERGING MARKET

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Abstract. *This paper addresses the chances of upgrading to the status of an Emergent Market of the Romanian Capital Market, and what actions can be taken in order to achieve this goal. In this regard, the objectives of the paper are to establish an understanding of both the capital market in Romania and what it means to include companies in the MSCI-Morgan Stanley International Index. In this respect, the hypothesis of the research is that Romania has the potential to upgrade to the Emergent Market status given that at least three companies meet the minimum requirements, including those related to the Annual Traded Value Ratio proposed by the MSCI. Following a technical analysis using the MSCI methodology, it was found that the hypothesis is confirmed as three companies meet the ATVR target of at least 15%, such as Romgaz, Banca Transilvania, BRD Group Societe Generale except for OMV-Petrom, which only reached 12.62%. The company needs 19% of the total volume of the total stock market to bring the ATVR level to at least 15%, or USD 1,017,050,098. It can also be said that BRD Group Societe Generale should increase the Free Float market capitalization by 1.0534% that should reach the minimum required by MSCI USD, 763mln. By increasing offer through listing more companies on the Bucharest Stock Exchange and increasing demand through attracting retail investors, trade volumes will grow consistently. Also deepening the financial market, liquidity increases facilitating the decreasing of, trade interests and prices leading the Romanian capital market a little bit less expensive. Data was collected from Bucharest Stock Exchange, Trading Statistics section, and daily reports. The methodology has two stages. As a first stage we establish the Annual Traded Value Ratios for 12 months (ATVR 12M) and ATVR for 3 months (ATVR 3M) for each company. The companies are Romgaz, OMV-Petrom, Banca Transilvania, and BRD-Group Societe Generale and the study case in the paper was be OMV-Petrom. During the analysis was elaborated by taking into consideration the MSCI Methodology. The second stage of calculations includes we find out what is the percentage of the total Market Volume that would lead key MSCI OMV-Petrom to increase its ATVR to 15%-minimum level imposed.*

Keywords: *Morgan Stanley Capital International; ATVR-Annual Traded Value Ratio; Upgrading to the Emergent Market Status; Market Capitalization (Mcap); Free Float; Market Capitalization Free Float (Mcap FF); OMV Petrom; Monthly Median Traded Value(MTVR); Traded Volumes; trading; Retail Investors.*

Introduction

The present paper aims to study the conditions for upgrading from Frontier Market to the status of Emergent Market. Also it is an objective to follow the evolution of a company that has a real potential to fulfill the conditions for inclusion in the MSCI watch list. This theme was also chosen because the Bucharest Stock Exchange is a strategic hub that links important bridges between individual investors and listed companies (a strategy that is worth analyzing). Such a paper was undertaken to develop an understanding of how to think long-term strategies that favor the development of the Romanian capital market. At the moment, the capital market is an opportunity for those who develop their business and for individuals who want to invest in the stock market. BSE is the most important representative of the Romanian capital market and operates on two markets: the regulated and the junior, AeRO. The AeRO Market provides trading opportunities for SMEs and was launched on February 25, 2015. Bucharest Stock Exchange's revenue is generated by three business sectors such as post-trading services, registry services and trading services. The Bucharest Stock Exchange is one of the stock markets that, although it has an impressive growth in the total capitalization of 20 billion euros, has a trading level that does not have an equal regional performance. The shareholder structure currently shows that around 72% of legal entities hold shares, and around 13% are individuals with shares. The most important institutional shareholder are NN Private Pensions Group, SIF Transilvania and EBRD. Following the 2016 September success of being included in the FTSE Russel watch list, Romania continued its major ambition to upgrade to the status of an emergent market by marking its presence on the MSCI and other important international indices like S&P. Trading volumes remained below market potential. The transaction costs are higher compared to other regional peers due to lower trading volumes, which makes it essential to adopt measures that stimulate the capital market performance by attracting retail and institutional investors.

There are both quantitative conditions imposed by MSCI, such as a stock market capitalization of \$ 1,375bn, Free Float market capitalization, recognized as Mcap Free Float of \$ 763m and a 12/month annual trading rate (12M-Annual Traded Value Ratio) of 15%. At least three companies must be listed on the watch list to bring the capital market to the next level. In addition to the quantitative conditions imposed by MSCI, there are also qualitative conditions that the Romanian capital market has to optimize. These refer to the level of trading, securities lending and regulatory transferability. The merger with the Derivative Stocks Exchange SIBEX boosted the overall market capitalization of the BSE. This led the Bucharest Stock Exchange onto a stronger position on the capital markets in relation to regional peers. Bucharest Stock Exchange is remarkable through its financial and investment education platforms, its own capabilities and various opportunities that attract retail investors.

Once upgraded to Emerging Market status the benefits lead to the increase of the value of the investments compared the frontier markets. Also due to increased demand the companies' EBIT/EV multiples will improve resilience to economic changes will be consolidated. Once volumes have grown from this perspective, trading fees may decline, better positioning the capital market among regional peers.

Methodology

In order to understand the evolution of the transition to the emerging market status, four companies were analyzed from the level of medians traded between January and December 2017, the ATRV annual traded values ratios (at 12 months and 3 months). The analysis was based mainly on the MSCI specific methodology for January -December 2017. The hypothesis states that Romania has the potential to upgrade to the Emerging Market position given that at least three companies meet the conditions, including those related to the annual trading rate, (Annual Traded Value Ratio) required by MSCI. The technical analysis has gone through several stages, after data collection. The daily traded values and prices of ROMGAZ (SNG), Banca Transilvania (TLV), BRD-Group Societe Generale BRD and OMV Petrom (SNP), were collected from the BSE website. Then the values were turned into US Dollars, because all indicators are calculated in US Dollars, as proposed by MSCI.

First we calculate the ATVR 12M and ATVR 3M for each company using MSCI methodology.

According to MSCI, Free Float (FF) SNP 20%. (BVB, 2017)

FF Market Cap is calculated using the last price in that specific month * number of securities issued * 0.2 (FF)

(Median Traded Value, MTV)

We calculate the monthly median traded value = *Median Traded Value (USD)* * number of traded days within that month.

$MTVR = \text{Monthly Median Traded Value} / \text{FF Market Cap}$

$ATVR_{12M} = \text{Average } (MTVR_{i=1,12}) * 12 \text{ (Jan2017 - Dec2017)}$

$ATVR_{3M} = \text{Average } (MTVR_{i=1,3}) * 12 \text{ (MSCI,2017)}.$

Second, an adjustment will be made to the total volume of the market so that as much as one percent of the total volume of the market would imply OMV Petrom (SNP) to reach at least 15% ATRV annual trading level. To do this, MS Excel we will fine tunes a percentage multiplied with the daily traded values throughout the year until we would reach at least 15% ATRV on OMV Petrom. Then multiply the % to the overall volume of the whole market and find %* daily traded values and %* total market volume.

Based on the technical analysis, the results of the ATRV and Market Capitalization (Mcap FF) calculations of the companies will be presented in the form of technical tables. Overall, the methodology has two parts. First is the technical analysis of the most important levels of Mcap, Mcap FF, ATVR 12M, ATVR 3M of Romgaz (SNG), Banca Transilvania (TLV), BRD-Group Societe Generale, OMV-Petrom (SNP). The second part will determine what percentage of the total volume of the market would imply OMV Petrom to reach the ATVR target of 15%. To confirm the hypothesis that Romania has the potential to update to emerging market status, specific calculations of the MSCI index methodology have been performed.

Results

In order for the Romanian financial market to become an Emerging Market, according to MSCI, minimum three companies must meet the minimum 15% ATRV-Annualized Traded Value, Ratio, Free Float market value of at least 763 million USD and 1,375 million USD. A technical analysis has been made for four companies that have the

potential of being included on the MSCI Emergent Markets, Romgaz, Omv Petrom, Banca Transilvania and BRD Group Societe Generale. As far as the Mcap FF and Mcap levels are concerned, almost all the companies analyzed meet the quantitative conditions imposed by MSCI. Romgaz (SNG) and Banca Transilvania (TLV) only exceed the annual traded value ratio. Following the raising of the Free Float Mcap standard from \$ 635 million to \$ 763 million in 2018, it can be noticed that BRD Group Societe Generale (BRD) does not meet the Market Capitalization Free Float capture condition, as it reports a value of USD 724,3 mio. In order to meet the MSCI condition BRD should increase its Mcap FF by 1.0534%. This was calculated by dividing the minimum imposed by MSCI to what actually BRD reported as Market Capitalization Free Float. Following calculations consistent with the MSCI methodology, OMV-Petrom reached, a 12.62% annualized ATRV value, which means it does not reach the standard imposed by MSCI. With OMV Petrom as a case study that did not reach at least 15% of the ATRV it was revealed what percentage of the total market volume would cause OMV Petrom to achieve a 15% ATRV minimum. Following a calculation, it was confirmed that 19% of the total volume increase of the market would cause OMV Petrom's ATRV to reach at least 15% and a volume of RON 4,017,347,887lei equivalent of USD 1,017,050,098. Even if OMV Petrom does not meet a 15%, it has the potential to be included on the MSCI Emergent Market Indices, with the Mcap and FF way above the required minimum. Given that at least three companies surveyed meet the conditions of MSCI, including ATRV 12M and ATRV 3M, it can be said that the hypothesis that Romania has the potential to upgrade to the emerging market position given that at least three companies meet the conditions, related to the annual trading rate is confirmed.

OMV-Petrom (SNP)

OMV-Petrom registered on the Stock Exchange under the initials of SNP, is the most important industrial and industrial group for gas and oil extraction in Southeastern Europe, being an industrial leader in Romania. OMV Petrom is doing business on three operational sectors namely Downstream and Upstream oil and gas. OMV Petrom's portfolio in Romania and Kazakhstan holds reserves of 566 million Bep (1P) and hydrocarbon production of about 61 million boe in 2017 (of which 3.8 million tonnes of crude oil and natural gas and 5.2 billion cubic meters of natural gas). The downstream oil downstream sector contains the Petrobrazi refinery with a capacity of 4.5 mn tons per year and processes the crude oil of OMV Petrom. This operational segment also includes a network of 786 gas stations located in Serbia, Bulgaria, Romania and Republic of Moldova (OMV Petrom Annual Report 2017). The power stations are operated under the two brands, OMV and Petrom. In total, the downstream oil downstream sector produced 5.1 million tons of refined product. The Upstream gas industry is the only company and also a gas sale and purchase channel. In 2017 there was a sales volume of 51.4 TWh (of which 45.3 TWh was sold to third parties). In 2017, the gas portfolio covered 860 MW power plants at Brazi and 45 MW, such as the Dorobantu wind farm, which produced 2.7 TWh of electricity. At the end of 2017, the wind farm has completed the sale of Dorobantu Park to keep Petrom to its initial strategy through its specific activities. The OMV Petrom Group is currently an important international player for gas and oil representing OMV Aktiengesellschaft, the OMV holding company, which is among the most important listed companies on the Vienna Stock Exchange. The Romanian State through the Ministry of Energy holds 20.64% of the shares of OMV Petrom. According to OMV Petrom report, the companies listed on the Vienna Stock Exchange hold 51.01% of the group. The Property Fund holds 9.99% and the remaining 18.35% is the free float

other shareholders trading in the shares on the Bucharest Stock Exchange and Deposit Certificates, Global Receiver Receipt (GDR) on the London Stock Exchange, London Stock Exchanges. Following the privatization, the company's position strengthened on the oil and gas market. This was favored by a modern strategy, which was supported by investments of over 13.5 billion EUR over the last 13 years during which it contributed to the stability base in the Romanian economy in quality as an energy supplier and by attracting more employees and contributing heavily to the state budget. The company's efficiency strategy favored increasing the value of the company for potential customers by improving customer experience and satisfaction.

Optimizing the company's performance through the new strategy has meant a smaller number of engagements than in the previous year, 2016 for example from 15,288 employees to 14,210. In order to improve the satisfaction of OMV Petrom's employees, the main objective was to reduce the rate of injury. The Company also sought to reduce water intensity and greenhouse gas emissions. With increased performance, the company's profit amounted to approximately EUR 1.1 billion for the period 2012-2017. Operational year 2017 OMV Petrom generated profit from the Upstream and Downstream gas and oil sectors, worth RON 27,599.76. OMV Petrom managed to increase its profit before tax to 2,904.12 compared to the previous year when it generated 1,264.93 RON. From the perspective of its potential to reach the MSCI watch list it the company's financial performance comes not only from a well thought strategy of operational optimization the sectors but also from the 51.01% by the Austrian parent. This favored an optimized performance leading to a rise in the company's stock prices. Following a technical analysis, it is clear from the total volume of the entire market, the annual turnover of USD 1,017,047,087 billion is required to reach RON 4,017,347,887. A fall in prices would devalue OMV Petrom's position (SNP) against the conditions imposed by MSCI. Concerning the upgrade to emerging market status, it can be argued that while OMV Petrom is the only company that has not reached at least 15% ATRV 12M, it reported the highest total market capitalization, compared to the other companies analyzed, 4,837,406,852 million USD. Also, the company surpasses BRD Group Societe Generale in what it needs to capitalize on the Free Float market, Mcap FF-967,481,370 USD.

Banca Transilvania (TLV)

With a streamlined strategy, TLV has increased the volume of transactions and has stimulated the use of banking services by lowering customer tariffs, so that its market share has risen by 7.07% in 2017 compared to the previous year. According to the Banca Transilvania Report the number of customers increased from 2.27 million to 2.43 million. Customers of Transylvania Bank are classified as individual users, small and medium-sized entrepreneurs, medium and large corporations and micro business owners. Most of the users of banking services are considered to be small and medium enterprises, at a rate of 14%. In 2017 the volume banking transactions at Banca Transilvania increased by 20%, taking into account that 40% of the newly established companies in Romania decided to cooperate with this bank. The bank report reveals that more than 937 thousand customers use the internet banking application. The end of 2017 shows a 6.03% increase in the number of traded shares. It can also see a 14.60% increase in capital investment. Total assets of Transilvania Bank amounted to RON 59,302,095, equivalent to USD 15,013,188.61 million. The Bank's net profit is RON 1,185,979, up by 3.46% as compared to 2016. The net profit of the BT Group is RON

1,242,031, up 2.74% over the previous year, according to (Banca Transilvania Annual Report, 2017). The company's growing financial and operational trend can lead to the explanation of the optimal levels of total and free float market capitalization, along with the 12-month and 3-month annual turnover rate that reach the MSCI rates so Banca Transilvania meets the conditions to be included in the Emerging Market Universe by MSCI.

Compared to the other companies analyzed, it is the only entity that does not have a major shareholder, which makes the Free Float trading space at 70%, so it holds the largest number of nominal shares 4,341,439,404 compared to OMV Petrom 56,644,108,335 and Free Float 20%, BRD 696,901,518 shares and Free Float 30% and Romgaz 385,422,400 shares, Free Float 30%. Taking into account that Banca Transilvania does not have a main shareholder, it is worth noting the capitalization of the Free Float market, which reaches USD 2,164,381,200, which is the highest in comparison to the other analysed companies.

Sector benchmark

The companies surveyed focused on three main sectors in the Romanian economy: Oil-energy OMV-Petrom, natural gas-energy, Romgaz and the financial sector Banca Transilvania and BRD Group Societe Generale. When it comes to company investment decisions, a sector-by-sector perspective can be relevant and display the potential of companies. To make the analysis, we can consider the multiples of value that represent the ratio between the price per share and the earnings per share. In 2017, total stock market capitalization increased 20% more than in 2016 and was estimated to reach 14% attributable to the growing number of new listed companies and 6% attributable to organic business growth. This increase provided a total capitalization of over RON 90 billion. The sectors with the highest EV multiple were 9%, the electricity sector, 35% the financial sector and 40% the oil / gas sector. Although value multiples are high in oil and gas companies, profitability was among the lowest. The same cannot be argued in the financial sector that has shown a high profitability. This is also reflected in the financial sector that has reported multiple value in the past 5 years at the lowest level compared to gas and oil companies. This relationship between EV/ multiples and profitability may cause some confusion, when the analysis is actually made from the perspective of companies' evolution over the last 5 or 11 years, because that is how volatility or vulnerability can be traced to economic cycles. The 11-year Price Waters Coopers (PWC) survey shows that in the financial sector it is noticed that it was affected by the recession. It was also confirmed that the most volatile sectors in economic cycles were the financial sector itself, which shows the discrepancy between multiple value and profitability. It is also confirmed that the value multiplier is a relative value, which may suggest that if Price/earning (PER) is less, the price of the action may be optimal. This aspect can be considered relevant to investors when considering a medium-term business. For example, according to the PWC (2018), although PER for the financial sector was 9.3, compared with the oil and gas sector 11.7, the profit margin for financial companies was 44% compared to oil and gas companies 13%.

The most resilient sector in the economic phenomena seems to have been the oil and gas sector. For the period 2009-2016, the PWC analysis shows that the least affected by the progress of industrial production were multiples of value for the energy sector. PER negative, -0.34, multiple EBITDA 0.27 and 0.26. Compared to the energy sector, the

financial sector reports a more significant correlation between service evolution and financial multiples, showing a PER 0.27, multiple total assets 0.30 and value of 0.55 (PWC, 2017). It can be noticed that in companies reactive to economic cycles the prices of companies rise in economic growth and decrease in recession. As a 2018 perspective, the energy and oil sectors will be influenced by the regulations in early 2017 that could lead to an increase in gas or oil prices, which, on the one hand, may promote profitability but, on the other hand, may affect operators and distributors according to PWC. Consequently, there is primarily an inverse correlation between margin and multiple EBITDA. This correlation indicates that both in industrial and financial terms, multiple fall into complicated economic contexts. The analysis of companies' multiples of money undergoes changes in economic contractions, indicating the dependence of investor perceptions on country risk, which determines the evolution of investments (PWC, 2017).

It can be mentioned that although the Romanian capital market reports steeply increasing figures over the past years, it still remains a rather more expensive market compared to the bigger peer markets, despite the decrease of the fees in the last years. According to Concorde (2017) starting from the low level of trading on the stock exchange, it can be argued that the value of the companies and their performance is below potential which determines the prices of the shares to be undervalued. In other words, in order for stock prices to be smaller, better performance of listed companies is needed, and an increase in the level of trading that can help boost liquidity. To reach the impact, it would be necessary to deepen the financial market by increasing trading volumes. One of the recommendations is to improve the architecture of the capital market to allow the increased of supply and demand. Bucharest Stock Exchange aims to relaunch the derivatives market. In 2018, the BVB will change its price-limiting mechanism by implementing a new volatility control module that aims to optimize the quality of the financial market. The stock market aims to launch a new version of an online trading platform that includes new financial trading instruments and attracts new investors and market participants. To increase demand, roadshows investors will be organized to increase awareness about the local capital market performance and development. Investors from different centers like Prague, London, Vienna, Warsaw, Stockholm, Tallinn and other large centers will be visited. The efforts of the Bucharest Stock Exchange to develop the local capital markets, should be supported by all market participants and key economic decision makers. This will lead the entire country to develop better and faster. Another recommendation is to further develop financial education and investment through educational platforms such as fluentinfinate.ro. Also restarting the listing process for big state owned companies such as Hidroelectrica and Bucharest Airport will increase chances to upgrade local capital market to Emerging Market status. If reached this upgrade, this might lead to the biggest economic performance of Romania after EU accession. This implies that the Romanian stock market can be upgraded to emerging market status if macroeconomic indicators tend towards optimal financial stability and predictability that attract foreign investment. Listed company's evolution alongside other regulations on financial reporting and corporate governance are associated with country perspective that influences equity investment. Country perspective is associated with both the ability of companies to pay their debts to partners or the state, as well as the ability to transparently report information in line with international financial reporting standards.

Conclusions

There are listed companies that demonstrate the ability to contribute to the upgrading of the Romanian capital market to Emerging Market status. This already places the Romanian capital market closer to the big European capital markets, thus increasing the confidence among many investors, both institutional and retail investors regarding the good perspectives of the Romanian capital markets.

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THE SOCIO-ECONOMIC LIFE OF THE INHABITANTS OF STANISLAVOV DURING THE FIRST WORLD WAR

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Abstract. Every war is a specific period in the area of social and economic life of people and cities. The ongoing fights always destroy both infrastructure and crops. This, in turn, translates into a reduction in the ability to conduct any business activity, as well as affects the increase in prices and impoverishment of the society. All of this in turn affects the public mood and the widely understood state of security in a given area. The Great War, as the World War I was then called, was the first global military clash between two significant military-political blocs. Its economic effects were extremely large for Europeans, regardless of the country. Everywhere, it triggered inflation, the rationing of basic necessities and the need to co-finance armaments by citizens. However, not everywhere, the course of the war and its economic consequences were identical, which resulted even from the fact of the existence or non-existence of the phenomenon of occupation. This article is intended to show what economic consequences are caused by war and occupation in micro-regional terms. The main re-search problem is the analysis of the social and economic life of the population of the third largest city in the province of Galicja, Stanislavov (Austro-Hungarian Empire), during the First World War. For this reason, the then state of industry, the level of development of trade and services, and the devastating impact of military activities on the economic progress of the city and its residents were analyzed. The article also draws attention to the process of gradual impoverishment of inhabitants resulting from the ongoing military operations, lasting for long periods of occupation and orders issued by the occupation administration that focused on plundering state assets belonging to the Habsburg Empire and charging the population with the costs of maintaining the occupation army. At the same time, the initiatives of the civil (au-tochthonous) city authorities, which sought to counteract all the negative effects of the occupation, were pointed out. The work is characterized by a chronological-problem approach to content. The initial conquest is the outbreak of World War I, and the final end of the war in November 1918. The source basis of the article are archival materials collected in the State Archives of the Ivano-Frankivsk Region in Ukraine, compact publications and articles, as well as materials posted on the Internet.

Keywords: First World War; Stanislavov; safety; defense; industrial enterprises; food-stuffs; trade establishments; services; speculation.

The First World War brought suffering and destruction to Stanislavov, which was in a whirlpool of world geopolitical changes. After that, the level of socio-economic life of the city was declined by destruction during military operations and by three Russian occupations (from September 3, 1914 to February 20, 1915, from March 4, 1915 to June 8 in 1915, from September 11, 1916 to July 24, 1917), and the safety of the inhabitants was under great threat. In the first days of the war, Austrian troops, which were constantly dislocated in Stanislavov, began to search for "traitors" of the empire and disclose the Russophile movement.

Austrian authorities did everything possible to ensure peace in the Habsburg Empire. Back in July 1914, Stanislavov, along with Lviv, served as a forward evacuation point (DAIFO, ф.п. 909.1.1186, p.4).

Immediately after the arrival of the Russian army in the city, the "Regulations of the Commandant of Stanislavov" dated September 5, 1914, were posted on the streets, determining the life of the city under Russian occupation. They also determined the timetable for the work of all enterprises of trade and services. Thus, grocery stores were supposed to open 6:00 am or 8:00 am, and closed at 8:00 pm. Restaurants and cafes could be opened until 10:00 pm. Certain permits were received only by the cafe "Under the Golden Eagle" P. Rubin and "Edison" P. Ferber, which could work until 2:00 am, as well as the restaurants of M. Gavbenshtok, A. Stigar, I. Shmid, P. Knizhat-ka, Ф. Malashinsky, K. Schweisser and the cafe: "Union" by V. Krovitsky and "Aus-tria" P. Belle, which could receive visitors (mostly Russian military) by 4:00 am. Such measures were connected with the institution of martial law, which was aimed to maintain order and protection in the city in time of war. All employees of trade were obliged to accept Russian money at the rate of one ruble to three silver Austri-an crowns. It was strictly forbidden to sell or let soldiers consume alcohol (DAIFO, ф. 636.1.4, p. 1). Also, the above-mentioned decisions prohibited thefts, the offenders were punished by a martial court, and in some cases were punishable by death penal-ty. The city's population had to fulfill its previous obligations, and refer it with "full respect and honor" to the Russian army.

Note that the prohibition on the sale of alcohol to the lower ranks of the Russian army was ignored by Jewish entrepreneurs, and already on October 5, 1914 the Rus-sian government was to post in the city announcements about the ban of Jews, through drunken soldiers, who sell alcohol (DAIFO, ф. 636.1.4, p.9).

In order to calm the local population September 11, 1914 the occupation authorities promised that trade and industrial will not be oppressed, but the sale of alcohols was banned, and the cost of the Austrian crown was set at 30 Russian kopecks (DAIFO, ф. 636.1.4, p.8).

Later, on October 23, 1914, the Russian army guaranteed the preservation of mone-tary savings in banks for citizens loyal to the occupation authorities (DAIFO, ф. 636.1.4, p.17). On December 15, 1914, residents of the city were forbidden to buy goods at the rankers of the Russian army by the decisions of the governor-general (DAIFO, ф. 636.1.4, pp.5-6).

However, occupation conditions did not contribute to economic prosperity and to the food security of the city. This is a natural result of military operation. So, at the end of 1914 the Russian authorities issued an official communication about the need to take into account the products and fuel within three days that were available from the sellers and the population. What was hidden, requisitioned free of charge and transferred to the city government for distribution to the poor inhabitants of the city (DAIFO, ф. 636.1.4, p.28).

In the tasks and military strategies of the Russian Empire, Stanislavov played a large role. The first important point was that the city was in the so-called "buffer zone", and

therefore served as an outpost for the protection of the empire as a conditional, cordon city. On the other hand, Galician in the eyes of then political leaders was a theatre of a possible military conflict with Austria-Hungary. Regardless of the imperial regime, Stanislavov was considered as the future territory of the Russian Empire.

The obligatory resolution of the Galician governor-general on January 26, 1915 forbade the export of money, securities, silver, gold and platinum beyond the borders of Galicia and Bukovina (except Russia) for an amount of more than 500 rubles per person. It also, prohibited the payments, deliveries or transfers of any sums of money by Austrian, Hungarian, or German and Turkish nationals. At the request of the payer, payments could be contribution to a special fund formed in the Lviv field treasury (DAIFO, ф. 636.1.5, p.1).

From 7 to 20 February 1915 the city was under the control of the Austrian troops. The Burgomaster K. Fiedler immediately spread the proclamation about the need to follow the rule of law and the punishment for illegal actions. The city authorities prohibited the sale of alcoholic drinks, exceeding the maximum prices for goods, encroachments on property, resistance to law enforcement officers (DAIFO, ф. 636.1.5, pp. 6, 11).

As a result of escapes and migration of the population due to ongoing military operations in the city and its surroundings, in the city remained many empty apartments. According to reports of the Russian authorities, on the Lithuanian street had 52 vacant apartments, on the street. May 3 – 56 apartments, st. Sapizhinsky – 79 apartments, st. Goluchovskygo – 45 apartments, st. Petra Skarga – 30 apartments, etc. (DAIFO, ф. 528.1.21, pp.31-37).

However, there were cases where the homeowners returned. One such example is the Jew A. Brill, who had a building and trade shop on the Koliyova street. The Russian police, in the context of the struggle against Austrian intelligence service, could not understand why the businessman at the beginning of the war was wicked and mocked up the Russian prisoners, fled with his family during the retreat of the Austrians, but later returned and opened a store (DAIFO, ф. 528.1.58, p.59).

According to the report of the Stanislavov' police chief: "... in the city trade and crafts were very developed and were exclusively in Jewish hands...". Russian troops recorded the presence of such enterprises in the city: stearin candle and match factories, a yeast plant and a rectification plant, a wool factory, a vodka factory, a brewery, a basket factory, four leather, three brick and tile factories, a steam mill and two oil refineries (DAIFO, ф. 528.1.1, p.177).

The Russian occupation called the city's butchery, electric and gas plants, "sling-shots", city taxes and a cemetery as sources of incomes of city authorities (DAIFO, ф. 528.1.1, p.177).

As of 1913, there were 909 trade enterprises in the city, in particular Jewish ones – 843 (92, 7%), Polish – 50 (5.5%) and Ukrainian – 16 (1.7%) (Monolatiy, 2017, p. 76). It should be noted that private individuals actively applied for permits to open shopping agencies in the city. There were cases of opening a business in the city by foreigners. So, a Greek subject to Anastasius Kistinius in the Market Square opened a grocery store (DAIFO, ф. 528.1.58, p.91).

The occupation authorities tried to regulate and limit the consumption of food products in the conditions of war, one of which was the order of the governor of Galicia dated May 15, 1915 on restricting meat consumption – on Tuesday and Friday it was forbidden to sell meat or dishes from it (DAIFO, ф. 636.1.5, p.4).

The Russian army brought with it a significant number of uneducated and corrupt officials, who carried out numerous abuses. In April 1915, the police chief of Stanislavov noted that the "okolotochny" (an urban police officer-author) Karpenko, being drunk, burst in to the inhabitant of Knyagin-girki the Jew Leon Zilber and demanded a thousand rubles from him. Later it became clear that the Zilber helped the policeman in receiving bribes from other persons in the amount of 50 kopecks to 5 rubles (DAIFO, ф. 528.1.14, p.175).

In the circular of the Ternopil governor of March 3, 1915 it was reported that Russian officials often borrowed various goods and products and did not pay for them (DAIFO, ф. 528.1.58, p.80). Russian soldiers did not always behave in an exemplary manner.

Despite the war, the Russian police recorded the presence of prostitutes in restaurants, cafes and cinemas, and in Prokaty, Pasechnaya and Mikintitsy, "prostitution freely hidden" (DAIFO, ф. 528.1.16, pp.44-45. According to the Austrian police in 1907 in the city there were 198 registered prostitutes and 710 hidden, of which only 15 passed the medical examination in the spring of 1915). It should be noted that according to the order of the chief of the Russian garrison on April 14, 1915, restaurants for officers were open until 12:00 am, cinemas were up to 11:00 pm, and private persons were allowed walk through the streets, visiting restaurants, etc. only up to 10:00 pm (DAIFO, ф. 528.1.58, p.80).

Since June 8, 1915 Stanislavov came under Austrian occupation. After the return of the Austrian authorities, the urgent issue was rebuilding the destroyed infrastructure again. On July 14, 1915, representatives of M. Stanislavov participated in the organization "Union of 30 cities of Galicia", which operated in Krakow. The organization decided on a large-scale action for the economic and technical reconstruction of cities. The ways for reconstruction would be mostly subventions and other resources. To receive assistance, it was necessary to assess the military damage to the economy and individuals. In order to analyze the losses suffered, magistrates had to open special bureaus, which consisted of architects, officials and members of the public. Work on damage assessment should be completed by August 10, 1915 (DAIFO, ф. 7.1.268, p.1).

In addition, on August 12, 1915, in the city was made an announcement about the possibility of declaring to the Magistrate about the damage caused by the war, and from August 19 it was possible to inform the Magistrate about the material losses from the flattening during the war of the military or the maintenance of horses in the buildings of citizens (DAIFO, ф. 636.1.5, pp. 31, 34).

In the conditions of military poverty, the Austrian authorities tried to avoid speculation in the food market and rigidly regulated social and economic life. June 12, 1915 was determined by the official course of the German mark – 1 crown 30 halercz. September 20, 1915 it was reported that payments on bank liabilities were not canceled, but only was delayed payment of certain obligations (DAIFO, ф. 636.1.5, pp. 15, 39).

The announcements of the city's Magistrate of June 8, 1915 allowed the merchants of flour and grain to keep their reserves untouched, and trade with private persons only after special permission of the city authorities (DAIFO, ф. 636.1.5, p.15.). On June 14, 1915, the Magistrate banned the sale of alcoholic beverages, the export of consumptive goods and cattle from the city without special permits, announced the acceptance of weapons and ammunition, as well as property that got to people by robbing the real owners. Public closed institutions could work from 9 pm to 6:00 am, restaurants to 11:00 pm (cafe "Union" and "Habsburg" to 12:00 am), and movement around the city was prohibited from 11 pm to 3.30 am (DAIFO, ф. 636.1.5, pp. 19, 20).

Warfare and the ultimate occupation always have a direct impact on the economic situation of the local population. The occupation authorities almost always pursue a policy of plunder against state and private property. In addition, residents often have to supply a number of different products to the professional army. This applies in particular to persons running a business and farmers. Reducing the amount of food products on the market, in turn, translates into higher prices and rationing of goods.

June 15, 1915 in the city was issued a warning to the Magistrate on the punishment of the population for concealing consumer goods, inflating prices for goods, speculation, give light weight (DAIFO, ф. 636.1.5, p.8). According to decisions of the magistrate on June 19, 1915 the work of food stores was mandatory. Besides, residents pledged to report on the availability of their livestock. Since September 23, 1915, began a mandatory census of foodstuffs among the population (DAIFO, ф. 636.1.5, pp. 21-22, 40).

According to the order of August 18, 1915, it was possible to bake only rounded buns in water weighing 35 grams and sell them at a price of 4 halerz per piece. Flour for biscuits to be only wheaten, and for baking bread – both wheaten and rye. Bread should be baked in loaves weighing not less than 280 grams, and its price should be 5 halers for 70 grams (DAIFO, ф. 636.1.5, p.5).

January 25, 1916 was introduced a number of rules and limitations for bakeries and confectionery. In particular, it was forbidden to bake bread from wheat flour, cookies from yeast pastry, confectionery products could not be baked from wheat and rye flour, and could only be sold two days a week, it was forbidden to put biscuits on tables in bakeries and confectioneries, bread sellers could sell it by pieces at the buyer's request (DAIFO, ф. 636.1.6, p.12).

February 5, 1916 Magistrate banned the manufacture and sale of cookies. Bread could only be baked in long and round loaves, which, with full cooling, should weigh 280 grams and the bread should also be refrigerated. The loaf should be easily divided into four pieces of 70 grams each. In addition, 20% of the potato mixture had to be forcibly added to the bread. The price of bread could not be more than 3-5 halerz for 70 grams and 7 halerz for every 140 grams (DAIFO, ф. 636.1.6, p.17).

As a result, the social and economic crisis forced the government to announce on November 3, 1915, the introduction of cards for bread and flour in the city, and from November 7 persons who were in Stanislavov for more than 24 hours were to receive special permits (DAIFO, ф. 636.1.5, pp.47-48).

By order of the imperial royal governor of the province of G. Kollard on January 11, 1916, the city set the maximum price for flour. Thus, wheat flour and rye flour should cost no more than 50 halercz per kilogram. In case of failure to fulfill these price requirements, the authorities and police warned about requisitions and punishment of fines up to 2000 crowns or arrest up to three months. The Magistrate banned the sale of bread and confectionery products in the absence of bread cards (DAIFO, ϕ . 636.1.6, pp. 1, 14).

In the end, on February 4, 1916, a restriction was imposed on the consumption of bread per person (for working people – 300 grams per person, for working families – 200 grams per person). The residents of the city were warned: "...if someone uses carelessly his stocks or otherwise gets rid of them, he will feel hunger because there will be no bread for him." On March 13, 1916, in order to prevent a deficit, it was announced that it was possible to buy bread and flour only in the gmina where the bread card was issued. Since March 16, inhabitants of the city had to decide on a trade institution (with 25 offered), where they would to receive their bread cards (DAIFO, ϕ . 636.1.6, pp. 15, 28, 31).

To deal with speculation and concealment of sugar stocks, the Magistrate on January 14, 1916, determined 17 sugar sellers who had the right to sell it at a fixed price – 1 crown and 6 halercz per kilogram. But on January 27, 1916, were announced the maximum prices for oil (1 liter of oil – 44 halercz). On February 5, 1916, the government demanded from all producers and sellers of sugar to report its stocks and warned that concealing sugar supplies would be punished with arrest from 1 month to 1 year (DAIFO, ϕ . 636.1.6, pp. 9, 13, 16.).

The order of the Austrian governor on March 6, 1916 prohibited the sale of milk and dairy products in establishments of catering from 02:00 to 07:00 pm. An exception was the dining room, where ate poor citizens. There, dairy products were sold from 02:00 to 03:00 pm and from 06:00 to 07:00 pm (DAIFO, ϕ . 636.1.6, p.2).

The socio-economic situation did not improve due to the ongoing war and prolonged occupation, during which the occupying authorities were still demanding the supply of further contingents, and imposed quantitative restrictions on the population in the purchase of basic necessities. So on March 20, 1916, sugar cards were introduced for those families who had sugar reserves of no more than 2.5 kg per person. Confectioneries, coffee houses, restaurants had to submit information about their needs for sugar to the authorities, and also to report on the available reserves of coffee. At the same time, agricultural producers, traders and entrepreneurs should report to the city on the state of potato stocks in the city (DAIFO, ϕ . 636.1.6, pp.34-36).

The Magistrate also initiated a number of actions in the city that should help Austria in the war. August 14, 1915, it was announced the beginning of the purchase in the population for military needs, "all sorts of metals." September 30, 1915 The city's magistrate appealed to the population with a request to help military with food, for-age and firewood, after that citizens should receive the compensation for expenses, and on October 1 was held in Stanislaw a "patriotic gathering" of metal for the needs of the army (DAIFO, ϕ . 636.1.5, pp. 32, 42-43).

October 5, 1915 in the city was circulated appeal of the imperial royal governor of the province G. Kollard on the need for participation of the population in a military loan

(DAIFO, ф. 636.1.5, p.42). April 21, 1916 "patriotic loan" for military needs was repeated. Possible patriotic appeals to the city's public did not have a significant effect, because on October 20, 1915, was announced the requisition of any metal dishes for the needs of the army, on 11 November, the collection of metals began, only industrial enterprises that had military orders received privileges (the declaration of January 25, 1916 established proportions for requisitions – 1/3 of metal items from manufacturers and industrialists and 1/2 from owners of restaurants, taverns, bakeries). November 12, 1915 there were announcements of collecting "for reward" items of gold and silver. December 5, 1915 and May 10, 1916 in the city again announced the purchase of metal dishes from the public, and December 9, 1915 began to purchase food (DAIFO, ф. 636.1.5, p. 46, 49-50, 52, 54; DAIFO, ф. 636.1.6, pp. 11, 44).

Despite all the poverties of the war, the city continued to develop. By the decision of the Magistrate of May 5, 1916, permission was given to start work on laying sewer networks between the streets of Sapizhinska and Sobieski (DAIFO, ф. 7.1.269, pp.1-2). At the same time, the Magistrate on January 14, 1916, announced that the owners of agricultural land would agree to help with the spring field work. In addition, despite the war, the Austrian authorities made a transition to daylight saving time on the night of April 30 to May 1, 1916, in order to save costs for lighting (DAIFO, ф. 636.1.6, pp. 7, 43).

In the summer 1916 the "Brusilov Offensive" began, when Russian troops under the command of General A. Brusilov on a broad front line broke through the defense of the Austrians and rapidly began to move deeper into the territory of the enemy. On August 11, Stanislavov was captured by the Russian army (Первая мировая война. Брусиловский прорыв, 2018). Stanislavov found himself in the front-line zone and underwent considerable destruction. As a result, the town hall was damaged, many houses around were destroyed. The Armenian church and the building of the former Jesuit collegium received significant damage (Bondarev, 2007, p.25).

Immediately after the arrival of Russian troops, the chief of the garrison, Major-General Osipov and the commandant of the city, Lieutenant-Colonel Dolinsky announced the introduction of a curfew. Exit to the streets of the city was allowed from 6.00 am to 9.00 pm hours, restaurants should be closed at 6.00 pm, cafe at 8.00 pm (except for the restaurant and cafe at the hotel "Austria", which could be opened until 11.00 pm).

The notification of the Russian authorities on August 13, 1916 informed the population that it was forbidden to export copper, zinc and other metals from the city; skin; as well as food products. Note that on August 27-28, 1916 was made requisition of motorcycles and bicycles for army needs. In the city, had to be stopped the sale of alcoholic beverages, as well as the production and sale of publications, ridiculing the Russian Empire (booksellers should have been withdrawn from the sale of similar literature, otherwise the owners were threatened with exile to Siberia). In addition, residents of the city were forbidden to buy things into soldiers (DAIFO, ф. 636.1.6, pp. 47, 50).

The occupation regime began issuing new bread and sugar cards, and food trade was allowed. Stores that did not open were subject to requisition. Jews were given bread and sugar cards separately from Christians, which was a manifestation of national discrimination (DAIFO, ф. 636.1.6, pp. 49, 55, 57).

The following course was set for monetary circulation: the Austrian crown was 39 Russian kopecks, the German crown – 46 Russian kopecks (for a gold coin), the Austrian crown – 25 kopecks, the German crown – 30 Russian kopecks (for a silver coin), the Austrian crown – 15 Russian kopecks, 17 Russian kopecks (for banknotes) (DAIFO, ф. 636.1.6, p.47).

According to the data of the Magistrate of Stanislavov on September 3, 1916, there were about 28,000 inhabitants in the city (according to the registration cards of November 27, 1916, the police gave more accurate figures – 4,067 men, 10,521 women, 11,429 children), both permanent and evacuated from other gmins. Probably there were about 6,600 inhabitants in the Knyaginín town, about 3,000 in the Knyaginín colony (these gmins were separate administrative units and had separate administrations) (DAIFO, ф. 528.1.36, pp. 2, 109).

For a weekly needs of the city, were necessary 1500 poods of wheat flour, 1500 poods of bread, 1500 poods of cereals, 400 poods of sugar, 20 poods of tea, 20 poods of yeast, 1500 poods of various fats, 400 poods of salt and 20 pigs (DAIFO, ф. 528.1.43, p.30). So, in January 1917 the city planned to spend 6,500 poods of wheat flour, 6,600 poods of rye flour, 6,600 poods of various cereals, 2,000 poods of sugar, 100 poods of tea, 100 poods of yeast, 6,000 poods of various fats, 2,000 poods of salt, 100 poods of wax candles, 2000 puds of kerosene (DAIFO, ф. 528.1.43, pp.73-74).

The statistical reports of the police department of the city contained data on factories, warehouses and workshops in the area of Stanislavov. Namely: 5 tanneries, 2 brick factories, a carpentry workshop, a cart factory, a liquor factory, a brewery, a yeast factory, a cast iron foundry, a weaving factory, an alcohol-cleaning plant, an alcohol factory, two mechanic workshops, a sawmill and forest warehouses (DAIFO, ф. 528.1.36, pp.59-60). Some of these enterprises at that time did not work, and most of their owners moved deeper into Austrian territory. Urban enterprises could also be stopped through requisitions, as it happened with the city butchery on the Golu-khovska street, which did not work through the requisition of machine belts from July 25, 1916 (DAIFO, ф. 528.1.46, p.8).

There were also data about a mill, a sausage factory, a city gas plant, a parquet factory, seven shoe shops, and seven pharmacies. The number of trade establishments was 171, in the city there were hotels – Habsburg (20 rooms), Union (34 rooms), Hübner (20 rooms), Austria (18 rooms), Central (18 rooms), European (16 rooms), Black Eagle (12 rooms) (DAIFO, ф. 528.1.36, pp. 64-67, 73-74, 81, 113-117). Despite the war, ten carriers operated in the city. The fiacre travel price ranged from 1 crown 20 halves to 4 crown, depending on the comfort and duration of the trip (DAIFO, ф. 528.1.43, pp.142-143). For the ramming and preservation of highways the city had only one tractor (DAIFO, ф. 528.1.51, p.134).

Even before the war, the city developed in the socio-cultural sphere. There were three printers in Stanislavov, four cinemas, a theater for them. Stanisław Moniuszko and seven shops with books and paper articles. They all existed almost continuously during the occupation, although the activity of printers, cinemas and theater was under the supervision of the Russian authorities.

As of November 20, 1916, in the inhabitants numbered 267 units of large and small cattle, 166 pigs, 102 working horses. However, not more than 1/3 of the harvest was collected, and the rest was destroyed in the course of military operations. The harvested crop was not enough for food provisions, and besides, winter wheat was sown with no more than 40% of the agricultural land (the rest was occupied with fighting positions) (DAIFO, ф. 528.1.36, pp. 51, 86).

In connection with these circumstances, food aid in the city required 10,480 people, of whom 19% (1,906 people) were intellectuals. The situation was partially solved with the assistance of charitable organizations. Thus, under the Magistrate, the Meshchansky Committee and the All-Russian Zemsky Union created two shops and a food point. 12 stores were organized by the Magistrate, 1 shop by the Union of Cities. In these shopping centers you could buy goods at a cost price, and the food point provided up to 200 free lunches. The city also had six shelters for the homeless, the infirm and the elderly (DAIFO, ф. 528.1.36, p.109).

At the same time, according to official government data, as of November 1916, rye bread of grade 1 in Stanislaviv county cost 47 kopecks per 1 kg, wheat bread 75 kopecks per kg. Flour rye (80 kg) of 1 grade could be purchased for 30 rubles, wheat flour – for 36 rubles. For veal and pork meat, the price was about 1 ruble per kg, the oil cost 4 rubles per kg, the egg was sold at a price of 60 kopecks per 1 piece, and 1 liter of milk could be purchased for 35 kopecks. Against the backdrop of the prices of food products, the possible earnings of the residents of the city looked scant. Thus, an unskilled worker for a day of work with food received 1 ruble of salary (a woman for the same job – 75 kopecks, and a teenager – 50 kopecks). Somewhat more was the salary for work in plasterers – 1 ruble 50 kopecks; at carpenters and locksmiths – 2 rubles 40 kopecks, a bricklayer and a smith received 3 rubles for labor (DAIFO, ф. 528.1.33, p. 21).

Police monitored that the sale of essential goods in the city was not carried out at inflated prices. Sellers, violators were subjected to administrative fines in the amount of 10 to 50 Russian rubles (DAIFO, ф. 528.1.38, pp. 39, 49, 77, 109). The fines were also imposed for the passage without the established passes, the illegal purchase of various things (15 rubles a penalty) from lower ranks of the Russian army, the increase in house prices, the sale of alcoholic beverages and their illegal drinking (100 rubles in fine), and the prostitutes who did not undergo medical examination, was arrested for three days (DAIFO, ф. 528.1.38, pp. 55, 132, 162, 165, 193). Only for October – December 1916, the fine collected for violation of mandatory regulations amounted to 2,975 rubles (DAIFO, ф. 528.1.41, p.27).

The Russian authorities also actively carried out requisition for the needs of the army of various products and goods – from washstands and toilets to sewing machines and dynamo machines. At the same time, money for goods was not paid, which in official documents was explained by the fact that the owners were absent during requisition (DAIFO, ф. 528.1.35, p. 110-160).

After the February revolution in Russia, the occupation authorities declared a radical change in attitude towards the population of the seized territories. Thus, in the appeal of the regional commissar of the Provisional Government in Galicia and Bukovina, D. Doroshenko to the population of the occupied territories of May 20, 1917 it was stated that " [...] the new government considers it fair to take all measures to facilitate the fate

of the inhabitants of the occupied territory, namely, to give the population freedom both in restoring old forms of self-government in rural and urban areas, and in restructuring them on new broader grounds, if that population wished [...]" Under the new conditions, the Russian government set itself the task of streamlining the food business and organizing councils in the counties and provincial commissars (DAIFO, ф. 636.1.7, p.1).

The city continued to operate restrictions on the work of trading establishments and institutions for recreation (according to the decree of February 20, 1917, trade was to be carried out from 8.00 am to 08.30 pm, cinemas, cafes, etc. should be closed at 08.30 pm.), and from 9.00 pm the started curfew (DAIFO, ф. 636.1.7, p.6).

July 8, 1917 began the last large-scale offensive of Russian troops. The army struck at the Galich – Stanislav section in the direction of Kalush, Bolekhov, and its offensive was successful (Zayonchkovskyy, 2002). However, demoralized by revolutionary events at home very quickly, Russian troops began to retreat and left Stanislav. At that time in the city massively destroyed factory equipment and occurred harassment the local population (Havryliv, Arsenych & Protsak, 1998, p.74).

In the center of the city many houses were burned and throughout the province the war left deep traces (Tsekler, 2007, p. 68). Then the house of Khana Landa burned down, which divided the modern Viche' Maidan into two parts. The passage of Gartenberg was completely destroyed and the houses were placed around it (Bondarev, 2011, p. 20). Broken by ammunitions, shattered by the bombing of the city, devoid of any conservation, the city hall was cracked and could collapse at any time (Bondarev, 2011, p.14). The greatest destruction took place along Karpinsky Street (now it is a segment of Galitska Street from its beginning to the Town Hall), along Kosciuszko Street (Sotnyk Martynets), the whole area of Franz Josef disappeared from the map of the city, etc. the Austrians even held a narrow-gauge railroad to the center, along which they removed construction debris (Bondarev, 2009, p.20).

In connection with the military actions, the city was in a difficult financial situation. Evidence of this is a loan received from the regional authorities in September 1918 (DAIFO, ф. 27.1.1, p.5). In the amount of 2 million 382, 281 crowns (Chernov, 1971, p.62). During the last two years of the war, prices for essential goods rose by 1,000 percent or more. For any stabilization of the socio-economic situation, the Magistrat attempted to distribute responsibilities among all residents of the city. In particular, it was decided to register all residents of the city with their addresses in order to evenly distribute apartment duties to all residents of the city (DAIFO, ф. 636.1.8, p.8).

The Austrian authorities tried to limit the growth of consumer prices in order to reduce social tension. Thus, by order of the mayor from August 26, 1917, those in need could claim food aid, whose monthly income for one member of the family did not exceed 75 crowns (DAIFO, ф. 636.1.7, p.16). But in pursuance of the order of the vicegerency in Galicia on November 20, 1917, the city determined the maximum prices for wholesale and retail trade in sugar. Thus, by order of the mayor from August 26, 1917, those in need could claim food aid, whose monthly income for one member of the family did not exceed 75 crowns (DAIFO, ф. 7.1.272, p.1).

For the impoverished population, in the city worked military cuisine (DAIFO, ф. 636.1.7, p.25). Furthermore, the government practiced overtime sales of bread. So, since

February 14, 1918 they sold half of the bread for each member of the family, besides that, it was possible to exchange flour cards for bread. But from 3 to 7 October 1918, they sold 1 loaf of bread for each member of the family. The resolution of January 28, 1918 permitted to increase the consumption of flour for those who work hard from 1150 to 1850 grams, also facilitated the life of the poorest (DAIFO, ф. 636.1.8, pp. 1, 5-7).

Simultaneously, the city suffered from the continuation of the war. Announcements of the imperial-royal stage team on August 4, 1917 provided for informing the inhabitants of the city about their food supplies. The commoners should keep with themselves 20 kg of flour, 10 kg of cereals, 10 kg of beans, 1 kg of sugar, salt, tea, a half kilo of soap, and the excess was pledged for military needs. In October 1917, conducted the requisition of horses from the population for the needs of the army (DAIFO, ф. 636.1.7, pp. 3, 15, 20). Authorities even banned the produce of moonshine from pears, plums and apples, except for vegetables that were not able to consume in raw form. Although for produce of moonshine, were needed special permits (DAIFO, ф. 636.1.7, p.19).

The Great War, which ended, did not bring a peaceful period for Stanisławów and its inhabitants. In addition to the Poles waiting for the reconstruction of the Polish statehood, Ukrainians became active in the town, who on October 21, 1918 created the National Council, which on the night of November 1, 1918 took power from the Austrians, proclaiming the establishment of the Western Ukrainian People's Republic. Although the situation in the city was not occupation-like, the residents were waiting for the full liberation and inclusion of the city in Poland until May 1919. However, this is a separate element of the history of the city and the region. (Grajny, 2016, pp. 131-132, 139-140).

Summarizing, it is worth noting that during the war the city was occupied several times, so the authorities and their priorities changed. This had a significant impact on residents, infrastructure and the city itself, including the economic and economic situation. As mentioned in the text, especially the occupation carries quite significant economic consequences. I am talking here specifically about the reduction of the amount of goods on the market and the resulting price increase for individual goods. The above situation is important in relation to sellers and intermediaries on the one hand, and buyers on the other. The former, often trying to seize the opportunity, artificially raise prices in order to get rich faster, which in turn affects the impoverishment of consumers and the rapid deterioration of social moods.

In the presented example, you can see that economic mechanisms are triggered during the war. Not for all people, the period of war and occupation only means financial losses, although it must be admitted that few are getting richer on this occasion, while most people are poor.

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THE ECONOMIC CRISIS VERSUS THE CRISIS OF ECONOMICS

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Abstract. *The authors draw a parallel between the economic and financial crisis of 2008 up to 2010 and the crisis of Economics as a scientific discipline. Both bankers' greed, with their toxic products, and consumers' greed who, most of them, had borrowed money to buy a second home, were the most important causes of the recent financial crisis. The recent financial crisis has shown us that the Economics itself is in crisis because it is grounded on hypotheses unproven by reality. It refers both to the assumption of spontaneous market regulation and to that of the capitalization of interest. The work demotes these assumptions and proposes as the solution a sustainable development in which the individual returns to the fundamental values: family, environment, community, partnerships, resource saving, communion with others. The main conclusion is that the economy should be understood from the following holistic approaches: economic, social, cultural, philosophical, political and spiritual. With regard to money (as the subjects and the main objects of Economics), the rich is the one who gives, the one who helps his fellows and not the wealthy people of these days who have perverted the economy so that to justify the usury, the speculation and the financial engineering.*

Keywords: *holistic; the sustainable development; the crisis of economics; the economic crisis; greed.*

Introduction

There have been a lot of discussions about the causes of the recent financial crisis. The clearest voices have led to one fundamental cause: greed. It was not only the greed of the bankers who gave easy credit by bulletin and with good interest for them but also the greed of the borrowers who, although most of them had a dwelling, wanted one more, as if you could live in two houses at the same time.

If at origins, in Adam Smith's view, capitalism had moral foundations, then they disappeared altogether. Why is abstinence important, fasting? Why is no greed good? There is even a Romanian proverb, "greed ruins humanity"

Going ahead, we ask our next question: why are there rich and poor? Why do people have no equal income? From a Christian perspective, there is a very simple answer that is incomprehensible to economists, sociologists, philosophers or politicians. The rich achieve redemption through the poor and the poor through the rich. How can this be done? The poor ask the rich for help and the rich give mercy to the poor. In this context,

they both live heaven on earth. But does this actually happen? Do not the rich despise the poor, and the poor envy the rich? Based on these feelings, each one lives like hell, and basically, the two are irreconcilable enemies.

The economic crisis

Some authors consider that in the years before the 2008-2009 market crisis, in the old core of the capitalist world capital system, capital, and debt transactions have overtaken industries that generate jobs and profits for everyone. If financial instruments accounted for only a quarter of the investments in the 1970's, in the 1980's the financials raised the total to 75%. Globally, financial assets accounted for 4 times the value of all investments and 10 times the world's global GDP. The recent financial crisis reveals the main internal vulnerability of capitalism. This is a systemic risk - that is, risks that are part of the complex network of internal connections that constitute the modern financial system. The impact of this financial crisis has been multiplied by the enormous increase in global finances over the past decades and the extent to which financial assets have come to dominate advanced Western economies. (Wallenstein et al., 2015, pp.204-209)

We basically find out how the symbolic economy overinflates the real economy in its own right, and this grows inexorably. Financial crises appear just to correct this imbalance between the real economy and the symbolic economy.

"It is characteristic of the fractional reserve system that virtually all money is created as debt, which means that all money brings interest to the bank. The problem is that banks, with each new loan, create the principal credit, but not the money to pay interest. Their payment must be made by contracting new loans, and interest on these new debts may also be paid through other loans. This leads to the conclusion of an "impossible contract" because there is never enough money to repay the loans without taking out other loans. In other words, loans must be constantly imposed on the economy to pay interest on older loans. Ultimately, there is an overdevelopment of the system, which results in a credit crunch. People most affected by the recession are usually not part of the group who benefited from credit expansion. Therefore, rewards are privatized, and risks, socialized. Winners are looking to keep their profits, while ordinary people are required to cover their losses. (Médaille, 2012, pp.72-75)

Hence the perverse morality of capitalism: in good times, the bankers earn, in the bad ones the losses are borne by the population. Such a background flaw has no long-term and even medium-term coverage.

Kennedy argues that our monetary system is based on the exponential growth of compound interest, a model that is present in mature natural organisms only in diseased cells, mainly in cancer cells. As long as the economy has to follow the pathological growth of compound interest, which keeps the money in circulation, we will have to increase our economic growth even at the cost of destroying the environment. The current monetary system allows us to choose between two types of collapse: social or environmental. The growth of the real economy, dependent on the availability of natural resources, differs from monetary growth to such an extent that the requirements of the financial economy can no longer be met. Thus, while monetary assets in Germany increased 46 times from 1950 to 2010, and bank interest rates 37 times, Gross Domestic Product grew only 8 times. It is as clear as possible that the exponential growth required

by our money can no longer be maintained by the real economy. (Kennedy, 2012, pp.12-13)

The assumption of interest capitalization is not sustainable in the medium and long-term, and excessive funding brings about the emergence of financial crises that are more and more powerful and hit the center of the financial system.

Saint Basil the Great considers that poverty is not a shame. "Why should we add debt repayment? Nobody heals a wound by another wound, nor does he heal evil by evil, nor deny the poverty of interest. Are you rich? Do not borrow! Are you poor? Do not borrow! If you are rich, you do not need to borrow, and if you have nothing, you will not have what to pay for your loan." (St. Basil the Great, 2009, pp.58-59) If mankind had obeyed and had applied the wise counsels of Basil the Great, we would not have had today's financial capitalism and the unprecedented gap in the history of mankind between the rich and the poor.

The crisis of the economics

Globalization is a dynamic, non-stop, dynamic system that has both beneficial and unfavorable results. Therefore, when looking at globalization, we need to look at it in terms of the balance between these results and their impact on long-term growth. Some comparative estimates illustrate how creative, in terms of economic dynamics, can be some interrelations. It appears that under the same conditions common language contributes to a 42% increase in sales turnover. The growth is 47% if the respective countries belong to the same trading block, 114% if they have the same coin and 188% if they have a common colonial past (Kolodko, 2015, p.75). The inter-correlations established between states call on the table the main economic actors: the national states, the United Nations, the World Bank, the International Monetary Fund, the World Trade Organization and the transnational companies.

Economics cannot be a natural science. It is closer to the quaternary structure of reality and being: the human-cosmic-God and the unfathomed equation of existence. Because man lives in history, the new economic science also needs a new theory of history, understood as the development of meaningful structures over time. It can be reduced neither to neoclassical abstractions, nor to institutionalism, but must take into account the anthropological background, the richness of ideas and symbols by which the human community expresses its fundamental existential experiences (Brăilean, 2011, pp.83-86).

Essential is the human-society equation-Cosmos-God. Basically, the answer to all the problems of mankind is this: the return to the sacrament and the consciousness that we are stardust. The old man-society paradigm has brought us to the crises of our day: that is, a sum of economic, spiritual, ecological, social, political, environmental crises.

"The economy counts itself as the ablest to interpret the social world of our time, but we always find that it needs a myth for this role. The economy uses the myth in several respects or in several ways. First, it serves the myth in its starting hypothesis, and then it creates itself myths and stories. Homo economicus' model is precisely such a model-myth. The fact that it tells us a story by covering it with a mathematical coat that does not change its mysticism. As an example, take the myths and stories about total

rationality and assumptions about perfect information or the invisible side of the market, but also the story of man's freedom and self-determination, or the myth of eternal progress or self-regulating markets. No one has ever seen any of these things, but they are stories, beliefs or myths that resonate strongly in economic theory. And our disputes, experiments, and statistics that we are doing are leading to the confirmation or overthrow of these narratives." (Sedlacek, 2012, pp.194-195)

That is why we advocate for *Homo spiritualus*, which transcends consumerism and emphasizes on balance, temperament, love of nature and knowledge of spiritual laws.

We believe that we can solve all current problems through "masculine" means: by changing institutions and adopting new laws through planning and computing. However, in the end, they alone will not resolve them and will never succeed. What will always succeed, even though apparently defeated, is something as different as possible: a vision, an experience behind all these structures, which, alone, can give them meaning: the overwhelming humility of the personified Church in the Mother of God... behind all the struggles and conflicts that have sprouted the world is the secret desire, unknown and unconscious after the final synthesis, after a convincing image of man and humanity. It is what the Church, and it alone, can offer to the world." (Schemann, 2014, pp.81-83). The Mother of God is glorified and glorified by both the Universe we know and the one we do not have access to because of our limited knowledge of life, spiritual laws, the Cosmos.

Poor and wealthy people are not in the world, neither by chance, nor because the making of this world would be an irrational one, but according to the overwhelming Divine Care. God can level everyone in an instant as wealth, but that would be a real madness. In that case, people would become totally independent of one another. Who would then be saved? And how could you save yourself? Because people are saving themselves depending on each other. The rich depend on the poor, the poor - the rich; the cultured one depends on the one who does not know the book, the one who does not know the book of the cultured one; the healthy one depends on the sick one, the sick one on the healthy one. The material is paid spiritually. The spiritual gift of the cultivated one is materially paid by the one who does not know the book ... (Tănăsescu-Vlas, 2010, pp.54-55)

No economic or utilitarian system explain so simply and holistic at the same time the partnership between the rich and the poor.

The sustainable development

James Canton (2010, p.102) predicts 10 key trends in labor:

1. Global struggle to attract talent,
2. The future of labor will not be defined by geography, but by talent,
3. Population aging in America and Europe will have dramatic effects on society and the economy,
4. Hispanic population and women will dominate the future of the United States labor force,
5. A high percentage of new employees and leaders will be women, permanently changing the strategies of the boards of directors and the market,

6. A high level of immigrants will be needed to allow talent to keep pace with business and society requirements,
7. Finding skilled workers in high technology from the global talent pool will be the greatest challenge for each organization and every nation,
8. Innovations will be a key driver for the development of workforce skills, claiming a complete restructuring of the education sector,
9. The domestic labor force will record a slower growth rate due to the alarming decrease in fertility rates,
10. Labor-related crises in the future are likely to be due to the lack of a skilled workforce.

Futurist James Canton puts emphasis on innovation as the main resource of today's day to build tomorrow and to increase the role of women in the labor market at all hierarchical levels of a firm.

Erwin Laszlo (2008) believes that 2012 marks the gateway to a new world, a new civilization, based on a new way of thinking and a more evolved consciousness because the current distribution of wealth, the global financial system, and the current social system no longer support. He identifies 10 stories of changed consciousness:

1. We live in ways that allow others to live,
2. We live in ways that respect the right to life and the economic and cultural development of all people,
3. We live in ways that protect the intrinsic right to life and an environment that supports life,
4. We seek happiness, freedom and personal fulfillment in harmony with the integrity of nature and our fellows,
5. We ask that our government connects to other nations and people in a peaceful and cooperative spirit,
6. We ask business organizations to accept responsibility for everyone who has an interest in them as well as for the sustainability of their environment,
7. We ask the media to ensure a steady flow of reliable information to make the right decisions,
8. We place them in our lives the less privileged than we,
9. Encourage people to make ethical decisions about their future and their children,
10. We work with such people to preserve and restore the essential environmental balance. (Laszlo, 2008, pp. 139-140)

The New Consciousness takes into account the other, our neighbor and does not focus on pursuing our own interest at any cost. Mankind gradually awakens from the sleep of reason, selfishness, and greed, and discovers spirituality, co-operation, and altruism. These values constitute the cornerstone of Sustainable Development.

D.C. Korten (2009) in "From Ghost Rich to Real Rich" makes a real action plan for a new economy:

1. Re-directing economic policy's attention from rising ghost wealth to increasing real wealth;
2. Recovering undue profits made by the Wall Street and setting fees and commissions at a level that would make the theft and gambling of this institution unprofitable;
3. Implementing price set at the full cost of the market;
4. Correcting the corporate charter;

5. Restoring the sovereignty of the national economy;
6. Rebuilding communities to ensure local independence in meeting basic needs;
7. Implementing policies that create a current trend for business at the human level, owned by local associates;
8. Facilitation and redemption of corporate assets for the democratization of ownership;
9. Using tax and income policies in favor of a fair redistribution of wealth and income;
10. Revision of intellectual property regulations to facilitate free access to information and technology;
11. Restructuring financial services to serve the Main Branch;
12. Transferring responsibility for issuing the currency to the federal government. (Korten, 2009, pp.128-129).

Korten writes a true Constitution of Sustainable Development, in which the primary focus is on the real economy rather than on the symbolic, the individual and not the state.

Chang identifies the following principles for the reconstruction of the world economy:

1. Capitalism is the worst economic system if we exclude all others.
2. We need to exalt our new economic system on the assumption that human rationality is very limited.
3. We need to build a system that pulls out what's best, and not worse in people. Organizations should be built to reward trust, solidarity, honesty, and cooperation. If we leave everything to our personal interest in the short term, we will destroy our entire system, which does not appear to anyone's interests in the long run.
4. We must give up believing that individuals are always paid the 'worth' it is. Individuals in poor countries are often more productive and entrepreneurs than those in rich countries, and the control of migration from rich countries keeps them at the limit of misery. On the other hand, the rules of the scholarships need to be changed, in order to limit the excessive payments of the managers of the limited liability companies.
5. We have to take seriously the idea of producing concrete things.
6. We need to achieve a better balance between finance and "real" economic activities.
7. Governments need to become stronger and more active. (Chang, 2011, pp. 254-261)

Chang (2011) focuses on long-term, honest, cooperative, salient, real economy.

Aivanhov (1991) talks about the economy of the future by pointing to the wound and against the current debauchery consumerism. "Do you want to know the true economy, do you want to have treasures, treasures that you can spend to help others? Well, we need to be careful, bright and to master ourselves. Here's the real economy. It is stupefying to see the number of products now appearing to restore everything that has been destroyed, broken or dirty, not just objects but simple people. It's incredible, half of mankind is working to repair the losses caused by the other half! ... In reality, nature only knows and practices the economy: it knows how to do it in order not to lose a single atom. A little trace of dust, dirt, everything is used ... The leaders of the countries, those who pronounce on economic issues, should first learn some truths that cannot be found in the books of economics: how man is built, as he is bound to the whole universe, which are the hierarchies in the universe, as all human deeds have to obey a model, a celestial idea. At that moment, everything they will do, everything they will order, will be perfect." (Aivanhov, 1991, pp. 110-113). Here Aivanhov shows that nature is wiser than

politicians today and yesterday. Today's politicians need to know the laws of the spirit, and what they will do will be perfect.

It is important to stop the dynamics of exponential growth with its compound interest and increase our overall well-being. To ensure that the new, sustainable money goes in the right direction, it is vital, in the next phase, to make prices that say "the ecological truth" of our lifestyle decisions, reflecting the real costs that the activities we impose on the environment and future generations. All progressive economists support this vision.

Kennedy (2012) believes that sustainable money has the following advantages:

- a. Replace paper profits with real benefit. Thus, the real benefits do not exclude profit but subordinate it to social values.
- b. Their purpose is limited, not universal, because a complementary currency cannot be traded on the world market.
- c. They are tax-supported and do not produce interest. In the new system, exponential growth does not characterize either monetary assets or debt.
- d. It's easy to understand.
- e. They can be democratically controlled and will no longer be used as a power tool.
- f. Supports the community. Conventional money undermines the community because it operates mostly outside of people-to-people communication.
- g. Stop inflation as 100% of goods and services are covered.
- h. They have performance coverage, not ownership. Time invested and productivity are the basis of earnings within this system.
- i. It works for the benefit of all. Sustainable money brings benefits to 90% of the company that will double their income as interest hidden in prices will be eliminated. They also benefit the rest of 10%, people who prefer a stable monetary system. " (Kennedy, 2012, pp.73-80)

Because money today is no longer covered in goods and services, sustainable money is the solution especially in relation to individual-community binomial.

Today, Latin Americans have taken their countries back through the blatant policies: nationalization of certain sectors of the economy, agrarian reform, major investments in education, literacy and public health. (Klein, 2008, p.82) The most significant shield that Latin America puts in the way of future shocks derives from the increasingly prominent independence of the South American continent from Washington's financial institutions. The Bolivian alternative to the Americas is a barter system, where countries agree on the value of goods and services offered, giving relative economic stability and predictability. Here, Bolivia provides gas, at an estimated and stable price; Venezuela provides oil and expertise in the exploitation of natural resources; Cuba sends thousands of doctors." (Klein, 2008, pp.484-485) These countries come out of the US influence area, rediscover the individual and social economy, rediscover owners, producers, and consumers, and discover the benefits of genuine and honest cooperation with countries in their region.

Conclusions

The recent financial crisis requires rethinking the economics as a materialistic discipline and addressing the economic realities of a holistic overview: spiritual-political-social-cultural-economic. The political economy itself is in crisis, and this is due to its very foundation. The symbolic economy overinflates the real economy, just as the political economy negatively affects the religion.

It is the time for a modern man to no longer worship the golden bull-money and his daughters: greed and chaos. We turn to ourselves, to the divine self, to the search for the meaning of life. Life is here and now and is waiting to discover it, giving up the illusions and discovering what is eternal in us. Economic systems so far favor either the state (Marxism, Keynesianism) or TNCs or the financial system (liberalism). The time has come for an economic system to place the individual as a citizen of the city, viewed both as a consumer and as a producer and creator. That is why we use the term sustainable development. Education today and tomorrow must ensure a balance: to be both a mass financial education and a mass spiritual education.

In connection with money, the rich is the one who gives, the one who helps his people, and not the rich nowadays, who have perverted the economy to justify speculation and financial plots.

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FINANCE AND BANKING

GENDER GAP IN DEBT LITERACY: A CROSS-NATIONAL STUDY OF UNIVERSITY STUDENTS

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Abstract. Compared to men, women are at a disadvantage in terms of financial literacy, as shown by many studies. Women have been found less likely to respond correctly to financial test questions and more likely to select 'Don't know' option as compared to men in many national surveys, although causes of the phenomenon are still not fully explained. The main goal of this article is to check whether the gender differential exists among university students based on a new dataset derived from five European countries (self-administered survey, 1,022 respondents). To pursue this goal, we asked a series of questions: (i) Does the way in which financial literacy scores are determined matter for the gender gap measurement outcomes? (ii) Can the gap be explained by the presumably higher inclination of males to guess or greater tendency of males – as compared to females – to overestimate their capabilities? (iii) If the gender gap in financial literacy of university students exists, what factors can explain the gap? We used three-question single choice test to measure debt literacy – a little-studied aspect of financial literacy – and processed its results to obtain different markers of the literacy, allowing us to control for guessing and overconfidence effects. To gauge the possible gender gap in the literacy, we checked the statistical significance of differences in the test responses between female and male survey participants. We also ran a series of logistic regressions to rule out the possibility that gender differences found in the debt literacy test scores due to non-parametric tests were driven by factors other than gender. We confirm the gender differential in debt literacy among university students comprising our sample. We find that the observed gender gap cannot be explained by the combined effects of test guessing and overconfidence. Female business (including finance) students scored significantly better in a debt literacy test compared to their non-business female peers – an effect not present among male students. This could suggest that – unlike women who tend to increase their debt literacy through professional education – men may acquire the literacy differently and outside the formal education system.

Keywords: financial literacy; debt literacy; gender gap; university students; financial education.

Literature review

GG in FL has been repeatedly confirmed among adult population in many countries (Alessie, van Rooij & Lusardi, 2011; Disney & Gathergood, 2011; Klapper & Panos, 2011; Lusardi & Mitchell, 2011; Sekita, 2011; Beckmann, 2013; Brown & Graf, 2013; Instytut Wolności & Raiffeisen Polbank, 2014; Gentile, Linciano & Soccorso, 2016; Stolper & Walter, 2017). Given that FL is usually measured through a test – be it ‘True / False / Don’t know’ test or a choice test allowing for selection of ‘Don’t know’ option – the research community has acknowledged that GG in FL should be measured as the difference between women and men in the share of: (i) correct test responses, and (ii) ‘Don’t know’ responses (Klapper, Lusardi & van Oudheusden, 2015; Mitchell & Lusardi, 2015; Bucher-Koenen et al., 2017; Stolper & Walter, 2017).

The empirical evidence gathered so far suggests that GG in FL is a pervasive phenomenon: it was found that women are less likely to choose correct test options and more likely to choose ‘Don’t know’ options across all socioeconomic and demographic characteristics and without regard to the measurement instrument. Mitchell & Lusardi (2015) showed that GG in FL exists both in developed and developing countries which suggests that income and wealth may be irrelevant for the phenomenon. Lusardi, Mitchell and Curto (2010) found that the gap is present among the young and the old clusters of the entire population. Mahdavi and Horton (2014) evidenced that the gap persists irrespective of the educational attainment and is clearly visible even among the best-educated individuals. Moreover, Bucher-Koenen et al. (2017) point out that the existence of the gap is not a question of how financial literacy is measured, because it manifests itself in studies adopting short tests as well as in studies adopting considerably more complex measures of financial literacy. Moreover, in the light of research findings gathered so far, it seems that women are less financially literate than men across the majority of possible financial themes (Butters, Asarta & McCoy, 2012; Lusardi & Tufano, 2009; Tennysson, 2010).

The set of hypotheses attempting to explain the puzzle of GG in FL is surprisingly small. Hsu (2015) hypothesized that the gap is a matter of the division of labor in same-sex couples (households) with men specializing in household finance management. Although Hsu (2015) does not mention this, the claim can be linked to the theoretical framework of Jappelli and Padula (2013) in which the level of an individual’s financial literacy depends on her / his incentives to acquire the literacy. Male household members may have stronger motivation to equip themselves with financial literacy because of the sense of responsibility for the financial well-being of their family members. Hsu (2015) suggests that the specialization of men in the realm of finance may be linked to traditional social roles of men, however perhaps men are at the same time – for still undiscovered reasons – more predisposed to manage finances. Unfortunately, the empirical research did not bring results unambiguously confirming this hypothesis (Brown & Graf, 2013; Bucher-Koenen et al., 2017; Fonseca et al., 2012).

Brown and Graf (2013) posited that GG in FL might be explained by women being less interested in financial issues compared to men. However, despite it has been found that finance is more interesting to men than to women (Chen & Volpe, 2002; Ford & Kent, 2010), no support has been gained for the hypothesis that observed gender differences in this interest may explain GG in FL (Brown & Graf, 2013). Ford and Kent (2010) proved also that women show less interest in finance than men because of affective reasons, i.e.

they are more likely to attach negative emotions to financial matters (e.g. women may tend to have the feeling of threat in relation to financial markets more often and/or more intense in comparison with men).

Perhaps the affective differences in women's and men's attitudes toward financial markets – corroborated by Ford and Kent (2010) – may be related to the language which is predominant in the field of finance. Boggio et al. (2015) noticed that the language of finance refers to such spheres as competition, war, sport, rivalry, games, i.e. to spheres which are mostly masculinized. Such language may be viewed by women as alien. As a result, women may have a difficulty with identifying themselves with the sphere of finance.

Data and method

Data were collected through a self-administered survey at 26 universities in five countries: Bulgaria, Poland, Portugal, Ukraine, and Wales, between 11 May 2017 and 18 July 2017. Students were sent an e-mail inviting them to fill in the attached questionnaire. The questionnaire featured a cover letter introducing the survey to students as well as assuring them of the anonymity of their responses. Our data set consists of 1,022 student responses to a range of survey queries (DL test and respondent traits). We used the instrument designed by Lusardi and Tufano (2009) to gauge the DL of participants. The instrument is a 3-question single choice test resulting from the adaptation of a classic FL instrument (known as the 'Big Three' – see Mitchell & Lusardi, 2015) to debt specificity. Lusardi and Tufano's (2009) instrument allows measurement of knowledge and skills regarding (i) interest compounding (first question), (ii) how credit cards work (second question), and (iii) the time value of money concept (third question).

Although the 'Big Three' was validated throughout many waves of national panel surveys (Mitchell & Lusardi, 2015), it is questioned for its properties, such as brevity and closed questions, which can entail guessing and other distorting effects (Hastings, Madrian & Skimmyhorn, 2013). In a standard approach to processing the results of FL tests, a correct answer is coded as 1, while all remaining options (incorrect answers, 'Don't know' responses and 'Prefer not to answer' responses) are coded as 0 (such a measure is labelled as Score 1 in our study – see Table 1). However, an indication of an incorrect answer conveys significantly different information compared to the information transmitted by a 'Don't know' or 'Prefer not to answer' response (DK and PNTA, henceforth). The selection of an incorrect answer in a DL test can mean that the respondent either guessed the answer or selected it because of overconfidence, which is treated as a serious behavioral bias (Kahneman, 2011). To get an insight into this effect, we used another operationalization of DL based on a respondent's result of the 'Big Three' DL test, labeled as Score 2 (see Table 1). We considered Score 2 as a proxy for the combined effects of guessing and overconfidence. Additionally, as mentioned in the Literature review section, financial literacy researchers tend to define GG in FL by indicating two patterns: (i) females are less likely to provide correct answers to FL questions, and (ii) females confess that they do not know the answer more often than males. Hence, we deemed the inclination to select DK or PNTA responses worth closer attention and, as a result, we applied Score 3 as a proxy for the propensity to confess one's ignorance regarding debt issues (see Table 1 for details).

Table 1. Applied approaches to processing DL test results (Source: own study)

Measure	Coding	Range of values
Score 1	Correct answer = 1 Incorrect answer = 0 Don't know answer = 0 Prefer not to answer = 0	From 0 to 3
Score 2	Correct answer = 0 Incorrect answer = 1 Don't know answer = 0 Prefer not to answer = 0	From 0 to 3
Score 3	Correct answer = 0 Incorrect answer = 0 Don't know answer = 1 Prefer not to answer = 1	From 0 to 3

Our research strategy provided for two steps. Firstly, we compared the significance of gender differences in the DL test results. We applied two general approaches to assess the results: (i) for each gender group we calculated the share of respondents who answered the first (second, third) question correctly, the share of respondents who answered all questions correctly, and the share of respondents who answered all questions incorrectly, as well as (ii) for each group we estimated the means of Score 1, Score 2, and Score 3. To check the significance of gender differences in results obtained through the first approach, we applied chi-squared and Cramér's V tests. U Mann-Whitney test was used when evaluating results obtained through the second approach. The selection of the tests was preceded by a standard analysis of these tests applicability to the properties of examined datasets (Szweđ, 2008).

Secondly, we used Score 1 as the dependent variable in a series of logistic regressions. The regressions were conducted to rule out the possibility that gender differences found in the DL test scores due to non-parametric tests were driven by factors other than gender. Previous financial literacy literature suggests that some sociodemographic characteristics (e.g. education, age, income) are strongly related to measured FL levels (e.g. Alessie, van Rooij & Lusardi, 2011; Klapper & Panos, 2011; Sekita, 2011). To control for the effects of these other factors, we estimated two regression models for an entire sample including gender as a key diagnostic variable, however distinct in terms of the other factors (without and with them – Model 1 and Model 2). Model 3 and Model 4 were estimated separately for males and females. Table 4 reports the results of estimated logit models.

Additionally, we used these results to investigate the factors responsible for DL (in terms of Score 1) among all respondents, and – particularly – among males and females. In running the models, we applied a broad gamut of potential independent variables (see Table 5 in Annex for details). Some of them deserve brief explanation (particularly those that turned out to be significant in our regressions). MAJOR was measured through respondents' self-reports of their major of study (=1, if the respondent reported non-business; =0 otherwise). EXPERIENCE 1 was generated as a binary indicator equal to 1 should respondents worked while studying, 0 otherwise.

Grade orientation (GO, hereafter) and learning orientation (LO, henceforward) indices were estimated in accordance with the approach developed by Roedel, Schraw and Plake (1994). Academic orientation reflects an individual's motivation to study for its own sake (LO), or to achieve better grades (GO). We do not provide details regarding LO and GO estimation to keep the length of this article within required boundaries (see Roedel, Schraw & Plake., 1994 for details). The variable GO (LO) were coded in the following way: =1 if respondent's GO (LO)>sample median; =0 otherwise. TUITION was estimated with the following 'Yes / No' question: 'Do you pay for your studies?' (Yes=1, No=0). SCHOLARSHIP (for academic performance) was estimated in the same way, based on the following question: 'Do you have a scholarship?' (Yes=1, No=0).

Results

Table 5 (Annex) provides a numerical description of our sample. Female respondents were overrepresented in the sample, as has been the case in prior studies focused on university students (e.g. Chen & Volpe, 2002; Hanna, Hill & Perdue, 2010; McCabe, Butterfield & Treviño, 2006). In terms of age, our sample was dominated by young individuals – an observation that corresponds with common sense and the division of the sample between full-time students and part-time students (60.5% and 39.5%, respectively). Regarding the countries that participated in our study, almost 53% of respondents filled out the questionnaire in Poland (this resulted from the fact that the project was administered remotely from Poland and, consequently, as many as seven Polish universities joined the research). The other extreme is Bulgaria, represented by a mere 16 respondents. Such a distribution of our sample in terms of the country in which the survey was conducted might have caused a bias in the results. In terms of major of study, business students represented 73.6% of the total sample, while non-business students – 26.4%.

Our survey revealed gender differences in some sociodemographic and economic attributes in the sample we explored. Firstly, women reported the possession of a financial product less frequently than men (68.3% vs. 79.8%), and even less frequently – the possession of a loan product (51.3% vs. 64.4%), an indication of lesser experience with financial markets on the part of female students. Interestingly, more business and finance major students were among women than among men (76% vs. 69.6%). Also, women reported that they didn't pay for their studies and that they were receiving a scholarship for the academic performance more frequently than men (23.9% vs. 19.0%, and 18.8% vs. 13.2%, respectively). Finally, women more often represented village and smaller towns, while men more often reported larger towns and cities as their place of residence.

On the most general level, our results evidence very low financial literacy among students, including those majoring in business (though, the latter fared slightly better than the rest in DL test). The mean Score 1 for entire sample reached a mere 0.84 on a scale from 0 to 3.

**Table 2. Descriptive statistics for the variables significant in logit models
(Source: own study)**

	Mean	Median	Minimum	Maximum	SD
Gender	0.37	0.00	0	1	0.483
Country 1	0.53	1.00	0	1	0.499
Country 2	0.02	0.00	0	1	0.124
Country 3	0.10	0.00	0	1	0.295
Country 4	0.29	0.00	0	1	0.452
Country 5	0.08	0.00	0	1	0.264
Major	0.26	0.00	0	1	0.441
Experience 1	0.63	1.00	0	1	0.482
LO	14.61	15.04	5.135	18.609	2.670
Tuition	0.78	1.00	0	1	0.415
Scholarship	0.17	0.00	0	1	0.373

Table 3. Results of debt literacy test (Source: own study)

	All	Male	Female	Test of difference between genders
AC (%)	2.5	4.3	1.4	$\chi^2 = 7.724$, $V = 0.088$ ($p = 0.005$)
AIC (%)	42.2	26.5	51.7	$\chi^2 = 60.947$, $V = 0.247$ ($p = 0.000$)
FC (%)	46.4	60.1	38.2	$\chi^2 = 45.318$, $V = 0.212$ ($p = 0.000$)
SC (%)	28.6	41.1	21.1	$\chi^2 = 46.433$, $V = 0.214$ ($p = 0.000$)
TC (%)	8.8	11.4	7.2	$\chi^2 = 5.313$, $V = 0.72$ ($p = 0.021$)
Score 1 (mean)	0.84	1.13	0.67	$U = 81,671$ ($p = 0.000$)
Score 2 (mean)	1.47	1.46	1.48	$U = 115,471$ ($p = 0.740$)
Score 3 (mean)	0.69	0.41	0.86	$U = 92,081$ ($p = 0.000$)

AC (all correct): the share of respondents who answered all questions correctly; AIC (all incorrect): the share of respondents who answered all questions incorrectly; FC (first correct): the share of respondents who answered the first question correctly; SC (second correct): the share of respondents who answered the first question correctly; TC (third correct): the share of respondents who answered the most difficult question correctly (i.e. third test question).

Table 3 shows the result of non-parametric tests used to gauge gender differences in DL levels among our survey participants. The tests corroborated that in terms of standard DL measure – Score 1 – women were less debt literate than men. The gender differential in DL was found regardless of studied country, reported college major (business or non-business) and age cohort. Also, our study showed that females were more likely than males to provide DK or PNTA responses to each question of DL test. Overall, 15.8% of females and 5.9% of males provided one of those responses in all test questions. We found Score 3 – measuring frequency of DK and PNTA answers – double as much for women compared to men. However, we found only a slight and statistically insignificant

difference in Score 2 – used as a proxy for the combined effects of guessing tendency and overconfidence – between males and females.

Males responded correctly all test questions three times more often compared to females. Simultaneously, females responded incorrectly to all test questions almost two times more often compared to males. Moreover, male students performed significantly better than their female peers in terms of the first and the second test question. Interestingly, the difference in male and female students' responses to the third test question – deemed the most difficult one – was insignificant.

The results of our logit models confirmed gender differences in DL indicated by non-parametric tests. We found that gender was significantly and positively linked to DL level as measured by Score 1 with and without controlling the effects of other variables potentially explaining the level of DL (Model 2 versus Model 1). All estimated models are characterized by high overall fit (measured by correct classification coefficient). Model 2 indicated three variables significantly related to Score 1, apart from the variable GENDER, namely: MAJOR, COUNTRY, and TUITION. The sign of the relationship between MAJOR and Score 1 was negative in Model 2, indicating that business students were more debt literate than their non-business peers. We found country among the independent variables the most strongly associated with DL of both genders. In terms of the odds ratio, non-business students had almost 40% fewer chances for high Score 1 compared to business ones. Model 2 also showed that Polish, and especially Ukrainian, students were substantially more likely to score well on the DL test in comparison with Welsh students (reference group). As shown in Table 4, TUITION was positively linked to Score 1, meaning that students who paid for their studies ended up with higher Score 1 compared to those who were exempted from the tuition fees. According to the odds ratio, students paying tuition had almost 80% higher chances for higher Score 1 than their tuition exempted peers.

Models 3 and 4 allowed us to examine whether male and female students' Score 1 responds similarly or differently to potential independent variables other than gender. We noticed a significant difference between males and females in the role of a college major for DL. This variable was insignificant in the model explaining DL of males (Model 3), while significant in the model performed for females (Model 4). Female students majoring in business scored significantly better in DL test compared to their non-business female peers. In terms of the odds ratio, non-business female students had almost 50% lower chances for high Score 1 compared to their business female peers.

Another important difference between genders was found with respect to effect scholarship had on DL. Females who were awarded scholarship were also more likely to display higher DL level as compared to their counterparts not receiving scholarship. In terms of odds ratio, female students receiving the scholarship had almost 80% bigger chances for higher DL test score in comparison to their female peers not receiving the scholarship. Again, such an effect was not found among male students.

**Table 4. Results of logistic regressions with Score 1 as the dependent variable
(Source: own study)**

Variable	Model 1 (All)	Model 2 (All)	Model 3 (only males)	Model 4 (only females)
Gender	0.994***	1.075***		
Country 1		1.363***	1.133**	-0.406
Country 2		-0.180	-18.835	-2.620***
Country 3		2.735***	3.314***	-0.751
Country 4		0.471	0.423	-1.205***
Country 5		reference group	reference group	reference group
Major		-0.457**	-0.110	-0.666***
Experience 1		0.199	0.276	0.328*
LO		0.053	0.088*	0.037
Tuition		0.561**	0.512	-0.173
Scholarship		0.352	-0.268	0.587**
Constant	-1.600***	-3.812***	-3.661***	-0.069
Observations	999	903	343	560
-2 log Likelihood	1051.514	894.487	393.183	723.685
Overall Chi-square	43.139***	121.639***	56.782***	52.633***
R ² Nagelkerke	0.063	0.187	0.209	0.120

* Statistically significant at $p < 0.1$

** Statistically significant at $p < 0.05$

*** Statistically significant at $p < 0.01$

In light of the results brought by Model 4, female students who worked while studying were more likely (with almost 40% more chances) to score well in the DL test than their non-working female peers. On the other hand, Model 3 showed that more learning-oriented male students had almost 10% more chances for high Score 1 than their less learning-oriented male peers. Finally, in terms of the country, Polish and Ukrainian male students had significantly higher chances for high DL test results compared to Welsh students, while female Portuguese students were significantly less likely to perform well on the test in comparison with the reference group.

Discussion, limitations and concluding remarks

In many respects, the results of our research are consistent with the findings of former authors. We corroborated that females who participated in our study were less likely to give correct answers to DL test questions and more likely to choose DK or PNTA options – the patterns well-recognized in previous studies (Lusardi & Mitchell, 2014; Klapper et al., 2015; Bucher-Koenen et al., 2017). Although we were not able to fully control for the combined effects of guessing and overconfidence, our results suggest that higher DL of males can't be simply explained by a higher inclination to guess in the DL test, or men's overconfidence in own financial sophistication, in comparison to women's.

Our finding on the role of major for the gender gap in DL – which is in line with results of Chen and Volpe (2002) who found that college major had a stronger effect on females' FL – suggests that, unlike women, financial education may be less relevant for men to become financially literate. Males seem to acquire financial literacy somehow differently. This may mean that financial education programs addressed to women are particularly needed. This may also support the claim of Bucher-Koenen et al. (2017) that females and males are characterized by different patterns of FL acquisition in which past

experiences can have a critical role. This belief seems to be convincing as self-reports of our respondents revealed that male students were more financially experienced, i.e. male students reported the use of financial products more frequently than female participants.

What we noticed in terms of the effect scholarship had on DL of male and female participants in our study may, in turn, support the theoretical proposition of Jappelli and Padula (2013) who posited that individuals need to have incentives to build FL. In light of our findings, awards such as scholarship seem to motivate female students to increase their debt literacy. We did not find evidence that male students responded to scholarship-related incentives in the same way. This gender difference may be consistent with the rationale formulated by Agnew and Harrison (2015) who posit that the decision to study should be considered an investment decision which must take into account not only the opportunity cost of a student's time and tuition costs but also an estimate of future returns on the investment. Aware of pay inequalities in the labor market, female students may attach greater importance to scholarship as a component of the return on the investment in the university study.

The interpretation of country results in terms of the gender gap in DL poses a challenge. Among countries examined in our study, Ukraine exhibited the greatest difference between males' and females' means of Score 1 and Score 2. However, this is the only regularity found in our study with regard to the link between country and gender gap in DL. Perhaps, the finding can be explained by particularly strong femininity (or, alternatively, weak masculinity) as a cultural feature in Ukrainian society, as documented by Hofstede (2017). Additionally, the results in terms of country cohorts can be distorted because of the sample skewness towards Polish respondents (and extremely low share of Bulgarian participants), as mentioned in 'Method' section of this article. Nevertheless, the association between those two variables deserves a close attention in future research.

On a more general level, we confirmed serious DL shortcomings of university students, including business ones, known from previous studies (Chen & Volpe, 2002; Hanna et al., 2010). Our findings may mean that the actions taken by governments, regulatory as well as educational bodies in response to the recent crisis were not effective, at least in those countries we investigated and with respect to financial education – especially offered to women who are still at a disadvantage in terms of DL compared to men.

Our findings must be interpreted with consideration of the potential bias resulting from the fact that some key variables were self-reported and, as a result, may be overestimated because of social desirability. Also, our survey was based on a convenience sample suffering from shortcomings typical for non-representativeness. However, the convenience sampling procedure is a standard in large-scale studies in populations of students. Nevertheless, a study of students' debt literacy, based on a cross-national representative sample, would be desirable.

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Annex

Table 5. Sample profile (%) (Source: own study)

Variables	Total	Male	Female
		37.1	62.9
Country			
Poland	52.7	52.2	53.0
Bulgaria	1.6	1.3	1.7
Ukraine	9.6	10.8	8.9
Portugal	28.6	24.0	31.3
Wales	7.5	11.6	5.1
All	100	100	100
Age			
A: at least 17 but not more than 19	12.0	14.2	10.6
B: at least 20 but not more than 22	30.4	28.0	32.0
C: at least 23 but not more than 25	23.2	22.2	23.9
D: at least 26 but not more than 28	10.0	10.6	9.7
E: at least 29 but not more than 31	5.6	7.9	4.2
F: 32 or more	18.7	17.2	19.7
All	100	100	100
Place of residence			
A: village	29.4	20.8	34.5
B: town up to 49,999 inhabitants	18.1	14.1	20.5
C: town from 50,000 to 99,999 inhabitants	16.5	19.5	14.7
D: town from 100,000 to 499,999 inhabitants	28.8	37.0	23.9
E: city with 500,000 inhabitants or more	7.2	8.6	6.4
All	100	100	100
University			
A: Wyższa Szkoła Ekonomii i Innowacji w Lublinie	29.4	25.8	31.5
B: Politechnika Rzeszowska	9.7	10.1	9.4
C: Glyndwr University	7.6	11.7	5.2
D: ISCAP	26.0	22.9	27.9
E: Ternopil National Economic University	7.3	9.3	6.1
F: Lutsk National Technical University	1.2	0.8	1.4
G: University of Varna	1.6	1.3	1.7
H: Wyższa Szkoła Informatyki i Zarządzania w Rzeszowie	13.2	16.5	11.3
I: UTAD	1.2	0.3	1.7
J: Others	3.0	1.3	3.9
All	100	100	100
Do you pay for your studies?			

Variables	Total	Male	Female
Yes	77.9	81.0	76.1
No	22.1	19.0	23.9
All	100	100	100
Do you have scholarship? *			
Yes, social scholarship	20.4	15.8	23.0
Yes, scholarship for academic performance	16.7	13.2	18.8
No	62.9	71.0	58.2
All	100	100	100
Major of study *			
A: Business	73.6	69.6	76
C: Non-business	26.4	30.4	24.0
All	100	100	100
Study level			
A: Undergraduate	65.4	67.6	64.2
B: Graduate	34.6	32.4	35.8
All	100	100	100
Form of study *			
A: full-time / weekday studies	60.5	64.6	58.1
B: extramural (external) / weekend studies / part-time studies / evening studies	39.5	35.4	41.9
All	100	100	100
Do you have a job or have you had job while attending the university?			
Yes	63.4	63.3	63.5
No	36.6	36.7	36.5
All	100	100	100
Do you have any financial products?			
Yes	72.6	79.8	68.3
No	27.4	20.2	31.7
All	100	100	100
How many financial products do you have?			
None	27.4	20.2	31.7
One	64.1	68.6	61.5
Two	5.2	5.9	4.8
Three and more	3.2	5.4	2.0
All	100	100	100
Do you have any loan products?			
Yes	56.2	64.4	51.3
No	43.9	35.6	48.7
All	100	100	100
How many loan products do you have?			
None	43.9	35.6	48.7
One	52.4	59.0	48.5
Two	2.7	2.7	2.7
Three and more	1.1	2.7	0.2
All	100	100	100
LO (mean)	14.61	14.36	14.77
GO (mean)	7.23	7.23	7.23

* Originally multiple choice, however no respondent indicated more than one option

HUMAN SOCIETY AND FINANCIAL BEHAVIOR

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Abstract. *The basic expression of today's decision base in any banking institution or asset management company is risk management. Nothing new would say, its risk and profound implications have been the subject of study since the beginning of the last century when Knight, von Neumann, Morgenstern, or Arrow prefetted this field. And yet, why today, more than ever, does everything go from interpreting it in a way that becomes almost obsessive? Often invoked risk management motivation leads us into a banking system that fails to credit the economy, companies have increasingly difficult access to finance, whole sectors suffer, large companies collapse. The question that is naturally born is what has changed in the interpretation of risk in recent years? Can we talk about a subjective element that defines the risk? Referring to modern times, we notice that the barrier that delimits this change of paradigm is 2008, a time that has fundamentally transformed the approach of risk, not necessarily its quantification. This is why we need to address the risk through human behavior with its subjective valences and its implications for decision-makers.*

Keywords: *risk management; human nature; behavioral finance; sentiment; rationality; behavioral biases.*

Introduction

In the fever of finding "logical" explanations on how decisions are made and the financial markets are functioning, the countless evidence of irrational investor behavior has gradually led to the abandonment of some of the dominant concepts of neoclassical finances. Moreover, the idea that the 21st century would be "behaviorist" or not (Thaler, 2000) was accredited. For now, one thing is certain: Behavioral finances are "under construction" and set up as solid support for the vast financial sector. Studies conducted over the past decades have made behavioral finance incorporate standard finances, re-introduce them into new concepts and establish connections between theory, demonstration and practice. Statman (2014) notes an essential aspect: Behavioral Finance puts normal people in place of rational people in standard finances.

In the mirror, the two disciplines are based on four symmetrical pillars, the behavioral finances representing the alternative for each of them (Statman, 2014, p.65):

Standard finance assumes that:

1. People are rational;
2. Markets are effective;

3. People should design portfolios based on the average variance rules within the portfolio theory;
4. The expected return on investment is described by the standard pricing theory of the standard assets, where the expected return on profit is determined only by the differences in risk.

Behavioral finances assume that:

1. People are normal;
2. Markets are not effective, even if they are difficult to defeat;
3. People design portfolios based on the behavioral theory;
4. The expected return on investment is described by the behavioral theory of asset pricing, in which case the expected return on profit is determined by many more elements than the risk differences.

De Bondt states that behavioral finances, in turn, rely on three main pillars: feelings, behavioral preferences and arbitrage limits (De Bondt et al., 2008). The authors point out that sentiment is understood as investors' mistakes, but similarly, these errors are also found in the market. In other words, behavioral finance models classified individually generate results at the macro level, which is why, in the literature, studying distortions (biases) has been revealed in Behavioral Finance Micro and Behavioral Finance Macro. Micro Behavior Finance analyzes the cognitive biases or biases of individual investors that differentiate them from rational investors targeted by classical economic theory. Macro behavioral finance detects and describes anomalies in efficient market theory as behavioral patterns that may be explained (Pompian, 2006). In the case of macro-behavioral macroeconomics, the discussion of specialists goes around the question: "Are efficient markets or are they the subject of behavioral effects?" As far as micro-behavioral finances are concerned, the subjects turn around the dilemma if individual investors are perfectly rational or cognitive and emotional errors affect their financial decisions. Psychologists explain that these errors are due to the fact that people's beliefs are often subjected to cognitive illusions.

The human society is based on moral and ethical standards. To understand the relationships among people we need to explore the human nature and inevitable we'll find the importance of the sentiment. The risk is seldom triggered by human sentiment and to understand it we need to understand the way people approach it.

"Economics is a social science studying the behavior of people when they are involved in production and exchanges. Predictive models about prices or about market tendencies are run with high errors and uncertainty." (Păun, 2016, p.1) Due to the free will of the human nature, we can state economics doesn't have a great level of predictability, which translates into a risk environment. On top of that, there is always the state intervention who significantly alters the normal course of the economy.

A new approach from the perspective of ... difficult to assess situations

The recent literature on behavioral finance suggests that investor sentiment may greatly affect the value of earnings in the case of financial securities. The effect is felt to a greater extent in the case of financial titles that are difficult to assess and/or difficult to arbitrate, such as small, "young", unprofitable or high-yielding securities. When investor sentiment is high, the return on these types of titles tends to be relatively low, and vice

versa, in the case of low emotional states. The causes of fluctuations in investor sentiment vary and in some cases may be quite banal. Hirshleifer and Shumway (2003) have collected evidence of the daily returns of 26 capital markets in the world that show that they are affected by the cloudy weather in the city that runs the stock market in the country. Kamstra, Kramer, and Levi (2003) provide similar evidence, showing that investor sentiment, risk tolerance and asset returns in different countries are influenced by the low hours of light in winter, probably resulting from seasonal affective disorders.

Implications for investors' decisions

Theoretically, it is appreciated that investors are able to gather relevant information and evaluate them objectively. In reality, there are a number of mental and emotional factors that are difficult to separate into an analysis system. Sometimes these factors can lead to good results in the decision-making process, but it is also possible to reverse the situation. Following countless observations and tests, researchers have been able to demonstrate that, most of the time, people's beliefs are predictable on deformation of decisions. In most cases, the source of the problem is cognitive. The decision-making process by which investors discover things by themselves, usually by trial and error, leads to the development of general rules of assessment or rules of good sense ("rule of thumb").

According to Ritter (2003), behavioral finance is based on psychology, which suggests that human decision-making processes are subject to more cognitive illusions. These illusions are divided into two groups: illusions caused by heuristic decision-making (representativeness, trust, anchoring, player error, availability), and illusions generated by the adoption of mental frames grouped in prospective theory (aversion to loss, aversion to regret, mental computation, self-control).

The authors of the article *Role of Behavioral Finance in Investment Decisions* (De Bondt et al., 2008) characterize behavioral biases in three main categories: a) feelings: anchoring, representativeness, availability, excess trust; b) preferences: aversion to loss, mental calculus, myopia of aversion to loss, self-control, aversion to regret; c) limits of arbitration.

Backer (2010) performs another type of classification, listing four major thematic categories in which the factors affecting investment decisions fall. The first category focuses on heuristics, where the author lists the distortions that may affect the decision-making process: affection, representativeness, availability, anchoring and adjustment, familiarity, exaggerated trust, status quo, aversion to loss and regret, aversion to ambiguity, conservatism, and mental computation. Framing is the second category by which Backer believes that people's perceptions of the choices they have to make are heavily influenced by the way these options are framed, even if the objective situations remain constant. Emotions, the third category, include unconscious/unknown needs, fantasies, and fears, which also play an important role in making financial decisions. The book analyzes the relationships between the investor's condition and investment decisions under the influence of weather, sun, sports events. The impact on the market is the last category to analyze the effects of cognitive errors and individual distortions or groups of people that may affect capital market prices.

Pompian (2012) analyzes behavioral biases and their implications for making financial decisions from the perspective of cognitive errors and emotional deviations. In the first category, the author classifies: a,) distortions of persistent beliefs: conservative distortions, confirmation, representativeness, the illusion of control, retrospective, cognitive dissonance; and b) distortions of the information process: anchoring, mental computation, framing, availability, self-attribution, outcome, recent experience.

Dealing with distortions of investor behavior in decision-making

According to the author (Pompian, 2012), persistent beliefs in the context of behavioral biases are the tendency of people to cling to a situation that has previously occurred or that has recently created irrational or illogical beliefs. Investors seek to justify their beliefs because of distrustful confidence in themselves or in their own ideals or abilities. The distortions of the information process show how people process the information, logically or irrationally, into the decision-making process.

Emotional distortions are the second category defined by Pompian. These can cause investors to make ineffective decisions. Emotional distortions are more difficult to correct than cognitive errors because they stem from impulse or intuition, rather than from conscious computations. Because emotions are rarely identified and recorded in the decision-making process - they have to do with how people feel, rather than what they think and how - the researchers have found fewer distortions. The seven emotional distortions discussed in the above-mentioned paper (Pompian, 2012) are an aversion to loss, exaggerated confidence, self-control, status quo, endowment, aversion to regret and affinity.

Nair and Antony (2015) appreciate that four of the major themes in behavioral finance are: a) heuristics; b) framing; c) emotions and d) market impact. In the first category, the authors say that more than 50 biases were identified, among the most often represented representativeness, availability, anchoring and adjustment, familiarity, over-confidence, status quo, aversion to regret, aversion to ambiguity, conservatism and mental computation. Framing deals with how people encode events. Framing separates the background shape and therefore deals with perceptions. The framing was defined by the authors as a point of view of the decision maker on possible problems and outcomes. In the category of emotions are listed: fear, hope, anger, regret, pride, care, guilt, and mood. All these emotions determine the level of risk tolerance of investors. The higher the level of complexity or uncertainty, the greater the emotional impact. The impact on the market refers to the process of choosing alternatives to investment, a process that can be influenced by new information. Under these circumstances, investors' decision may suffer an incorrect valuation due to arbitrage limits. This will affect the market price, generating deviations from the fundamental values. These are the main anomalies that lead to the discussion of the efficient market hypothesis.

The list of titles can continue with various classification ranges, from author to author. However, the methodological aspect is less important for understanding the distortions of investor behavior in the decision-making process. Relevant are remarks and recommendations on how all these behavioral distortions can be identified and managed to limit the impact on investment decisions and the stock market.

Among the most known cognitive biases, representativeness, over-confidence, anchoring, betting error, availability of deformations are models that, in the heuristic decision-making process, have gathered around them countless examples of investor practice.

The level of risk tolerance of the investor

Aversion to loss is an argument for understanding and explaining the tendency of investors to keep their losses and to sell their gains too early. Shefrin (2000) called this distortion (bias) "mood effect". The hypothesis was supported empirically by data collected by Odean (1998), which analyzed the transactions for 10,000 accounts from a brokerage house. The results showed that the investors kept the shares on the loss for 124 days on average, while the shares on the win were kept on average only 104 days. With the help of an experimental term market, Heilmann et al. (2000) were able to demonstrate that the number of assets offered and sold was higher during periods of increase in trading prices than in periods of declining trading prices. This risk aversion to gains, which leads to a hurried sale of shares, directly leads to a fall in prices relative to the core values. On the other hand, the fall in share prices will cause investors to resist too much time in making a trading decision, which will cause stock prices that have had a negative momentum momentarily to exaggerate their core values. Studies show that the level of risk tolerance of the investor fluctuates with changes in the stock market. As a rule, investors use the open market price to build their attitude of risk tolerance.

Although the importance of assessing financial risk tolerance is well documented, in practice the evaluation process tends to be very difficult due to the complexity of the concept and the subjective nature of risk taking. Carducci and Wong (1998) conducted research to identify personality factors that can influence the assumption of financial risk. They suggested that investigating the factors that determine financial risk and risk tolerance can be extended beyond testing purely psychological factors. Demographic, socio-economic and attitudinal characteristics are essential factors to consider in determining how a person's behavior influences the financial risk assumption.

Specialist literature supports this idea with countless results related to factors of influence such as gender, age, education, marital status, occupation, income, race, ethnicity, etc. Slovic (1966, p.169) says that "a predominant belief in our culture is that men should, and even do, take higher risks than women." Countless studies show that the level of tolerance to risk is inversely proportional to age but directly proportional to the increase in the level of studies and incomes. Wang and Hanna (1997) examined the relationship between age and risk tolerance based on data collected from the consumer credit survey between 1983-89. The authors developed a life-cycle hypothesis by measuring the risk tolerance by the ratio between the asset's risk and the total wealth/wealth. This was defined by combining human capital and net wealth. By analyzing the descriptive tools, the authors suggest that risk tolerance increases with increasing age.

Individuals, compared to married ones, have a higher level of risk tolerance, as are people with a high occupational status or a higher level of knowledge in the field of investment.

Conclusions and implications

As can be seen from the various studies mentioned above, the risk concept has multiple dimensions depending on the approach of the approach. Assuming risk is dependent on context and context. Gooding's studies (1975) on investor perception of risk and return on ordinary financial securities reveal significant differences between professional and non-professional investors. That's why people's willingness to take risks must be analyzed and evaluated in context. There is no best or only way in which attitude to risk can be assessed or predicted, anticipated.

The investor has to establish from the very beginning what kind of risks he can assume, what are the objectives he is pursuing and what are the constraints to which he is exposed. Investor needs and financial market expectations are the focus of investment strategy building. Depending on economic dynamics, political, social, environmental or demographic changes, portfolios management will constantly require careful monitoring and continuous adaptation to the requirements or expectations of the financial market. Investment policy will allow for accurate analysis and assessment of the performance achieved in this management, based on the benchmarks adopted: the benchmark portfolio or the standard performance objectives. The reference portfolio reflects the investor's risk preferences and corresponding returns. In turn, standard investment performance should be compared to this benchmark portfolio. For example, an investor seeking low-risk and high-risk investments should compare the standard investment performance set with that of low-risk and high-risk portfolios.

The most appropriate allocation of assets within a portfolio (i.e. which asset classes and in what amounts) depends on the investor's objectives and on the constraints inherent in such a way as to ensure the necessary congruence with the characteristics of the allocation (strategic and tactical) and, of course, its behavior.

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INTERNATIONAL COMPARATIVE STUDIES ON FISCAL BEHAVIOR

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Abstract. *The Smithian concept of homo oeconomicus is placed in the forefront of all economic approaches, because by being perceived as perfectly rational, selfish, free, competitive and social, this opens the corridor of theoretical and empirical developments that will enrich the field of fiscal behavior. The analysis of the personality of the Smithian economic agent from the tax perspective leads to the conclusion that these features are not verified under the conditions of the market economy. Thus, in theory, the perfect rationality of homo oeconomicus would mean that each taxpayer would avoid the payment of tax liabilities, and the generalization of this behavior would lead to the impoverishment of the state treasury. Also, the reality contradicts the validity of the latter two features because the market economy is not characterized by perfect competition (i.e., see tax monopolies), and most taxpayers comply with legislation, although their income is affected by existing tax levy. The joining of the two realities - an anthropological, another economic - with all the truth they contain, sets the attitude towards taxes in the sign of the gloom, the reluctance, and the anguish. The risk of taking over and repeating such messages, whether voicemail or not, is to create in the collective mind some dangerous behavioral prejudices, a kind of Pascal's abyss, an abyss between the taxpayer and the authorities, all ending with frustration, repudiation and ultimately avoidance of tax obligations. Although the importance and value of tax payments are undeniable, we do not consider the exuberant apologetics of tax obligations to be appropriate, but we do not even think that we should be discouraged in the face of a fatalist rhetoric. We rather think that the discourse on tax obligations and their payment must be balanced and rational, giving the prospect of a call for taxes, taxes, and contributions, on the one hand, and responsibility for implementing an effective fiscal policy, on the other. The central objective of the paper is the presentation of some benchmarks in the evolution of fiscal behavior in order to understand the forms covered by the tax obligations and the transformations recorded over time by the taxpayer interaction of the authorities.*

Keywords: taxes; fiscal behavior; taxation; tax obligations.

Introduction

The concept of "culture" is extremely comprehensive, managing to capture the attention of various categories of researchers, from anthropologists, philosophers, socio-psychologists, political scientists to financiers. The British anthropologist Tylor (1871) formulates one of the first definitions attributed to culture: "Culture or Civilization, viewed in its comprehensive ethnographic meaning, is the complex that includes knowledge, faith, art, morality, law, habit, capacities, and habits accumulated by man as a member of society". At a distance of a century and a decade, Hofstede's vision (1980) on the concept includes "collective mind programming that distinguishes members of a human group from those of another group". From the interior of the Romanian space, Vasiliu (2001) considers that this "consists of getting everything you lack, of learning everything you do not know", and Pohoacă (2000) characterizes culture", as a summum of knowledge, traditions, customs, mental and practical attitudes, all of which have a single purpose - dualistic, material and spiritual civilization. "

The feature that emerges from most of the definitions attributed to culture is that it embraces elements by which a particular community distinguishes itself from others. By narrowing the broad spectrum of the concept, we will focus our attention on tax culture as a dimension that also shapes the mood of conforming to a tax system. Being an important source of government spending and a leverage in the adjustment of the economy, taxes are an expression of the tax culture present in each state. In addition, in their comprehensive federal tax paper, Murphy and Higgins (2012) mention the words of American tax consultant Karen Yeager who said: "Every company chooses tax systems that not only generate the revenue needed to finance government spending, but this choice reflects inherent in societal values. A company chooses not only the tax system, but the tax system becomes one of the basic institutions that shape society. " The classic view of the concept of "fiscal culture" (Schumpeter, 1929) implied the restriction of the concept to the creators of the tax system (i.e. tax authorities), and some recent approaches accentuate the importance of taxpayers (Camdessus, 1997) or communication with tax authorities (Martinez-Vasquez & McNab, 2000; Martinez-Vasquez & Wallace, 2000). While identifying some aspects of the concept, the above-mentioned visions are too restrictive because they ignore essential elements such as the influence of the country's historical path on the fiscal system or national culture (Nerré, 2008). From a fiscal point of view, the tax culture includes a fiscal system, tax practice, the uniqueness of taxpayer interaction and the awareness of this uniqueness (Frey & Holler, 1998); (Berkowitz & Li, 1999; Blanchard & Shleifer, 2000; Shleifer & Treisman, 2000; Treisman, 2000). Accepting the idea that the uniqueness of the tax system of each individual, the tax system and the degree of decentralization, the strategies of combating tax evasion or the various interest groups state, region or even the continent is given by the tax culture, the "architecture" of the concept in its own vision contains a number of detailed aspects below.

Although the geostrategic positioning of a country may seem a geographically less relevant detail in this case, it is important if the neighborhood with a beneficiary state of an efficient tax system determines the coordinates of its own tax system. Territorial isolation may also have positive influences (preserving the uniqueness of fiscal behavior) or negative (the implementation of a rudimentary fiscal system) (Ajzen, 1991).

The way in which taxpayers relate to the tax system is also determined by the political regime of a state (Ajzen, 1993). In general, democratic regimes record higher values of voluntary compliance than socialist regimes, where compliance is almost entirely forced. A prominent example of fostering forced compliance comes from China, where the Socialist government introduced the one-child policy (except Hong Kong and Macao) specifically in 1978 to control the negative natural growth (i.e. one million births per five weeks). In this respect, employers pay their family planning contribution of 0.8%, and non-conforming citizens are sanctioned by fine, property confiscation, and even job loss. The latest data indicate a moderation in the above-mentioned practices in that the Beijing government would allow citizens to have two children from 2015. The level of trust in the authorities is influenced by the type of political regime and determines the climate of interaction between taxpayers and authorities. Trust in the fellow, as shown in the second chapter (see socio-psychological factors), can stimulate or stop the perpetuation of non-conformance behavior. In general, citizens of the democratic states report higher levels both in-state representatives and in other citizens than non-democratic states. Sources used are Edelman Trust Barometer 2012 and Eurobarometer (Alligam & Sandmo, 1972).

There is a continuing debate between direct and indirect taxation on the advantages and disadvantages of the two systems when balancing the revenue generated and the cost of compliance. Each state determines the extent to which it is subject to direct and indirect taxes. Usually, in the regions that mainly incorporate developed countries, the share of income generated by direct taxation (i.e. income tax, wealth, etc.) in total budgetary revenues is higher than the share of indirect tax revenues (i.e. general or special taxes consumption). According to the "slippery slope" model, the climate of interaction between taxpayers and the authorities can be: antagonistic or synergistic (Alm & McClellan, 2012). Generally, democracies traditionally benefit from a synergistic climate that ensures a high level of tax morality (e.g., see Switzerland, Austria, Germany, Australia, etc.). The underground economy (ES) and the corruption index (IC) are inextricably linked, so states with high levels of the underground economy also "enjoy" generalized corruption. For example, countries such as China, Romania, Russia, where specific socialist networking practices (e.g., *guanxi* or *blats*) are grounded for personal gains, face 20% underground economy, 32.6%, respectively 41.7% of GDP and the levels of corruption perceived by 39 (80th), 44 (66th) and 28th respectively (133rd) according to the Transparency International Corruption Perceptions Index 2012 (TICPI) determined for 176 countries and territories worldwide. The TICPI index expresses the level of corruption perceived in the public sector (i.e. bribery of local and central authorities, public money stamping, public procurements in favor of interest groups, the inefficiency of corruption eradication actions) and has values ranging from 0 (very corrupt country) and 100 (very clean country). The data on these two issues will be taken from the TICPI 2012 and Schneider, Buehn and Montenegro (2010). Hoanda (1997) notes that "the international geography of fraud demonstrates the planetary spread of the phenomenon that encompasses all countries, either heavily developed or developing, located north or south, east or west," and the differentiation of countries consists of "the severity of the disease and the treatment applied" (Tulai, 2003). Tax Authorities adopt different anti-fraud strategies, ranging from the most common (fines, imprisonment) to the most ingenious (overflowing properties for measurement, monitoring of alcohol production via electronic devices), from frugal strategies (regular tax inspections) to extremely expensive operations (surcharges, interventions with special troops), from stimulating cooperation (reductions, exemptions, tax amnesties)

to capital punishment. According to Huntington (1997), cultures change under the implausible passage of time, and their impact on fiscal behavior varies from one period to another.

Thus, the historic path of a state - the economist Paul Samuelson notes - is mirrored in its fiscal policy, because fiscal obligations and budget expenditures are two key levers owned by the government. Generally, states that at one time had the status of a colony borrowed from the fiscal culture of domineering power either fiscal discipline or ways of circumventing the law. The principles and norms rooted in the religious beliefs of different nations determine the altitude of tax morality and taxpayers' attitude towards tax fraud.

The behavior of taxpayers and tax authorities as an expression of their interaction

Starting from one of the previously developed etymological concepts, a personal definition of tax behavior will now be given. Thus, tax behavior or taxpayers' behavior is how they, under the influence of endogenous and exogenous factors, choose to act against fiscal obligations, react to fiscal policy and interact with other taxpayers and tax authorities. From the definition, it is deduced the idea that fiscal behavior manifests itself in a three-dimensional hypostasis. The way in which a taxpayer acts and reacts to fiscal obligations and fiscal policy reveals how he manages his emotions, perceptions, attitudes, and translates them into the plan of tax decisions. We have called this way the hypostasis of the introspective dimension of fiscal behavior (Croson & Buchan, 1999). The way the taxpayer interacts with other taxpayers' devotions that their actions affect and are affected by their actions. This can be called the hypostasis of the horizontal dimension of fiscal behavior. And how they interact with tax authorities reveal a taxpayer's reporting to higher-level entities. Here we can talk about the hypostasis of the vertical dimension of fiscal behavior. These multiple hypostases speak of the complexity of fiscal behavior (Tsakumis, Curatola & Porcano, 2007).

Referring back to the etymological understanding of the concept of fiscal behavior, the question now arises: What happens when the taxpayer brings positive or negative attitudes into the "topos" or "space" of interaction with other taxpayers and tax authorities? The manifestation of positive attitudes towards fiscal obligations can generate tax compliance behavior, while negative attitudes indicate fiscal noncompliance. Franzoni (2000) teaches us that in order to comply with the fiscal rules, we must cumulatively fulfill the following four conditions:

- 1) Not to fully report the earnings obtained;
- 2) Determine correctly the value of tax liabilities;
- 3) Submit tax returns in time;
- 4) And pay in time. In the literature, two types of behavior were validated for compliance: voluntary and forced (imposed).

Kirchler, Hoelzl and Wahl (2008) explain what it means to comply voluntarily or forcibly.

So we voluntarily comply if we have paid our tax obligations on the basis of moral reasons, state support, fulfillment of citizenship duties. We comply with our duty or impose when we pay our tax obligations in the desire not to bear the negative consequences of non-payment. The mobile trigger for voluntary compliance is

confidence in the authorities (Muehlbacher, Kirchler & Schwarzenberger, 2011; Muehlbacher, Kogler & Kirchler, 2012), and the perception that the authorities use their power to carry out controls, detect fraudsters and punish taxpayers to comply (Clark, Friesen & Muller, 2004; Kramer, 1999; Wahl, Kastlunger & Kirchler, 2010; Muehlbacher, Kirchler & Schwarzenberger, 2011). Both voluntary and forced compliance require respect for the letter and spirit of the law (James & Alley, 2002).

Violation of any of the compliance conditions results in non-conformance behavior. Fiscal non-compliance has two forms: licit non-compliance, known as licit tax evasion or law-enforcement and illicit non-compliance, called tax fraud. Although the Romanian legislation does not distinguish between the two forms, this distinction exists in the literature (Cummings, Martinez-Vasquez, McKee & Torgles, 2009). In the Anglo-Saxon vocabulary lawful tax evasion is called tax avoidance, and tax evasion tax fraud. In addition, Seldon (1979) patented the term tax avoision, a camel born from combining the terms of avoidance and evasion ("avoi-" + "-sion"). It refers to the fact that there is no economic distinction between legal evasion and fraud, but only legally and morally (Freedman, 2004). The question now arises: to what extent, how many times and what types of tax liabilities are the taxpayer going through the negative attitudes in the interaction with the authorities and other taxpayers? Here I will offer three areas of interpretation. In the first, we find the taxpayer who can only once show the refusal to pay a tax liability, in which case the fraud is singular, and the situation is like a one-round tax game. If he repeatedly displays this refusal, we talk about repeated tax fraud and a situation like a repeated tax game. In the absence of fiscal control, this repeated situation is effective for the taxpayer but damaging to the state that loses by generalizing it due to late detection and partial sanctioning. In the second area of interpretation, a taxpayer can partially escape by paying only a quantum of tax, the fraud being partial, or it can totally avoid, the fraud being total. The state is widowed by higher financial resources, and the taxpayer gains more in total fraud (excluding the hypothesis of tax control). Thirdly, the taxpayer can escape from: paying a single type of obligation, tax fraud being restricted or specific or honoring all tax obligations, fraud being generalized or scandalous. In the following figure, the six types of tax fraud (in the center column) and the eight combinations that can take place in practice (the left and right columns) are surpassed.

The government behaves like a large business with a multitude of debts and expenses. To control the costs, he had to create revenue. Because the government does not generate revenue on its own, it needs to find a way to pay its bills. The money used by the government to pay these invoices comes largely from tax obligations (La Bella, 2011). But as in any business, its owner is dependent on its customers and suppliers, and an essential condition for the business to thrive is that the owner (and the government) behave appropriately and professionally towards these partners, taxpayers, and taxpayers. Finally, "a business-friendly fiscal system can only be built on transparent and effective dialogue between the legislator and the taxpayer" (Deloitte Tax, 2009).

The radiography of tax culture: A trip around the world in 30 countries and five continents

Anticipating the most comprehensive empirical study of the paper, I group the 30 sampled states taking into account the typology of tax culture and the components of this concept (Feinstein, 1991).

Continental fiscal culture: the essence of conservatism

Continental fiscal culture is shared by high-growth states, high-quality public goods, and a highly-performing social protection system. Although the level of direct taxation is very high, accounting for almost half of the taxpayer's income, morality is very high, as evidenced by the low level of underground economy and the implementation of a customer service climate. Among the countries surveyed, Switzerland is highlighted by a number of issues: it is the only country in the sample to implement direct democracy; has the highest level of morality (Feld & Frey, 2002); has the status of a tax haven due to the facilities granted to investors and the preservation of banking secrecy, encouraging tax evasion. In order to avoid including OECD non-cooperative states, the Swiss authorities have concluded treaties on the exchange of tax information with more than 30 countries, refusing for the time being to ban banking secrecy.

Anglo-Saxon taxation: tax under Union Jack and Uncle Sam

In turn, the Anglo-Saxon tax culture emphasizes the importance of implementing a service-client environment (with few exceptions) and the prevailing use of direct taxation (Mumford, 2001). Australia stands out as one of the first states to take steps to change the taxpayers' approach, which has brought it a leading position among the least corrupt states. By creating the ATO model, the Australian tax has proposed to replace the universal approach (e.g., "all taxpayers are offenders") with one tailored to the taxpayer's specificity.

Mediterranean tax culture

The Mediterranean fiscal culture is shared by states with a high level of economic development, a lower level of fiscal pressure compared to representatives of the Renaissance culture, but surprisingly, with a more pronounced propensity for tax fraud (as evidenced by the subterranean economy that averages about 20% of GDP). Negative results are due to inconsistent methods used by authorities to reduce tax fraud and the attitude of these authorities, which often seem to favor tax fraudsters. An example of this is the case for Greek authorities who said they lost the list of the biggest fraudsters received from IMF Director Christine Lagarde.

Scandinavian tax culture: Northern efficiency

This type of tax culture is adopted on a small scale by the Scandinavian Peninsula and Denmark and generates a very high level of economic development, despite the highest level of fiscal pressure (Richardson, 2008). Extremely high morality places these countries in the top seven least corrupt countries in the world. In the case of Sweden, this result is mainly due to the "denunciator law", through which benevolent taxpayers are rewarded if they provide credible information about tax fraudsters.

Eastern European fiscal culture: looking for stability

Eastern European fiscal culture is encountered in the former Communist bloc states, which became independent in the early 1990s. The characteristics of the tax systems within this culture are: exclusive focus on indirect taxation (except for Poland); excessive taxing of labor (high level of social contributions) and inefficient social protection system; a high level of corruption and the underground economy that generates low credibility among authorities; the overwhelming use of coercive measures in favor of stimulating cooperation; low level of tax morality. The authorities in Russia are highlighted by the fact that they do not fall into the category of criminal offenses and punish them only by fine. Because they focus more on reducing the level of mafia-style activities, fiscal non-compliance tends to become a generalized phenomenon.

Islamic tax culture

States that embrace this culture are based on the following principles derived from the Qur'an:

- 1) Zakat: the most important element for the establishment of social justice; applied only to the Muslim population and paid by it as a duty; one of the pillars of Islam, the obligation of his payment included in the Qur'an, without specifying the taxable matter;
- 2) Shame or shame, forbidden by the Qur'an, which encourages direct investment and obtaining dividends from economic activities;
- 3) The stable currency: according to the verse in the Qur'an "and gives everything measured and weighing with justice," honesty and justice in all value evaluations must be based on the Qur'an. The verse applies not only to individuals but also to authorities. Therefore, the state's duty is to provide a sound currency, fiscal policies, and proper control;
- 4) State Responsibility: Developing an Appropriate Framework for Implementing Islamic Laws in Society. The United Arab Emirates emerges as a tax haven (there is no income tax, except for banking and oil extraction) and a state with a free trade area (Jebel Ali port).

Asian tax culture

Unlike the Islamic states that made religious beliefs the spiritual, ideological, political, and economic confluence of reforming changes, the Asians began reforming the state under the impetus of economic growth manifested in the 1950s when the economic boom Japanese post-war "has quickly" boosted the economies of the four "Tigers" (Hong Kong, Taiwan, South Korea, Singapore) and then China, Thailand, Indonesia, and India. The industrialization and economic development of Asia have so deepened in the 1980s and 1990s that it has come to outpace the growth rate of European and American economies. States still report economic performance, despite the fact that the position of governments towards their own citizens was and is a force. Although the methods used are sometimes reprehensible (e.g. capital punishment for tax fraud in China), one explanation is that, according to the authorities, the huge number of inhabitants can be controlled only by a high perception of power. This is where China and India alone have 2.5 billion inhabitants (the third part of the planet's inhabitants). Among the sampled countries is Hong Kong, which has the status of fiscal paradise and is the preferred destination for Western-European millionaires' capitals.

Latin American tax culture

Although direct taxation should generate substantial revenues, the main problem of countries belonging to this type of culture is the extremely low number of taxpayers registered in relation to the total population. Thus, in 2012, Brazilian tax bases included 25 million taxpayers out of 190 million (25% of the active population) and 37 million out of 113 million (10% of the working population) in Mexico. Another issue is the high level of economic crime and corruption, despite the costly efforts of the authorities.

Overview of international comparative studies

The need for intercultural studies for a thorough understanding of differences in tax behavior is highlighted by numerous authors (Struempel, 1969; Schmoelders, 1970; Cowell, 1990; Kay & King, 1990; Elffers et al., 1991; Alm, Sanchez % De Juan, 1995; Schneider & Enste, 2000; Lamb et al., 2004; Tsakumis, Curatola & Porcano, 2007; Richardson, 2008). Robben et al. (1990) present the experimental results of 10 studies conducted on a sample of 674 subjects (students and adults) from Belgium, the United Kingdom, the Netherlands, Spain, the United States and Sweden, focusing on the impact of decision scenarios and the opportunity of tax fraud on nonconformity behavior. In the opinion of the authors, subjects faced with scenarios that would have to pay extra tax after deduction of income tax at source were most likely inclined towards tax fraud. Also, the propensity for non-compliance increased significantly with the emergence of tax fraud opportunities.

Considering the differences of compliance between South Korea and Japan, Hyun (2005) concludes that one of the main determinants of these differences is the level of knowledge of taxation and notes also that Japanese subjects have a higher level of tax knowledge, hence a higher level of tax compliance. Authors such as Roth, Scholtz and Dryden-Witte (1989), Torgler (2005; 2011), Torgler and Schneider (2009) or Daude, Gutiérrez, and Melguizo (2012) the taxpayer. Moreover, Riahi-Belkaoui (2004) studied the link between morality and tax fraud based on data from 30 countries, finally pointing out that tax fraud correlates negatively with stronger economic freedom and moral norms. Concerning the same issue, according to the results reported by Richardson (2006), following research in 45 countries, non-economic factors have the most influence on the propensity for tax fraud, i.e. the low level of complexity of the tax system, such as and high levels of equity and tax morality significantly diminish tax fraud. Alm and Torgler (2006) identify a positive correlation between fiscal morality and trust (in the legal system and parliament) as well as a negative correlation between tax morality and the value of the underground economy. Cummings, et al. (2009) concludes that intercultural differences in tax behavior are due to taxpayers' perceptions of tax administration and government quality. Wintrobe and Gërkhani (2004) or Fischer and Schneider (2009) underline the importance of confidence in the compliance process.

Conclusions

Tax behavior is related to tax obligations.

The study of fiscal behavior from an intercultural perspective has become, especially after the crisis of tax solutions, a primary need. The fact that citizens of different countries have a different tax morality and is subject to varying tax obligations or the

fact that a change in the level of confidence in the efficiency of the authorities would result in a change in compliance must be considered. These facts are not only the result of an existing geographic climate, of historical changes in the social, moral, religious architecture but also of policies and economic measures adopted, whether or not correctly, over time in the respective states, all creating a sui-generis fiscal culture. That is why it is the duty of states in difficulty not only to look at the "neighbor's yard" that has found more effective solutions, but even to knock them out, negotiate with them, and eventually ask for a "goat" loan, but in any case to wish her death, as recommended by a famous Romanian adage. In the absence of models such as the "goat of the neighbor" who managed to perform in spite of the money, time and patience crises, what chances would we ever have to find what we admire when we dare to look up a fence? We do not have to copy ad litteram tax policies, because we cannot and it is wrong to do so.

The tax culture of a state is nevertheless unique and non-transferable. Then, history has shown us that, in most of them, attempts to copy literally, for example, economic or political systems, have proved to be failures. What we can do is learn from the experience of others, borrow and then adapt. In this sense, each state must first understand its own fiscal culture, that is, the accumulation of doctrines and economic, social, political, moral, religious, geographic factors that characterize it. Once they have understood their fiscal culture, state authorities can answer questions such as:

How open are countries with a communist political regime - like China - to create synergistic climate by implementing strategies to advise new entrepreneurs?

What financial availability exists in countries such as India, Pakistan, Morocco to increase spending on preventing and combating tax fraud?

Given the low level of tax morality and credibility of authorities in countries such as Moldova, Romania, Brazil, can we talk about a transition from the antagonistic to the synergistic climate and, if so, with what costs?

How can they reduce the taxpayer's degree of monitoring and where can the tax press countries increase with high morality and trust, such as Switzerland, Sweden, Austria, Australia, so as to bring about an increase in compliance and so high?

Only by seeking such answers can a country's fiscal culture adapt, keeping traditions and borrowing new ones.

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RELATION BETWEEN THE MARKET CAP AND ENTERPRISE VALUE: CASE STUDY ON THE VALUE OF LEADING STEELMAKERS

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Abstract. *This article is part of the author's research on the enterprise value and its determinants, in order to understand the ways to increase/ maximize it, in the context of the theory of value maximization as the single objective of a company. The purpose of the paper is to analyze the enterprise value determinants, in order to help the interested parties, make correct (investment) decisions by studying cases of mergers and acquisitions, as it was the case of ArcelorMittal (Galați). The current status quo of the Romanian steel mill, which was in difficulty before the privatization, is a company in the aftermath of a divestment decision. The research questions refer to the understanding of the relation between the enterprise value and market capitalization of the selected companies acting in the steelmaking field, including other factors (such as the ownership structure). In order to understand how the enterprise value is determined, I have analyzed relevant theories, including Tobin's Quotient (q) for a company / aggregate corporation, for the study of the relation between the market value and its replacement value. If used empirically, Tobin's q helps avoid issues of estimating shareholders' risk-adjusted required return by the market prices. Besides using the graphical visualization of the share price, I have used the datasets available for several years on the value of several mature steel producing companies, market capitalization and other indicators. The methodology also includes Market Comparable method and own spreadsheet calculations. After analyzing the evolution of the share price for the global steelmaking leader (ArcelorMittal), between 2009 and 2018, I have not identified any growth potential; the market value of ArcelorMittal is a proxy for the market value of its assets. For the target price of ArcelorMittal, the calculated odds of ArcelorMittal to move above current price is about 31.89%, based on normal probability distribution (the probability density function to fall within a particular range of prices over 60 days).*

Keywords: *enterprise value; interested parties; market capitalization; ownership; Tobin's Q Ratio.*

Introduction

On April 13, 2018, a company listed on New York Stock Exchange (ArcelorMittal, symbol MT) announced a divestment package, as part of European Commission review into its new acquisition of a plant in southern Italy. World's biggest steelmaker put up for sale six European assets (of a combined value of \$752-940 million) among which Galați mill (AMG) is the country's biggest steel plant (employing about 5,600 people now) and the largest of those assets. ArcelorMittal falls under 'Large-Cap' category, under Basic Materials sector as part of Steel Works industry.

Being under state-supervised special administration since 2015, the target company from Italy (Ilva) was followed by charges of corruption and environmental crime and is

about to be cleaned up or closed (Reuters, 2018). Such acquisitions are already a practice for many years for the owners of ArcelorMittal, as it was the case of the former state owned Romanian steel mill, Sidex Galați, which was incurring losses and bought for €70 mil. (2001), then rebranded into ArcelorMittal Galați. India's biggest steelmaker may bid for ArcelorMittal Galati plant, according to (Reuters, 2018).

The paper is a minor extension to author's previous research on the factors of enterprise value and the case of a company in difficulty that was and still is incurring losses.

Problem statement

Challenging the status quo is about asking the right questions and finding the primary obstacle to growth. The current status quo of ArcelorMittal Galați is a bad loss because of the market evolution and management; instead of making superficial changes that have an impact only for the short term, the organizations should make the changes that will allow them to increase/ maximize their value.

Stock prices are reliable and realistic for valuations. Therefore, how the company market value (stock price) changes when it announced dispose of assets of \$752-940 million?

Literature review

Investors have to know to value a business, not how much a stock has been going up or how sales of a new product are progressing, or "what is this business worth, given all the available facts?" (Mihaljevic, 2014).

Asset pricing studies the value of claims to uncertain future payments, based on: the timing and the risk of its payments (corrections for risk are much more important determinants of many assets' values). Financial claims are promises of payments at various points in the future, as for example, a stock, which is a claim on future dividends; at date t , we can define payments $x_{t+\tau}$ for $\tau \geq 1$ and expect the price of these payments to be as below, with some adjustment for time and risk. So, investing p_t today will bring $x_{t+\tau}$, in the future (Brunnermeier, 2015):

$$p_t \approx \mathbb{E}_t \sum_{\tau \geq 1} [x_{t+\tau}]$$

In terms of returns, i.e. investing 1 unit today, will bring R_{t+1} in the future (Brunnermeier, 2015):

$$R_{t+1} = x_{t+1} / p_{t+1}$$

Depending on the perspective used (market or accounting) there are several types of values used in various situations, as shown in figure 1.

value			
liquidation (floor) value (non-going -concern)	book value (BV) (accounting)	market value (MV) (fair value)	replacement cost of the firm's net assets (Tobin's q)

Figure 1. Expressing value (Source: author's representation)

Nobel Prize winning economist, Dr. James Tobin offered an alternative measure (q) to the ratios used:

$$q = MV_{\text{assets}}/RC$$

Where MV_{assets} = the market value of a firm's assets; RC = the replacement cost of these assets.

In practice, the book value (BV) of debt is used when the market value of debt (MV_{debt}) is unavailable. (Damodaran, n.d.)

However, q is not (yet) used in practice in the valuations of companies, probably because of the lack of the necessary input data. Mihaljevic (2010) acknowledged that the Q estimation method has one major drawback—it is not good at dealing with truly exceptional businesses, i.e., companies that have a large off-balance sheet intangible source of sustainable business value (like Coca-Cola, Microsoft and Walt Disney).

In contrast to the M/B (using the book value of the total assets as denominator), the Tobin's Q applies the replacement values of assets; instead of measuring the financial performance of the existing assets, the Tobin's Q measures the financial performance of a new investment, if the existing production capacity is reproduced, being oriented towards the future (Groß, 2007). When inflation pushed up the replacement cost of the assets or where technology has reduced the cost of the assets, q may provide a more updated measure of the value of the assets than the accounting book value.

Empirical studies using Tobin's q initially focused on explaining it (Lindenberg & Ross, 1981; Salinger, 1984), then predicted investment spending (Furstenberg, 1977; Summers, 1981; Hayashi, 1982). Several studies of the effects of managerial equity ownership (Morck, Shleifer & Vishny, 1988; McConnell & Servaes, 1990) have emerged or on the size of a company's board of directors (Yermack, 1996), corporate diversification (Berger & Ofek, 1995; Rajan, Servaes & Zingales, 2000) and dividend changes (Lang & Litzenberger, 1989; Denis, Denis & Sarin, 1994). Holding investment opportunities constant while investigating the determinants of capital structure (Titman & Wessels, 1988), leveraged buyouts (Opler & Titman, 1993) and takeovers (Lang, Stulz & Walkling, 1989; Servaes, 1991), studies on stock market investments at times when the Q ratio was less than parity have produced above-average long-term returns (Harney and Tower) despite other contrary opinions; "q beats all variants of the PE ratio for predicting real rates of return". (Mihaljevic, 2010)

Tobin's Q estimates (Chung & Pruitt, 1994) have been calculated using publicly available and easily verifiable company-specific accounting and market pricing data, showing that at least 96.6% of the variability of Tobin's q, as calculated more elaborately by Lindenberg and Ross (1981), is explained by the "approximate Q" (Mihaljevic, 2010):

$$\text{Tobin's } Q = (MVE + PS + DEBT) / TA$$

Where MVE = market value of the common equity of a firm; PS = liquidating value of the firm's preferred stock; DEBT = current liabilities minus current assets, plus book value of long-term debt; TA = the book value of the total assets of the firm.

Jovanovic and Rousseau (2002) extended Tobin's q theory of investment to merger waves (the q-theory hypothesis) arguing that the technology generating profitability lead to Tobin's q increase and such firms can expand profitably by acquiring other firms. The q-hypothesis permits only horizontal mergers and does not synchronize with the empirical observation of lesser merger frequency in unlisted companies (Bailey & et.al., 2015).

Smithers and Wright (2002) created equity q and made the case that in the late 1990s, the US market was extremely overvalued:

$$Q = E / NW$$

Where E=equity market cap; NW=net worth at replacement cost. (CFA Institute, 2017)

Analysts have used a market-level Tobin's q to judge whether an equity market is disvalued, by comparing the current q with 1 or the historical mean value (CFA Institute, 2017). Tobin's q calculated at an overall market level is:

$$Q = (E + D) / RC$$

Where RC = estimate of the replacement cost of aggregate corporate assets; E and D= estimates of aggregate equity and debt market values.

Company-specific Tobin's Q ratios vary to a lesser degree within industries as calculated by (Mihaljevic, 2010).

Research method

After the boom between 2002-2007 and after reaching a historical high in July 2008 (see also picture 1), the average global price of steel has declined each month since then, and in May 2009 reached a level that was 55% lower than July's peak (OECD Steel Committee, 2009). Then, the average steel prices between 2011 and 2017 (figure 1) had decreased.

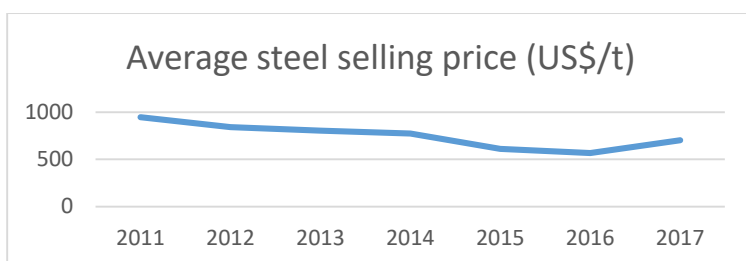
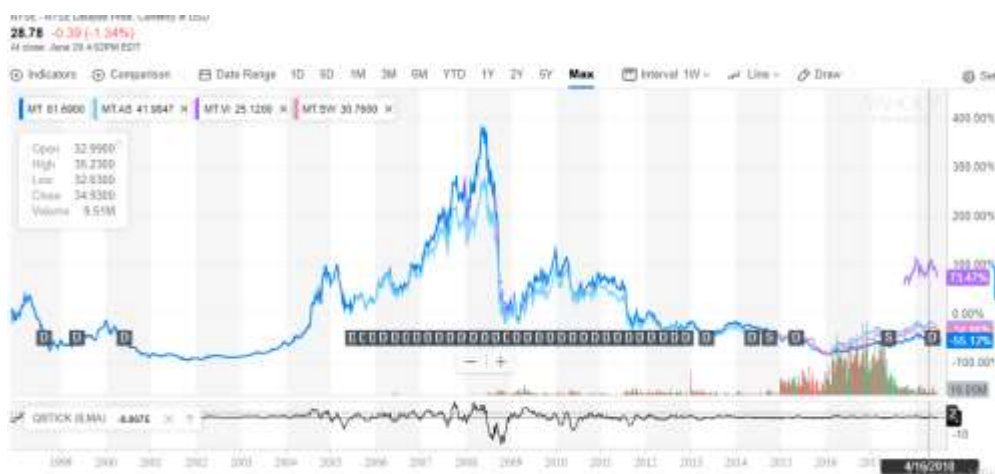


**Figure 1. Steel prices evolution
(ArcelorMittal, 2018)**

Looking at the company price (picture 1) on the various stock exchanges, we can see a similar trend for the company. After the peak reached in 2008, the company share price followed the steel price evolution.



Picture 1. Company stock price history (1997- June 2018) (Source: Yahoo Finance & Morningstar, 2018)

After the drop in 2009, the company did not manage to recover and reach or beat those results, following the evolution of the price of steel. At present, the company price is slightly recovering. In the issue of 'Equities and Tobin's q', September 2010, for the ArcelorMittal (MT) price of \$32.83 (-20% low and 51% high), MV of \$49,587mn and EV of \$70,012mn, price/book was 0.9, q was 0.5, similarly to the year and quarter before (see table 1).

Table 1. Interpreting Tobin's Q (Source: CFA Institute, 2017; Mihaljevic, 2010; Damodaran, 2012)

q for the company (MT)	q value	Explanation
	q>1	It is profitable to invest in the capacity reproduction; if a company has a Q ratio meaningfully in excess of parity, the market may be pricing in sustainable long-term outperformance and investors may want to verify their assumptions about the true sustainability of a company's high returns on capital.

0.5; 0.34	$q < 1$	negative excess returns; firms do not utilize efficiently their assets; further capital investment is unprofitable; firms likely to be taken over for restructuring;

Company's present market value is the effective cost of buying the company or the theoretical price of a target company before a takeover premium is considered; rather than the equity value, EV include all ownership interests and asset claims from both debt and equity (see Table 2).

Table 2. Company's Multiples at present (Source: ADVFN, 2018; Yahoo Finance & Morningstar, 2018)

VALUATION RATIOS	In USD
Enterprise Value (EV)	42 B
Market cap	35.3 B
Current P/E Ratio - LTM	6.5
Enterprise Value (EV)/EBITDA	8.15

EV = Market Capitalization + Market Value of Debt – Cash and Equivalents
or

EV = Common Shares + Preferred Shares + Market Value of Debt + Minority Interest – Cash and Equivalents

Assets, or the application of funds are financed through liabilities and shareholder's equity as the sources of funds used.

When we say value, we mean the current or market value of the company, the market value of liabilities and the market value of equity.

Next, in table 3 are presented quarterly indicators published by the company, including EBITDA.

Table 3. Quarterly indicators (for the year 2017) (Source: ArcelorMittal, 2018)

Indicators (USDm)	1Q 17	2Q 17	3Q 17	4Q 17
Sales	8,222	9,180	9,196	9,610
Operating income / (loss)	636	652	546	525
Depreciation	273	290	302	336
EBITDA	909	942	848	861
Average steel selling price (US\$/t)	649	698	723	736

In table 4, the EBITDA improved over the last years, overcoming the level registered in 2011.

Table.4 Indicators for the European segment of the group company (2011-2017)
(Source: ArcelorMittal, 2018)

(USDm) unless otherwise shown	2011	2012	2013	2014	2015	2016	2017
Operating income / (loss)	(369)	(5,725)	(985)	737	171	1,270	2,359
Depreciation	2,153	1,944	2,003	1,510	1,192	1,184	1,201
Impairments	301	5,032	86	57	398	49	0
Restructuring / Exceptional charges	219	587	517	(0)	632	0	(0)
EBITDA	2,304	1,838	1,621	2,304	2,393	2,503	3,560

Financial data are often considered very ‘noisy’, being difficult to separate underlying trends or patterns from random and uninteresting features and not being normally distributed; high frequency data often contain additional ‘patterns’ (as a result of the way that the market works, or the way that prices are recorded) and these features need to be considered in the model-building process. (Brooks, 2014)

For statistical reasons, raw price series are converted into series of returns, which are unit-free (figure 3). The log-return formulation (or log-price relatives, since they are the log of the ratio of this period’s price to the previous period’s price) have the property that they can be interpreted as continuously compounded returns – so that the frequency of compounding of the return does not matter and thus returns across assets can more easily be compared, and are time-additive. However, the disadvantage of using the log-returns is the continuously compounded returns are not additive across a portfolio; the log of a sum is not the same as the sum of a log, since the operation of taking a log constitutes a non-linear transformation.

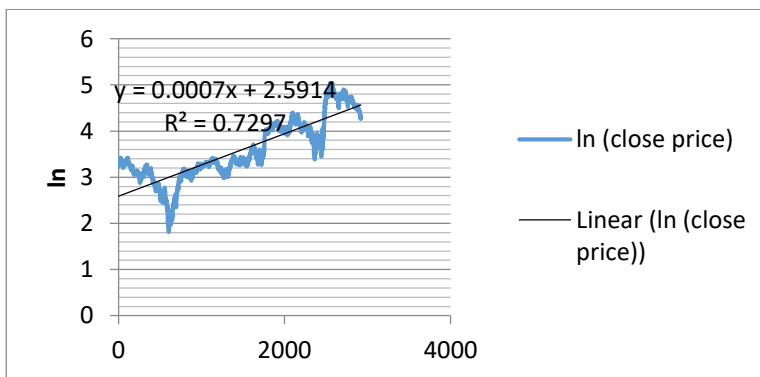


Figure 2. The natural logarithm of the close price of ArcelorMittal
(on Euronext, between 02.01.2007 - 01.07.2018)
Source: author's calculations

Results

When investing in/ managing assets, the key is not only to know their value but also to understand the sources of value and the ways to increase it, or at least prevent its decrease. Tobin's q and other multiples prove to be useful tools in making investments.

Tobin's q may still support improvements and developments in the theory and practice; for example, its significance can be further developed, for smaller intervals, such as q of 0.5 to indicate investment for the short term, while for the long term investment, $q < 0.5$.

Companies need to permanently consider the changes in their value and manage this process at their best. Enterprise Value is a firm valuation proxy that approximates current market value of a company, to determine takeover or merger price of a firm, unlike market capitalization, which is smaller; EV takes into account the entire liquid asset, outstanding debt, and exotic equity instruments that company has on its balance sheet. When takeover occurs, the parent company will have to assume the target company's liabilities but will take possession of all cash and cash equivalents.

Conclusion

According to (OECD Steel Committee, 2009), the global economic crisis has pushed the world steel industry into recession and steelmaking capacity continues to increase despite the market downturn.

The Romanian steel company has to understand the changes undergoing in the field and challenge its status quo of a company in difficulties; instead of making superficial changes with impact for the short term, should prepare a long-term strategy of value maximization that will allow it to thrive as it happened in the past in the communist era.

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THE ROLE OF BANK'S INNOVATIVENESS IN BUILDING MARKET EFFICIENCY – THE CASE OF POLAND

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Abstract. *New technology has already influenced almost all aspect of human life. Innovativeness is considered one of the most important requirements for both companies and employees. Even such traditional entities like banks should develop their propensity and ability to incorporate changes in business practices through the creation and adoption of new ideas, solutions, and technology. The purpose of the paper is to investigate to what extent bank's innovativeness impacts a bank's market performance. It presents banks' innovativeness and other competitive advantage factors, their assessment from the perspective of their potential in the process of building bank's competitive advantage and a correlation between the level of bank's innovativeness and market efficiency. The majority of the innovativeness research concentrate on developed countries and very little is known about developing, transition countries. Moreover, few of them explore banks as a specific entity. On the banking market, they focus rather on distribution channels or product innovations. To the best knowledge of the authors, this is the first attempt to empirically examine the relationship between a bank's innovativeness and market efficiency in a transition banking market in Europe. The paper uses data retrieved from the research survey. The survey's target group consisted of all retail banks operating in Poland defined as banks that offer a broad range of financial services to different segments of individual customers. The research was conducted under the auspices of the Polish Banks Association. The data was collected by two methods – PAPI (personal and pencil interviews) and CAWI (computer assisted web interviews). The questionnaire was applied to executive managers of retail banks operating on Polish banking market and banks' customers. The data used for assessing banks' market performance were derived from banks' annual reports. The results provide direction for banks' decision makers concerning innovativeness' factors that should be taken into account in the process of building competitive advantage and market performance.*

Keywords: *bank's innovativeness; competitive advantage; knowledge-based intangibles; financial technology; market performance*

Introduction

Financial technology is thought to be one of the most disruptive factors influencing the banking market all over the world. It is an exciting area of change and development with an unclear impact on banking products, service delivery, and banking market structure at this time (Walker, 2018). Undoubtedly, today the development of bank's market performance, competitiveness and effectiveness is strictly connected with innovativeness (Aghion, Reenen, & Zingales, 2013; Chava et al., 2013; He & Tian, 2013; Bernstein, 2015; Cornaggia et al., 2015). Banks have to be able to create systems that implement new technologies and applications, optimize processes of providing banking products and services, develop financial infrastructure and allow them to exchange

information about customers and their behavior in all distribution channels. The traditional attitude to bank's management focused on resilience and safety might not be enough to face new market challenges (Sullivan, 2009). Lowering the entry barriers and the threats of a necessity to compete with technology-oriented market players (FinTech companies) combined with changes in customers' expectations will require adjusting banks' market strategy and business models (First Data Corporation, 2010; Williams & Page, 2011; BMO Wealth Institute, 2014). All these processes make building bank's innovativeness enormously important.

The majority of the innovativeness research concentrate on developed countries and very little is known about transition countries. Moreover, the few of them explore banks as a specific entity. On the banking market, they instead focus on distribution channels or product innovations and their adoption (Nekrep, 2013; Norden, Buston & Wagner, 2014; Akhisar, Tunay & Tunay, 2015; Mullan, Bradley & Loane, 2017; Priya, Gandhi & Shaikh, 2018; Salampasis & Mention, 2018). To the best authors' knowledge, this is the first attempt to empirically examine the relationship between a bank's innovativeness and market efficiency in a transition banking market in Europe.

The purpose of the paper is to investigate the contribution of the bank's innovativeness to bank's market efficiency. Achieving the purpose of the paper requires answering the following research questions:

- RQ1: What is the importance of a particular bank's competitive advantage factors from the perspective of building market position?
- RQ2: Does a bank's innovativeness influence its market efficiency?

The paper uses a two-fold methodology. The range of assets influencing a bank's competitive advantage and market performance was prepared as a result of a literature review. Then they were verified by empirical research. The strategic assets' structure was verified using a principal axis factor analysis. Afterward, the impact of verified assets' groups on banks' performance was examined.

The remainder of this paper is structured as follows: the first section presents the literature review concerning innovativeness and other bank's competitive advantage factor, the second section considers the competition on the Polish banking market, the third section shows the empirical results and include the assessment of innovativeness importance for building bank's competitiveness and the correlation between innovative capability and market efficiency. The paper concludes with the summary evidence of the study and its limitations.

Bank's innovativeness as competitive advantage factor

Today as never before banks market environment has a crucial impact on banks' business decisions. Many factors make gaining competitive advantage more and more difficult. Among them, the most important is new technology. Its continuously increasing complexity and the development of information and communication's techniques has resulted in a social revolution that has changed customer behavior and expectations concerning banking services. The technology development has a profound effect on retail banking services all over the world. The primary motivation for using modern technology has been to reduce costs (Delafrooz, Taleghani & Taghineghad,

2013; Persson, 2013), increase efficiency, speed, and control of customer-bank interactions (Honebein & Cammarono, 2006). The contemporary motivation is to add value to the overall customer experience (Blount, 2010). In recent years, the technological landscape has been additionally enriched by social media development that has influenced markets, companies, institutions, and customers' behavior and expectations (Kaplan & Heinlein, 2010; Hanna, Rohm & Crittenden, 2011; Durkin, Mulholland & McCartan, 2015).

Obtaining a sustainable competitive advantage requires developing the bank's innovativeness. The banks' innovativeness is an organization's propensity and capability to rapidly incorporate change in business practices through creation and/or adoption of new ideas, that decrease costs, reduce risks, and improve product what results in adding value in the form of increased competitiveness and sustainability (Frame & White, 2002; Guimaraes, Brandon & Guimaraes, 2009). It is an aspect of organizational culture that reflects the internal receptivity to new idea and innovations (Hult, Hurley & Knight, 2004; Menguc & Auh, 2006; Tsai & Yang, 2013). A firm oriented toward innovation makes individuals, teams, and management more open to ideas generation, creativity and risk-taking (Zhou & Wu, 2010). Following resource-based view (RBV) bank's innovativeness is one of internal resources and capabilities that, if matched appropriately with to environmental opportunities, help organizations to gain competitive advantage. The basic assumption of RBV is that resources and capabilities are heterogeneous across firms, and the firms that have superior resources gain sustainable competitive advantage (Hamel & Prahalad, 1990; Barney, 1991; Peteraf, 1993; Acur & Bitici, 2004; Cheng et al., 2010; Zubac, Hubbard & Johnson, 2010). Innovation capability includes strategic capability, product development capability, and technological capability (Vicente, Abrantes & Teixeira, 2015). It requires adequate leadership style, efficient customer knowledge management, and proper investment in technology implementation. Thus such a capability results from the efficient management of a bank's strategic resources and concurrently influences the strategic resources (Figure 1).

The basic nature of the banking business is knowledge intensive (Mavridis, 2005). From that perspective, the most important asset category is human capital. It also influences the efficiency of market capital's usage, especially the reputation, long-term relationship with customers and their trust.

Concurrently, meeting customers' expectations regarding speed, flexibility, access to banking services and usage convenience, is impossible today without organizational capital. Additionally, during the last few decades, as a result of fast technology development, many financial innovations have been implemented and have become a source of competitive advantage.

Nowadays, banks are allowed to underwrite insurance, while other financial entities are given a possibility to offer some financial products that have been traditionally provided by retail banks (Nejad & Estelami, 2012).

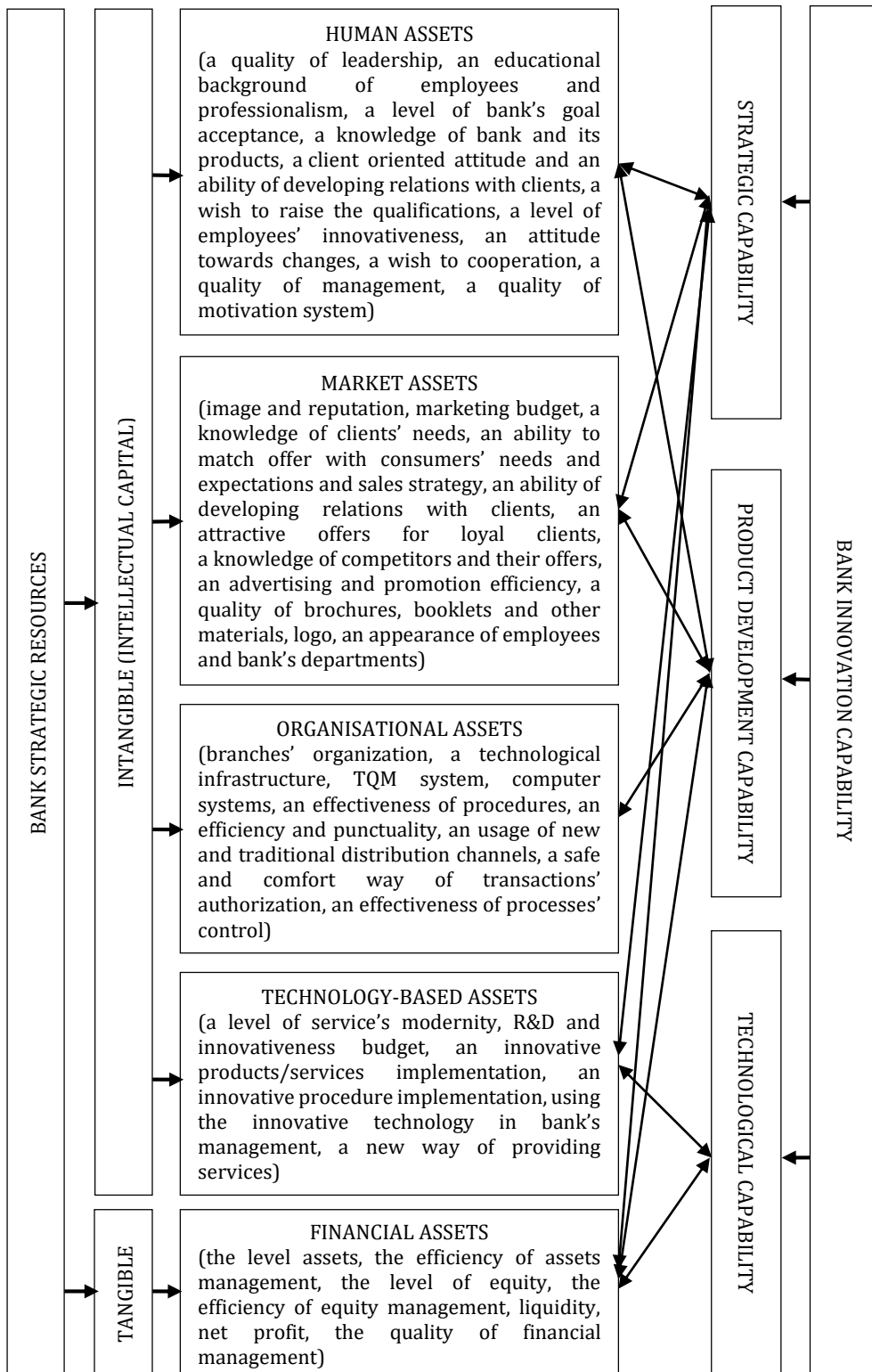


Figure 1. The relations between the bank's strategic resources and innovation capability

The emerge of crowd-funding business models, and the introduction of payment services by companies originating from other sectors have contributed to the alteration of the landscape of the banking industry.

All these developments make banks to rethink their market strategy and business models basing them on the resources which are of strategic importance from the perspective of their ability to create bank's competitiveness and market performance.

The competition in the Polish banking market

The banking market plays a significant role in the Polish financial sector. Although the assets of the non-bank financial institution have been systematically growing, the dominant share of the banking sector's assets in the assets of all financial entities remain stable. During the last decade, it has been ranging between 66.7% and 73% (Figure 2).

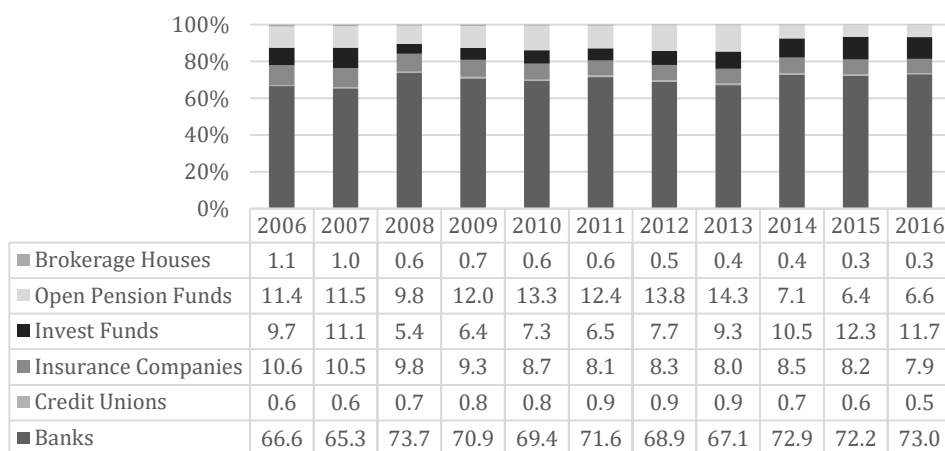


Figure 2. The structure of the Polish financial sector's assets (NBP, 2007-2017)

Taking into account the assets' structure, the Polish market is representative for the Middle-East European financial sector (Figure 3) and for most countries in European Union where banking market is the crucial segment of the financial market. Despite Cyprus, Netherland, Ireland, Luxemburg and Malta, banks as financial intermediaries have key functions in the domestic economy.

The Polish banking market consists of commercial banks, credit institutions, and co-operative banks. The competition in all segments has appeared in the 90. last century, but the history of the banking sector is dated on the 15th century when the first banking houses were established. Despite the turbulent history and the loss of independence, the first issuing bank, called the Polish Bank, stated the activity in 1828. Some banks established at that time are still operating on the Polish banking market. Bank Handlowy, the first commercial bank in Poland, has been operating for a continuous period till now. The other banks, as PKO Bank Polski and PeKaO SA, stopped their activity during the Nazi German occupation and reestablished market activity after the Second World War. A centrally planned economy was not conducive to the development of competition and did not require customer-oriented strategy. The bank's market behavior started to change in 1989 after introducing the new Act of Banking that

enabled the establishment of non-state banks in Poland. The market response was immediate. By the end of 1992, there were 54 domestic banks. Since then the process of mergers and acquisitions has become the essential methods for gaining a more significant market share, as well as restructuring some of them. Poland's entrance to the European Union also resulted in cross-border consolidation (Klimontowicz, 2016). Mergers and acquisitions influence not only the number of banks and the sector's ownership structure but also impact the level of market concentration.

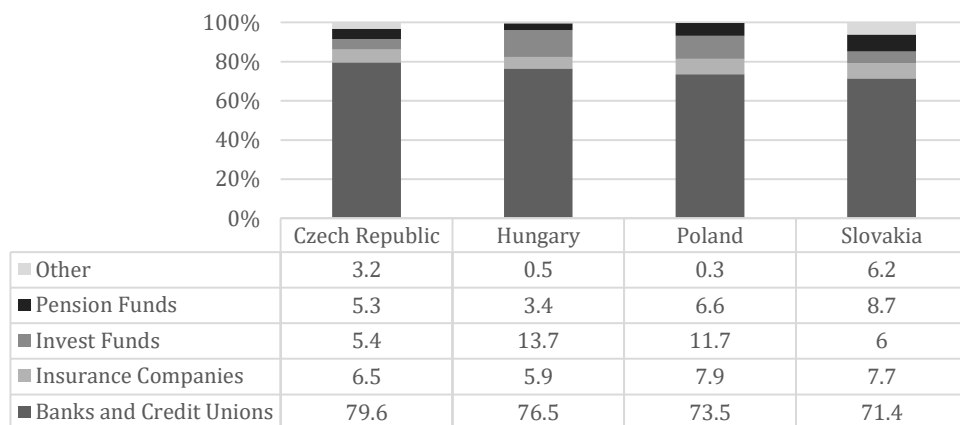


Figure 3. The structure of the Polish financial sector's assets (NBP, 2007-2017)

The most frequently used measures of banking market concentration are Herfindahl-Hirshmana index (HHI) and concentration ratio (CR5). They are also considered to be an indicator of the level of market competition. The selected market data is presented in Table 1.

Table 1. The structural characteristic of the Polish banking market (NBP, 2007-2017)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Number of banks											
commercial banks	48	47	49	49	49	47	45	41	38	38	37
co-operative banks	584	581	579	576	576	574	572	571	565	561	560
credit institutions	12	14	18	18	21	21	25	28	28	27	26
Banking distribution network											
branches	3 735	4 073	4 511	6 507	6 933	7 092	7 534	7 336	7 352	7 230	7 137
subsidiaries and agencies	4 854	5 217	5 789	7 290	7 246	6 802	4 876	5 019	4 872	4 660	4 135
Number of employees (in thousands)											
	157,9	167,2	181,3	175,2	176,9	176,7	175,1	174,3	172,7	170,9	169,3
Market concentration											
HHI	0,599	0,640	0,562	0,574	0,559	0,563	0,568	0,586	0,656	0,670	0,659
CR5	46,1	46,6	44,2	44,2	43,9	44,3	45,0	46,01	48,5	48,8	48,5

The level of HHI and CR5 ratios reflect that till 2010 big banks had been developing their operating activity slower than small and medium-size banks. Since 2010 both indexes, to a small degree, but systematically, has been growing. However, in comparison with other European countries the level of market concentration is relatively low (Figure 4).

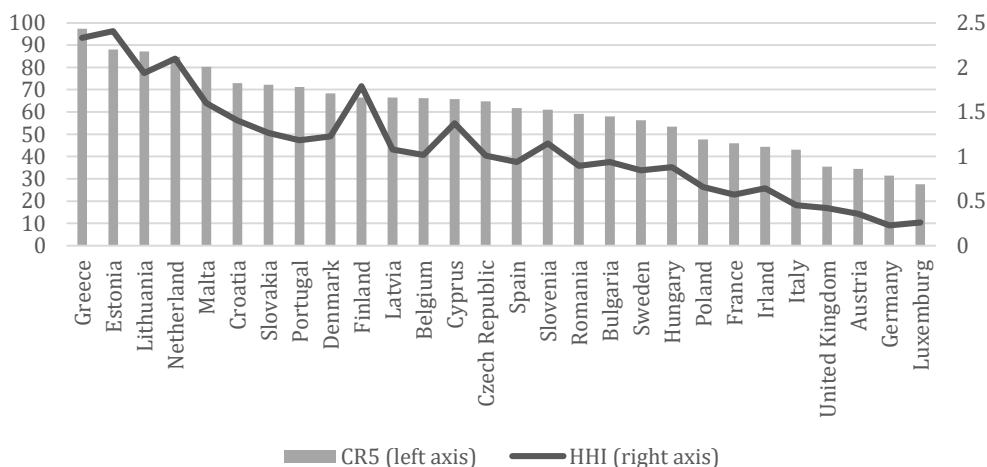


Figure 4. The concentration of the Polish banking market in 2016 (ECB)

The concentration ratio is one of the lowest in Europe and significantly lower of the European Union, the Eurozone, and the CEC-5 average. Understandably, it is higher in countries with developed co-operative banks' sector as Austria, Germany, and Italy. The low HHI index and the relatively low market share of big banks enhance the market competition. Many factors have influenced the intense competition in the Polish banking market. Today, in post-crisis reality it is quite difficult to point out the most important of them (Pawłowska, 2010). Undoubtedly, the competition occurs in the inter-bank space. The level of competition influence both banks' innovativeness and market performance (Anning-Dorson, Nyamekye & Odoo, 2017). Although banks have already noticed new market players, most of them do not treat them as crucial rivals. Whereas in many worlds markets they are thought to be the biggest threat (Worthington, 2011).

Bank's innovativeness and market performance

Bank's innovativeness is strictly connected with its strategic assets. As a category, it results from strategic capacity, product development capacity and technological capacity. The broad range of possible assets that might be the foundation for creating those capacities in the context of gaining competitive advantage and market performance led to the question what strategic assets have the crucial importance on contemporary banking market in Poland.

The list of potential strategic resources was prepared on the basis of a literature review. Then they were verified by empirical research. The research was conducted under the auspices of the Polish Banks Association. The survey's target group consisted of all retail banks operating in Poland defined as banks that offer a broad range of financial services to different segments of individual customers and fulfill all their financial needs and expectation. The questionnaire was applied to executive managers of retail banks

operating on the Polish banking market. 51 statements in the questionnaire were chosen to examine the significance of intangible and tangible assets. A seven-point Likert scale from 1 to 7 was used in the research. The importance was graded from 1 which meant that the item is not essential at all to 7 which meant the enormous influence. Reliability analysis for competitive advantage components, measured with Cronbach's alpha, ranged between 0,81 and 0,90 for each construct what confirmed adequate reliability levels for all of the scores. The assets of banks which responded to the questionnaire correspond to 79.5% assets of all retail banks operating in Poland. Two methods collected the data – PAPI (personal and pencil interviews) and CAWI (computer assisted web interviews).

The strategic assets' structure was verified using a principal axis factoring analysis with varimax rotation. The analysis resulted in the identification of four factors that correspond to strategic assets and banks' innovation capability. The pattern matrix of the empirical strategic resources' item is shown in Table 2. Only items with a factor loading at least 0.60 were considered. Factor loadings of less than 0.6 have been deleted. Four factors of presented items account for 79% of the variance, with factor 1 which explains 24% of the total variance. The verified structure of banks' strategic resources includes 38 items.

Table 2. The pattern matrix for strategic assets

Items	Factor 1	Factor 2	Factor 3	Factor 4
The level and efficiency of assets			0.77	
The level and efficiency of equity			0.89	
The sources of funding			0.94	
Net profit			0.87	
Liquidity/			0.82	
The quality of financial management			0.80	
The level of service modernity	0.89			
The implementation of innovative products	0.78			
The implementation of innovative procedures	0.80			
Using technology in the bank's management	0.79			
The quality of leadership		0.88		
The number of employees	0.66			
Educational level of employees				0.63
Professionalism				
The employees' identification with the bank's objectives				0.88
The level of knowledge regarding a bank and its offer				
Customer-oriented attitude				0.78
The ability to develop long-term relations with clients				0.77
The willingness to self-development				0.75
The level of employees' innovativeness				0.68
The will to cooperation and knowledge sharing		0.76		
The quality of executive management		0.94		
The quality of mid-level management		0.97		
The level of managers' acceptance		0.95		

Items	Factor 1	Factor 2	Factor 3	Factor 4
The quality of the motivation system		0.84		
The number of branches	0.60			
The number of ATMs	0.77			
The branches' organization and working hours				0.88
Employees' equipment		0.73		
Internal IT systems and procedures				
The level of quality management				
The effectiveness of procedures		0.69		
User-friendly procedures		0.68		
Efficiency and timeliness of services	0.78			
The usage of traditional distribution channels	0.93			
The usage of modern distribution channels	0.91			
The safe and comfortable way of transactions' authorization	0.89			
The effectiveness of internal control				
The knowledge of clients' needs		0.74		
Matching products to clients' needs				
The ability to develop long-term relations with customers				0.65
Interesting proposals for customers				
The understanding of competitors			0.78	
Brand value			0.73	
Branches' appearance				0.68
% of explained variance	24	22	18	16
Cumulative % of explained variance	24	46	63	79

The first factor has loadings from all the items related to the bank's product development capacity and includes items allowing a bank to serve the right products in the right place and at the right time. It incorporates the factors influencing both the product (service) and the process innovations.

The second factor represents the strategic capability based on human assets. It is worth to stress that the most significant factors are connected with the quality of leadership and management. These and other items influence the organizational culture and employees' work conditions.

All the analyzed items representing financial aspects of banks' market activity had noticeably high loadings on the third factor. From the perspective of the bank's innovativeness, they are the source of financing the process of creating and implementing the innovations.

The analysis of the last factor items leads to the conclusion that most of them impact banks' ability to create long-term relations with customers.

Reliability test on the factor groupings confirms achieved good results.

Due to a particular role in the economy banks' market activity is influenced by many factors of a political, legal, economic, sociological, and technological nature. To examine

the relationships between competitive advantage factors and banks' financial efficiency a multivariate regression analysis was conducted. ROE and ROA measured the bank's market efficiency. The data used for assessing banks' market performance were derived from banks' annual reports. Before conducting a multivariate regression analysis, the correlation between independent and dependent variables, and test of multicollinearity using the VIF (variance inflation factor) was conducted.

The following equations show regression models:

Model 1: $ROE = \beta_0 + \beta_1 (\text{Factor 1}) + \beta_2 (\text{Factor 2}) + \beta_3 (\text{Factor 3}) + \beta_4 (\text{Factor 4}) + e$

Model 2: $ROA = \beta_0 + \beta_1 (\text{Factor 1}) + \beta_2 (\text{Factor 2}) + \beta_3 (\text{Factor 3}) + \beta_4 (\text{Factor 4}) + e$

Models were estimated for ROE and ROA from 2012 till 2016. Table 3 presents the regression results only for 2013 as any significant positive relation has been observed in the subsequent years.

Table 3. Regression results

	Model 1	Model 2
Intercept	10,940*** (10,30580)	1,112 (5,236)
Factor 1	0,493 (0,443)	-0,026 (-0,117)
Factor 2	2,938** (2,639)	0,346 (1,553)
Factor 3	3,684** (3,309)	-0,230 (-1,034)
Factor 4	1,381 (1,241)	0,329 (1,477)
Adjusted. R ²	0,610	0,143
F-value	4,914	1,420
Significance	0,0421	0,333

Notes: ***, **, and * denote statistical significance at the 1, 5, and 10 percent levels respectively. The figures in the parentheses are the t-statistics.

The results of the regression analysis show that there was a significant positive correlation between strategic capability based on human assets and financial assets of the banks operating in the Polish banking market and their efficiency measured by ROE. Concurrently, there is no a significant correlation between any factor category and the efficiency of assets' management measured by ROA.

Discussion and conclusions

During the last few decades, the Polish banking market has changed remarkably. Opening the market for foreign investors has increased the number of bank and credit institutions. The assets of the Polish banking market have been systematically growing and has become one of the most competitive markets in Europe. Although the new market player has already entered the banking market, banks remain the most crucial market player with over 70% of market assets share. Such a situation corresponds to other banking markets in Europe. The market condition has made banks to search for factors enabling them gaining competitive advantage.

The factors analysis proved that in contemporary economy banks should base building competitive advantage on those strategic resources that are strictly connected with their innovation capability. Among them, the most important are those that allow a bank to improve products, services, and processes. The findings are relevant to Shih (2008) who recognized the importance of innovations and IT. They correspond with some previous research conducted on the banking market and others markets that showed the dominance of human capital (Blazevic & Lievens, 2004; Jong & Hartog, 2007; Curado, 2008; Liao et al., 2017; Waheed, Kabiru & Umair, 2018) and the impact of strategic management on the ability to create long-term relationship with customers and value creation (Kianto, Andreeva & Pavlov, 2013).

The regression analysis proved the importance of human assets for the bank's efficiency of equity management. The second factor that impacts the bank's efficiency includes financial parameters as the level of equity, the level of assets, profits and liquidity. The results gave no evidence for a direct correlation between any of competitive advantage factors and the efficiency of asset management. They correspond to the research conducted by Nekrep (2013) that did not prove the influence of a bank's internal innovation capability on their market performance.

The results provide that building innovation capability is strictly connected with organizational culture and require specific leadership encouraging employees to be creative and motivated to create long-term relations with customers. Concurrently, the findings indirectly proved the complex character of factors influencing banks' market performance and show that it is difficult to extract particular factors influencing banks' market efficiency. It may be an inspiration for further research aimed to build a model taking into account more both external and internal factors influencing banks' market efficiency and performance.

The practical implication of the finding is the recommendation for banks' decision makers to base their market strategies only on factors that help to gain a long-term competitive advantage, market performance and efficiency. As those factors are related to fulfilling customers' needs and expectations, such a market attitude will also be beneficial for society.

As many factors influence the bank market performance, the scope of the research might be its limitation. Although the Polish banking market is one of the most competitive and stable banking markets in Europe, the results cannot be directly extrapolated to other banking markets.

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THE EFFECT OF THE CRISIS ON THE ECONOMY OF ROMANIA

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Abstract. *The economic situation of the various countries has been an important subject for anyone but especially for economists. Nowadays, economic phenomena are carried out in a very rapid and profound manner, evolution taking into account various factors such as social, political, cultural, and last but not least, those in the field of information technology and technology. Thus, when the first signs of the current crisis began to be observed, the whole world was alert in only a few hours. In the opinion of economists and monetary, financial crises appear as a manifestation of banking crises, with an impact on financial stability and collapse of financial infrastructure in the absence of central bank intervention. The economic crisis that hit the world economy in the summer of 2007 is unprecedented in the post-war economic history. Although the current crisis has many features in common with past similar recession episodes. The crisis has been preoccupied with a long period of rapid credit growth, low risk premiums, abundance of liquidity, a strong leverage, rising asset prices and bubble development in the real estate sector. Economic activity is characterized by cyclicity, with periods of decline being a normal component of an economic cycle. Crises are not a new phenomenon, but over the last 100 years, due to the acceleration of the pace of economic development and the enormous advances in technology and communications, the frequency of such phenomena has increased. Such happenings have taken place in the past (e.g. in Japan and the Nordic countries in the early 1990s, the Asian crisis in the late 1990s). However, this time is different. The current crises are global and resemble the events that led to the Great Depression of the 1930s. But only two crises remain in history due to the size of the negative impact on people's lives and the international economic system: the 1929 Great Depression and the 2008-2010 Real Estate Crisis. Although there have been more than eighty years between the two, many similarities in origin, causes and propagation can be identified. The most recent one has taken on a much stronger character, because it is now too little time since its start and the effects cannot be fully analyzed. In addition, due to technological changes and recent financial innovations, the effects were much stronger and major interventions were needed to control them. To date, the most important effect is the bankruptcy of some banking and credit institutions in the United States and the European Union, as a consequence of defaulting, especially in the real estate sector, and the recovery of claims.*

Keywords: *crisis; banks; cyclicity; risk.*

Introduction

The increasing connection of the Romanian economy to the international, real and capital economic flows favored the recent catching-up process, evolved in the growth rates of 2000-2008. But an emerging economy, still marked by structural rigidities, open to the external market, can be deeply affected by such unfavorable economic conditions. As we can see, the spread of the economic and financial crisis in the United States and the UK has also hit the Romanian economy, which, from a 7.9% increase in real GDP in 2008 (true, artificial), is seeing a reduction meaning rhythm, and it is possible to reach even a negative rate in the years to come.

The analysis of the effects on our economy targets several plans: the evolution of the volume of production, orders in industry, the labor market situation and the evolution of unemployment, as well as the analysis of the investment rate in the economy. The data underlying this analysis are provided by the NBR through the March 2009 Contingency Report.

In Romania, the conjectural oscillations in the evolution of the volume of production in industry and construction are present even in the period before September-October 2008. However, after October - January, there was a decrease in production in these fields, the industrial one being the most affected (Berca, 2010).

The forecasts contained in the National Bank of Romania Context Bulletin illustrate a rebound in the growth rate of production since March. In the industrial sector, the revival is generated by the automotive industry (whose domestic demand is supplemented by an increase in external demand, especially in the German market). A positive development is also expected from the construction materials and oil processing industry. The metallurgical and related industries (metallic constructions etc.), which faced a reduction in production and orders in four to five months, seem to interrupt the negative trend and have a slight increase over the next period. Industrial branches such as textiles, footwear, clothing, leather will continue to decline in production volume, being directly influenced by the decline in aggregate demand (especially end-user goods) and in revenue cuts (Armeanu, 2005).

Developments in European countries during economic crisis

The World Bank estimates on the impact of the economic crisis, which began in 2008, predicted the largest decline in GDP for the European area. In developed economies, this period brought the first decreases in key macroeconomic indicators after years of consecutive increases. Emerging economies in Europe have been hit harder by the sudden halt in foreign capital inflows and the lack of adequate monetary and fiscal policies.

The latest crisis began in the United States by breaking the "bubble" of the property sector. The structure of the financial system has made it possible to spread the effects globally. To make the most of the leverage available, financial and banking institutions had to reduce their credit risk. Thus, these institutions have recourse to the

development of packages involving several instruments with different risks, the calculation of a risk per package and their sale to third-party financial institutions.

Such packages also included many unprofitable assets or very high risks. If the ultimate consumer becomes incapacitated, responsibility lies with the financial institution that bought the package and not with the issuing bank.

Thus, dangerous banking assets have become the property of international banks, including European banks. When more and more people became incapacitated in the US, European banks were also drawn into this dangerous liquidity mechanism. Many banks were overexposed due to bad loans.

The main result of the crisis from this point of view was the increase in risk aversion to these banks, which led to a major contraction of loans with negative effects on the real economy.

Emerging economies in Central and Eastern Europe have been heavily affected by this credit shake because both investors and financial institutions, in the desire to protect their financial resources, have resorted to measures such as:

- blocking investment projects
- tightening credit conditions
- stopping activities
- Withdrawal from certain countries
- reversing capital flows (from the emerging country to the mother country)

Investment stagnation has destabilized these economies, whose system is largely based on foreign capital contributions.

One of the effects of these measures is to increase the degree of regulation in the financial and banking sector. This measure comes after a long period of relaxation of fiscal policies, which has contributed to the spread of the crisis.

Many prestigious economists have expressed their dissatisfaction with the market deregulation movements before the financial crisis. Nouriel Roubini, in his book *Crisis Economics*, explains in detail how these movements for market deregulation have contributed to the 2008-2009 disaster. In its view, the unprecedented diversification of financial instruments, made possible by the fall in the regulation of the financial and stock market, fueled the risk appetite of investors and hid the risks to which certain financial assets were subject. The specific risks of certain assets were concealed by grouping these tools into packages and offering the possibility to buy such packages with very few additional guarantees. Thus, investors added to their portfolios and traded many so-called "toxic assets" on stock exchanges. The financial crisis that started in 2008 has highlighted these issues and has severely destabilized the financial markets. European financial institutions have played an important role in distributing and securing toxic assets. This is one of the reasons why the crisis has been felt more strongly in Europe than in other areas. Many European banks held a large volume of toxic assets. At the same time, these institutions also represented important sources of financial resources for emerging economies, such as Romania. In order to recover from the effects of toxic assets, banks were forced to use important financial resources, reducing their exposure to other markets.

Major European banks were more exposed than US ones due to the use of larger levers. They offset the risks associated with large leverage by holding less risky assets and securing them. The size of banks transforms them into dangers for the economic system, which is why the government is obliged to keep them from failure (which would affect the country's macroeconomic situation much more strongly). Thus, the exercise of the role of a last resort creditor has become a tool used extensively during this period. If the role of the US in the US lies with the Federal Bank, there is no such institution in the European Union. The European Central Bank is not authorized to do so. Under these circumstances, national governments intervened to save banks in countries such as Belgium, Germany, Iceland, and the United Kingdom.

In emerging countries, foreign capital dependence strongly affected their ability to relaunch the growth process. When capital markets jammed, by the end of 2008, these economies had no reserves to which they could call for continued economic growth.

The fall in domestic economies was only one of the factors that led to the disastrous results in these countries. Other important factors were:

- the share of non-performing loans in bank assets, which in some cases exceeded 25%.
- similar to the US real estate bubble existed in these economies.

The result was the narrowing of the main indicators of economic growth, together with worsening indicators of living standards.

Global trade has also experienced a sharp contraction, including in the developed countries of the European Community whose export structure is heavily diversified. Decreasing consumption affects production and, indirectly, unemployment. Decreasing consumption leads to a general reduction in demand for most product categories. For this reason, companies are forced to reduce their production and make redundancies or other similar measures to reduce their spending. If before the crisis of dependence on external financial resources brought advantages to the countries, it has now turned into an important risk.

Although the effects of the shock were generally lower in the European Union than in the US, the fall in GDP is similar. Prior to the crisis, the annual GDP growth of the European Community was 3.2%. In 2008, this figure dropped by half. For 2009, Europe's most drastic decline was registered by Finland (- 7.8%) and Slovenia (-7.8%) followed by Ireland.

For the same period, the unemployment rate reaches the highest in Spain, 18%, followed by Ireland and Slovenia by 11%.

Another reason why the impact of the crisis was so strong in Europe is the low savings rates of the population. Basically, this was largely based on credit for consumer growth, with the saving rate being negative for the most affected countries:

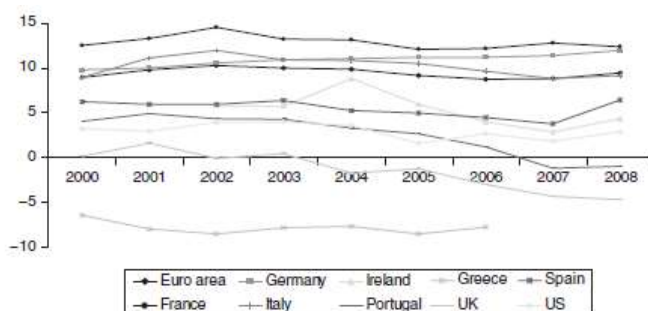


Figure 1. Population saving rate

(Source: Arestis, An assessment of the Global Impact of the financial Crisis, 2011)

However, the situation is not as dramatic as in the US, especially due to European policies on:

- less involvement of European banks in the creation of new financial instruments that include both promotional and hide actions
- less expansive monetary policy
- the low value of the external deficit calculated on the whole European block

Although the European economic system as a whole has been saved by measures taken at EU and national level, the economic crisis has revealed the many existing weaknesses. One of the most important is the lack of anti-cyclical policies and control measures that can be implemented in case of destabilization of the financial market.

The impact of the crisis on the evolution of FDIs in the European Union

Between 2005 and 2010, the total value of intra-European trade increased by 19.1%. In 2010, trade in services in the EU-27 accounted for 56.1% of total exports and 58.4% of imports. Most foreign direct investment made by EU Member States was directed to 56% of other EU Member States.

In terms of value, commodity trade has gradually increased since 2005 and total exports have increased by about 18.9%. Since 2009, as a result of the crisis, trade in goods and services has fallen by 19.1% for goods and 9% for services. The increase has resumed since 2010 with higher values than previously recorded. Data published by Eurostat presents the situation as follows:

It can be noticed that the most drastic decrease was recorded in the FDIs at the inter-European level. For 2009, values of up to 60% are lower for this indicator. 2010 saw a return of all indicators to values similar to those in 2007. Statistical data is presented for the EU-27 as a whole, but the situation in each country is different.

Most FDI flows in the EU Member States are heading for other states in the Union. Luxembourg, France and Germany made the largest contributions to intra-European FDIs in 2010.

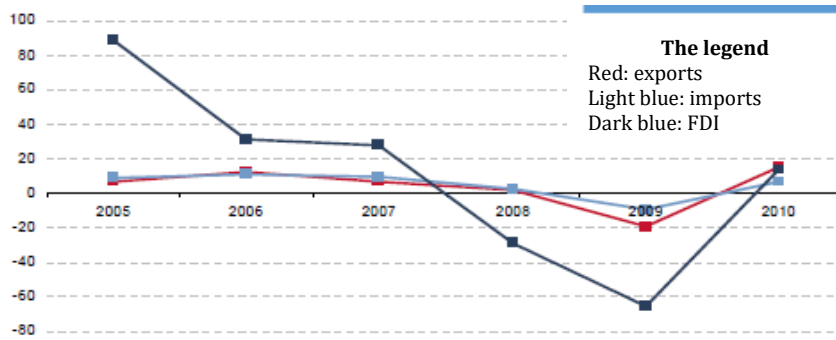


Figure 2. Development of imports, exports and FDI between 2005 and 2010
(Source: Eurostat External Trade Report, No 3/2012)

In the foreign direct investment sector, the economic crisis had a major impact, resulting in a sharp drop in the volume invested. The rapid resumption of investment is largely due to the encouragement policies adopted by the institutions as well as to the growing need for firms to remain competitive on the international market. A side effect of the economic crisis was the need to reduce costs from multinational firms. One of the methods used was the relocation of production capacity to EU regions with lower costs, especially for labor. The effects are multiple. On the one hand, moving production to another country involves investment in that country, which has led to an overall increase in the volume of FDI. On the other hand, products made in less developed countries are exported, as evidenced by increased trade between EU countries.

The evolution of the production volume

However, the resumption of the demand for building materials should not be attributed to the development of new real estate projects, but rather to the need to continue and complete the already contracted works (Popescu, 2007). In fact, the strong reduction in demand for housing due to the cessation of lending and, on the other hand, to expectations of price reductions will very likely lead to a stagnation or even reduction of entrepreneurial interest in this medium-term domain. The optimistic expectations for the resumption of production are supported by another specific indicator such as the degree of utilization of production capacities in industry. It rises from 67% in February 2009 to 73% in March, indicating a relative revival of production.

Estimates on the use of production capacities

It should be noted, however, that in the context of the crisis, an asymmetric evolution of the analyzed branches is observed. This leads inevitably to a restructuring of the economy, to a repayment of the contribution of various branches to GDP. It remains to be seen whether the economic policies to be implemented in the next period will contribute to this structural adjustment process or will rather seek to "rescue" the sectors most affected by the crisis. Improvement of the economic outlook can also be corroborated by the positive trend of orders in these industries, whose production has a growing trend (the automotive industry, construction materials, oil production and derivatives).

The evolution of orders in industry and construction

In contrast, orders in the construction sector are slightly negative (the short term balance illustrated by the National Bank of Romania Draft March 2009 Bulletin is close to zero). Private entrepreneurs in the textiles, clothing, footwear, leather goods, transport services, energy infrastructure have reduced their production due to reduced demand for specific goods (both domestic and foreign).

Labor Market - According to the records of ANOFM, the number of redundancies increased in September-November 2008 by about one third compared to the same period of the previous year (with a maximum of 16.8 thousand people reached in November). The most frequent announcements to close down production capacities came from the industrial sector and especially from export-oriented branches (as a result of external demand contracting). These include: the petrochemical industry, metallurgy and metallic constructions, means of road transport and automotive components, machinery, electrical equipment and apparatus. Given the relatively high degree of specialization of these industrial segments, the re-employment or retraining of the redundant is difficult, which accentuates the size of cyclical unemployment.

The evolution of the labor force and unemployment rate

Unemployment rose by 0.1 percentage points from September to November, rising to 4.4% in January and 4.9% in January respectively. The deterioration of the labor market conditions is obvious and the forecasts also anticipate adjustments of the hired personnel in the following period. Also a factor that is meant to amplify the unemployment dimension in the coming period is the flow of labor migration back to other European countries, generated by worsening employment and social conditions in recipient countries.

The general tendency on the labor market is to reduce employment and, implicitly, to increase unemployment (in particular, cyclical) (Totir & Dragotă, 2011). A worsening of the employment situation will be felt in industry, especially in those branches that are forced to reduce their production of goods and services. There are, however, industries that, due to relative revival, have slowed the pace of layoffs.

In terms of wage growth, 2009 starts with a reversal of the trend. In September 2008, the gross average earnings were set at 1751 lei, increasing constantly until December to 2023 lei. The percentage increase reported in December / September is almost 16%. In January, however, there is a reduction in the salary of approx. 10% over the previous month, reaching an absolute level of 1839 lei. The explanations of a relatively late adjustment of wages in relation to economic activity should take into account the existence of rigidities of nominal wages (even in the private environment), keeping the contractual terms on wages that were negotiated at the beginning of 2008.

Analysis of labor market developments allows important conclusions to be drawn. The first shows a worsening of the unemployment situation in the economy, even if the unemployment rate is around what economic theory called natural rate. The second concerns the increasing pressure on the social security budget as a result of the increase in the volume of transfer payments (unemployment aid, etc.) committed from the budget (Mărginean, Stanef & Crețu, 2011). Or, given the existence of an already large

budget deficit, there is a need for a rethink of economic policies in the field. A third conclusion shows that the evolution of wage earnings, especially from the private sector, correlates with the economic situation and the expectations regarding future developments. We cannot say the same thing about the public sector. Except for certain staff reductions invoked by the government (or, rather, the freezing of vacancies in the flowcharts of central and local) blocking certain bonuses they were not taken real reform so as to achieve a reduction the weight and role of the state in the economy.

The level of investments (gross capital formation) registered a pronounced negative evolution starting with September 2008, the month in which the signs of the global crisis have become more and more acutely felt in the Romanian economy.

Estimates of investments

During this period, it can be noticed that the reduction of investments in construction will continue in the next period. A similar development will also be recorded in the manufacturing industries, electrical and electronic equipment. The downward trend will be present mainly in industries such as metallurgy, metal, construction, chemical, and energy transport, methane gas.

Inflation rate - The annual inflation rate has a downward trend, but remains at levels above the variation range.

Inflationary pressures remain strong - mainly as a result of rising food prices and lax wage policies adopted by politicians in the run-up to elections. In the second quarter, Romania ranks first among the 27 EU Member States, with a growth rate of 9.3% rate projected for 2008 - 9.1%).

In 2008, the current account deficit (main vulnerability) increased significantly; it is forecast that by the end of the year it will reach 18.6 mild. EURO (13.4% of GDP).

In the first 8 months of 2009, Romania attracted foreign direct investment of 6.5m. EURO; they will likely reach 8-10 mild. EURO at the end of the year (Păun, 2010).

Conclusions

The banking system is particularly complex because of the multiple ways in which it acts on the overall economic system. The main role of banks is to attract financial resources in the form of deposits and to capitalize them in order to obtain profit.

At the level of activities, however, there is a strong diversification of the operations executed by banks (Mărginean & Orăștean, 2011). Diversifying the work of these institutions changes how they affect the economic system as a whole. The latest economic crisis highlights this. Due to the large number of financial instruments and the increasing complexity of transactions between the various financial institutions, major system failures have prompted the international crisis to spread the crisis.

Romania was less directly affected by these factors because the domestic banking system still relies heavily on traditional financial instruments. The lack of so-called toxic assets has diminished the contagion effect on Romania (Mărginean, 2011). However, the

country has been indirectly affected by the overall fall in international consumption and foreign direct investment. These two factors led to a strong economic contraction in 2009-2010. 2011 marked the beginning of a stabilization period, with the main economic growth indicators reporting its upward trend. Favorable outcomes have been achieved through sustained efforts by the authorities and the NBR to manage fiscal and monetary policy. The main threat currently present for Romania is the cessation of the economic growth process. This can happen either due to the misalignment of control over the economic system or due to the decrease in international consumption (Băcescu, 2004).

For the other countries in the European Union, the impact of the crisis has been strongly felt due to the links between European and American banks. The share of toxic assets and bad loans in the portfolio of these banks has led to important problems and, in many cases, to the need for state intervention as a last resort creditor. Each state has implemented its own anti-crisis package and, although there has been a correlation at European level, the results are very different in the case of national economies (Aglietta, 2001).

For the whole of the European Union, the crisis has revealed some errors in the international financial system and has destabilized the classic conceptions that some institutions are too big to fail. The dependence of the European economic sector on the functioning of the financial and banking system has led national governments to intervene in order to avoid stronger adverse effects in the future.

Economic cycling is a known and proven phenomenon on many occasions. The lack of a set of anti-cyclical measures that can be implemented in similar situations is a major weakness of the European economic system.

One of the most important factors in the propagation of the crisis was the circulation of banking assets between institutions. The possibility of reselling risky assets as part of low-risk packages is a relatively recent practice, which has been favored by some leaks in the US and European regulatory system. At present a considerable effort is being made to strengthen control over financial institutions, but their increasing negotiating power could lead to similar effects in the future.

The 2008-2010 crisis is not the first of its kind in the last century. There have been many similar periods in recent history, but the seriousness of the current situation is largely due to the increase in trading speed and the diversification of financial instruments. In the future, none of these intensifying factors will disappear and will not diminish its importance. For this reason, it is all the more important to exercise good control over the system while avoiding choking it. Finding this balance is one of the greatest challenges of the present century (Haralambie, 2011).

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ROMANIANS' TAX COMPLIANCE IN A COMPARATIVE PERSPECTIVE

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Abstract. *Using a comparative database generated through an experimental study on tax compliance and policy preferences ran in five countries (Romania, the US, the UK, Italy, and Sweden), I will evaluate the extent to which the Romanian young people exhibit higher or lower levels of tax compliance when compared with young people from other countries. The historical analysis traces the historical roots of systemic tax avoidance in Romania, while the analysis tests the explanatory power of the theoretical approaches on the causal factors that shape tax compliance can be divided into structural level and individual level theories. The two main streams of structural level theories focus either on culturalist or institutionalist factors. The individual level models, on the other hand, are the economic models of deterrence and the socio-psychological theories of tax morale.*

Keywords: *tax compliance; trust; tax morale; Romania; experiment.*

Introduction

This article represents an attempt to understand the extent to which the historical inheritance of tax avoidance in Romania influences the contemporary youngsters, when compared with similar generations from other countries. The article is structured as follows: first, I review the main important theoretical approaches on tax compliance, and discuss their implications. Second, I review some historical milestones that have influenced the level of tax compliance in Romania. Third, using a multivariate analysis, I analyze the extent to which Romania's Millennial generation is still influenced by Romania's past, or resembles more the same generations from more developed countries.

Literature review

The efforts to describe the causal factors that shape tax compliance can be divided into structural and individual level models. The main streams of structural level theories focus either on culturalist or institutional factors. The individual level models, on the other hand, are the economic models of deterrence and the socio-psychological models of tax morale.

One of the most influential structural level approaches to tax compliance, and too many other social phenomena as well, the cultural approach to tax compliance emphasizes norms and values, with a special focus on the meaning of social morality. While in northern European countries social, impersonal, autonomy-based norms are arguably dominant, southern or Latin American countries are argued to have more family-based norms. (Banfield, 1967; Tabellini, 2010; Torgler, 2002) One of the most important implication is that countries like Romania and Italy should exhibit lower level of tax compliance, since they manifest more collectivistic norms.

The other important structural level approach, the institutional trust approach, stresses that people's perceived legitimacy of the state leads to tax compliance and respect for the rules. From Levi's quasi-voluntary compliance argument (Levi, 1989) and Steinmo's analysis of differences in tax systems, (Steinmo, 1996) more recent studies that look at the attitudes towards the welfare state (Edlund & Lindh, 2013) as explanations for tax compliance and institutional trust in general. (Mishler & Rose, 2001; Uslaner & Bădescu, 2004)

The individual explanations of tax compliance based on the deterrence-based model initially advanced by Becker (Becker, 1968), Allingham and Sadmo (Allingham & Agnar, 1972) have developed a various models on the assumption of fully rational utility-maximizer individuals that can adequately evaluate the parameters of the tax game (e.g. the tax rate, penalties and detection risk). In these models, tax compliance depends on people evaluation of the risk of being caught. Instead, the tax morale approach to tax compliance is developed in the work of Schmolders (1959) on tax mentality, or Strumpel¹, and hypothesing that the higher the belief in the importance of paying taxes, the higher tax compliance should be. (Torgler, 2002) A recent study by Todor (2018) on the history of tax compliance in Romania voiced that the presence of high tax morale combined with widespread tax evasion implies that tax compliance cannot be improved sensibly through deterrence mechanisms. This is caused by the fact that a less-than-perfect institutional setting easily transforms deterrence into discretionary power that encourages corruption.

Historical milestones in structuring Romanian's attitude towards taxation

To start with, the territory of contemporary Romania has been organized throughout history mostly in three different kingdoms: Moldavia, Wallachia and Transylvania (the fourth province, Dobrogea, was part of Ottoman Empire after 1420 until 1878). One of the most important national collective identity projections is that these kingdoms were generally ruled by peace-loving kings who had to protect their lands from various plundering migratory people like Huns, Tatars, and Turks.²³ As in many other medieval states, the nobleman were exempted from paying taxes until very late, for example, in Moldavia until 1636 the noblemen in the province of Moldavia did not pay taxes. The recentralization (decreasing the latitude of noblemen to impose freely taxes on their feuds) of tax system started very late, when in 1740 Constantin Mavrocordat introduced one of the first comprehensive reforms of the taxation system, simplifying it. In Transylvania, during the medieval period most of state's income came from monetary operation, taxes, and income provided by mines and the salt mines. Each household had to pay an annual tax. The servant peasants had their own tax duties towards the noblemen's, but these contributions were more regulated than in Moldavia and Wallachia. While all the three kingdoms have paid tribute towards the Ottoman Empire for most of the period, the overall burden was lower generally in Transylvania compared with Moldavia and Wallachia. The importance of tribute and the presence of an

¹ 1969

² Hiding money from various migratory populations during their invasions was very important

³ Marian Vasile, "Evaziunea Fiscală ca Fenomen Monetar Negativ," (Tax evasion as negative monetary phenomenon) An. Inst. de Ist. „G. Bariț” Din Cluj-Napoca, Seria Humanistică, Tom II (n.d.): 1.

impoverishing tax system designed also to extract money for paying the tribute is a constant feature of portraying this period on most history textbooks.

One of the historical periods that tends to be portrayed in the most negative terms and had a long impact on how the population related to the state institutions is the Phanariot period that lasted between 1711 and 1821 in Wallachia and Moldavia. The most peculiar feature of this period was that a family would buy the right to rule in one of the provinces for a period of 7 years. Given the high amount they had to pay for their position, the rulers had a large room of maneuver to discretionary impose taxes, to alter their level and to sell virtually any position in the State apparatus in order to recover their investments. Those that bought those positions would perpetuate a similar behavior aiming to collect money to cover their investment. While in the first part 1711-1700 the ruling families were of Romanian origin that were Graecized (Hellenized), between 1770 – 1821 period, the ruling families were of Greek origins.⁴ Especially the second period portrayed the transformation of the state system in an apparatus design exclusively as spoiling the resources of the locals for the benefit of foreign elite that had no interest in developing the provinces. Thus, tax evasion became a virtue as the legitimacy of the state apparatus was totally absent.

Given the continuously decreasing influence of the Ottoman Empire and the rise of Russian Empire, after the 1821 Revolution, the Phanariot regime was abolished. While Romanian rules were reinstalled, their influence was rather limited since Wallachia and Moldavia came more and more under the Russian influence. Subsequently, in 1831 Wallachia and in 1832 Moldavia, under the direct influence of the Russian Imperial Authorities, the first set of proto-constitutional regulations (*Regulamentele organice*) were promulgated. Subsequently, in 1856 Wallachia and Moldavia unified under the same rule Alexandru Ioan Cuza and after 1866 the political elite installed a foreign ruler, Carol I de Hohenzollern-Sigmaringen, who became king in 1881 after Romania gained its independence. It is worth mentioning that in most history books the references to the prevailing tax systems during this period are only minimal.

The most notable institution evolution that indirectly affected the tax system is the evolution of land property by the Church. Since the medieval period, the only institution that kept its tax privileges was the Orthodox Church (under Romanian or Greek influence). Through constant donations received over several hundred years, by 1863 the Church owned approximately 25% of the land of the Romania⁵. Thus, in 1863, Cuza proposed to the Parliament, which accepted with 93 to 3, the full confiscation of all land properties of the Church, confiscation that lead to a significant surge in state revenues. This process led to the semi-elimination of foreign influences (especially Greek monasteries held important land properties) and consolidation of the national Orthodox Church.

The official preoccupation with the level of tax compliance started very late, the first law that explicitly forecasted measures against fiscal evasion was introduced only in 1921 followed by an easing in 1923 when the minimal tax obligations and some penalties

4 Anca Dulcinatu, *Trasaturi generale ale regimului turco-fanariot in Principatele Romane: Tara Romaneasca si Moldova* [General traits of Turkish - Phanariot regime in Romanian Principalities, Tara Romaneasca and Moldavia] n.d., 2, <https://www.academia.edu/5274436>.

5 http://www.historia.ro/exclusiv_web/general/articol/cum-l-sat-cuza-vod-biserica-n-sap-lemn

were eliminated. Under the leadership of the Minister of Finance, Nicolae Titulescu, the 1921 law introduced a progressive tax on the declared global income, and defined a luxury tax and a global business turnover. The 1923 law created significant loopholes (one of the most important forecasts referred to the possibility to over value the total value of buildings, etc.), that led to an uneven distribution of the fiscal burden⁶ and generated some significant negative effects on the direct tax income. Thus, the 1929 Law for repression against fiscal evasion on direct contribution⁷ represented the first Fiscal Code with detailed instruction for fighting tax evasion. (Virjan, 2011, p. 7) The 1929 law imposed more minimal fix contribution based on presumption and external evaluation. Also, for the first time, the attempt to bribe a fiscal public employee became punishable by imprisonment. Subsequently, a new law elaborated in 1933, the Law regarding direct contribution introduced penalties, fiscal offence and fiscal evasion. After World War Two, the Law no. 344 from December 29, 1947 introduced some harsh penalties against tax evasion but also introduced the possibility to pay previously avoided tax in order to avoid prison. While during the communist period the possibility of tax evasion was relatively limited since most direct taxes were withheld at the source, and most economic assets were state owned, the culture of informality and various networks design to access limited resources have nurtured a culture of corruption and rule avoidance. (Uslaner & Bădescu, 2004) Overall, despite the significant changes experienced by Romania in the post-communist period, the level of tax avoidance have remained relatively significant by today. (Todor, 2018) One of the expectation based on this situation is that Romanian's should exhibit lower levels of tax compliance when compared with people from other developed countries, where the overall level of tax compliance is also higher.

Methods and experimental protocol

In this section I will briefly present the main characteristics of the experimental design through which the data for the comparative study has been obtained. The experimental protocol is described in detail in (Pampel, Andrighetto, & Steinmo, 2017; Zhang, Andrighetto, Ottone, Ponzano, & Steinmo, 2016), and thus I will only briefly present the main characteristics of the activity. The subjects were recruited through public announcements and selected using ORSEE software (Greiner, 2015) with similar procedures in all locations. The experiment was run in two to four different locations in different universities that had adequate physical infrastructure for the experiments in each country. In practice, most participants were undergraduate students, and some recent graduates. The instructions were read by native speakers, and the experimental protocol was translated in each language and doubly verified.

After their arrival, participants were randomly assigned an anonymous ID, were directed towards a computer station and were asked not to talk to the other participants until the end of the experimental session. The first three stages started with a five-minute clerical task consisting of copying information from a sheet onto a table. Based on their proficiency in executing the task, each participant earned a number of Experimental Currency Units (ECUs). Each participant had to transmit their earnings after the clerical task with the formula "report your income for tax purposes" under six different institutional scenarios. Each participant was informed during the instruction

⁶ There was no property tax on the buildings owned by economic entities.

⁷ "Legea pentru represiunea evaziunii fiscale la contribuțiile directe" (Law for repressing the tax evasion to direct contributions)

that there was a 5 per cent audit probability, an audit that would fine them double the amount of money they under-reported. Whether a participant was audited was revealed only at the end of all stages in order to avoid any effect of the audit from one round to the next. These are the differences among the six scenarios: y1 Participants were told that the tax rate is 30%, with no mention of redistribution of tax revenues; y2 The tax rate remained at 30%, but all tax revenues were placed in a general fund which was subsequently divided equally among all participants; y3 A tax rate of 30% going to a general fund, with the lowest 20% of earners receiving slightly more from the fund than those with average and above incomes; y4 A tax rate of 30%, with revenues going to the national government (Department of Treasury); y5 A tax rate of 30%, with revenues going to the Social Security, Retirement System (National Pension Scheme); y6 A tax rate of 30%, with revenues going to the local Fire Department.

Data interpretation

In figure 1 I present the distribution of tax compliance decisions by participants in all the six rounds of the experiment. As it can be easily seen, the number of decision of full compliance, where a participant report 100% of his income is significantly higher than in any other countries. Furthermore, Romania has the lowest number of participants that reported 0% of their earnings. Thus, Romanian participants do not have the same profile as the rest of the countries, but not in the expected direction, but the opposite.

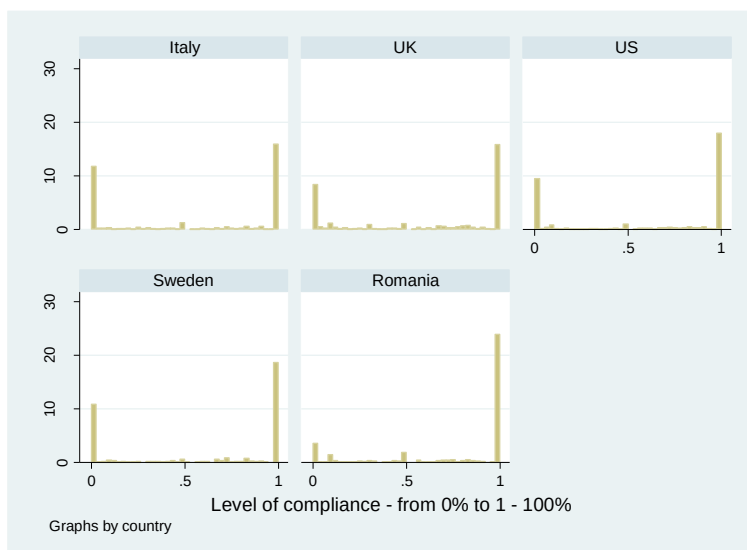


Figure 1. Distribution of tax compliance decisions by country

To understand the factors that explain the higher level of tax compliance under experimental conditions in the case of the Romanian participants, in table 1 I present the results of a regression analysis run separately on each of the five countries. Y2 to y6 represent the comparative reaction in these stages of the experiment when compared with the baseline, y1 choice. Peculiar to Romanian participants is that none of the stages has a positive or negative significant difference when compared with the baseline. Instead, in all other countries at least one of the stages led to statistically different reactions. Compared with the interpretation of the data in figure 1, this implies that means that the default position of the Romanian participants was to fully report their incomes, and not alter their strategy based on the different structure of incentives

presented in different rounds. The questions regarding the preference for free market and opinion towards wealth accumulation does not have a negative effect on the level of tax compliance under experimental conditions. Also, the question regarding the level of trust in the national government does not have an explanatory power on the level of tax compliance. Instead, the Social Value Orientation angle is not a statistically significant predictor of compliance only in the case of Romania. Thus, while in the other countries, people with more prosocial attitudes tend to be more tax compliant, in Romania this feature does not make a difference, maybe also given the high level of tax compliance. As in Italy and Sweden, the level of tax morale does not affect tax compliance. Instead, the tax morale has a positive effect on compliance in the UK and the US. Last but not least, the other variable where the behavior of Romanians is peculiar is the risk aversion. While risk aversion is negatively associated with tax avoidance in all countries, in Romania this is not the case.

Table 1. Explanatory models for tax compliance under experimental conditions

	Romania	Italy	UK	US	Sweden
	b/se	b/se	b/se	b/se	b/se
y2	-0.023 (0.04)	0.180*** (0.03)	0.006 (0.04)	0.045 (0.02)	0.113** (0.04)
y3	-0.036 (0.05)	0.182*** (0.03)	0.055* (0.04)	0.087*** (0.02)	0.097* (0.04)
y4	-0.077 (0.05)	0.037 (0.02)	0.022 (0.06)	0.048* (0.02)	-0.043 (0.06)
y5	-0.001 (0.05)	0.098** (0.03)	0.024 (0.06)	0.084*** (0.02)	0.010 (0.05)
y6	0.094 (0.05)	0.130* (0.04)	0.040 (0.03)	0.139*** (0.02)	0.087 (0.05)
Free markets are good because they stimulate people to work hard and develop new ideas (l) vs free markets are harmful ...	-0.007 (0.01)	-0.000 (0.01)	0.011 (0.02)	0.012 (0.01)	-0.012 (0.01)
People can only get rich at the expense of others (l) vs. Wealth can grow so that there's enough for everyone (r)	-0.005 (0.01)	0.001 (0.01)	-0.030* (0.01)	-0.012* (0.01)	-0.023* (0.01)
Trust in the national government	0.016 (0.01)	0.002 (0.01)	0.005 (0.01)	0.010 (0.01)	0.003 (0.01)
Social Values Orientation angle	0.004 (0.00)	0.007* (0.00)	0.007* (0.00)	0.007*** (0.00)	0.006** (0.00)
Left – right scale placement	-0.013 (0.02)	0.018 (0.01)	0.004 (0.02)	0.020* (0.01)	-0.048* (0.02)
Tax morale	-0.000 (0.01)	0.006 (0.01)	0.023* (0.01)	0.019* (0.01)	-0.007 (0.01)

	Romania	Italy	UK	US	Sweden
	b/se	b/se	b/se	b/se	b/se
Risk attitude	-0.000	-0.031**	-0.057**	-0.011*	-0.026*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Age	-0.004	-0.003	-0.022**	0.009*	0.002
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Male	-0.184**	-0.147*	0.009	-0.212***	-0.251***
	(0.06)	(0.05)	(0.06)	(0.03)	(0.04)
Past participation	-0.124	-0.085	-0.199*	-0.128**	-0.198*
	(0.09)	(0.08)	(0.08)	(0.04)	(0.08)
Study economics?	-0.014	-0.032	-0.235**	-0.078*	-0.092
	(0.04)	(0.05)	(0.06)	(0.03)	(0.08)
constant	0.934**	0.698**	1.629***	0.397**	1.154***
	(0.25)	(0.21)	(0.16)	(0.12)	(0.27)
AdjR-sqr	0.093	0.148	0.359	0.245	0.301
dfres	10	12	6	30	14
BIC	298.7	1562.5	339.6	2172.2	570.8
N	424.0	1426.0	417.0	2313.0	560.0

Conclusions

Base on this short data analysis, I conclude that the Romanian participants in this experiments where much less different than their counterparts from more developed counties than expected. To start with, Romanian Millennials manifest a significantly higher level of tax compliance under experimental conditions, under tight control variables. Overall, their tendency to act strategically given the different tax scenarios are being very limited, and they also do not exhibit variation in tax compliance based on their risk attitudes or social behavior. This data strongly indicates that the historical negative inheritance has apparently no measurable effect on the Romania's Millennial generation, when compared with the similar generations from mode developed countries. Nevertheless, given that this data was obtained under experimental conditions, this does not mean that through socialization their behavior could not be perverted in practice.

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DEVELOPMENT OF AN INTEGRATED APPROACH TO THE ASSESSMENT OF THE MORTGAGE LENDING SYSTEM FUNCTIONING EFFICIENCY IN THE RUSSIAN FEDERATION

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Abstract. *Recent years, the macroeconomic situation divulged a complex of problems in the quickly developing system of mortgage lending in Russia – the fall in the cost of property pledge, a sharp rise of the overdue arrears in the issued mortgage credits, the low efficiency of the work of Mortgage and Housing Lending Agency. In spite of the negative factors and conditions, accompanying the development of Russian system of mortgage lending, the experience of industrially developed countries shows that in the market economy the mentioned form of credit relations is one of the main instruments in solving social-economic problems – first of all, enhancing accessibility and providing the population with housing. There arises the objective necessity of modernizing the existing and developing the new trends in improvement of the mortgage lending system under the conditions of post-crisis development of Russian economy. The paper aims in the theoretical founding of the necessity to modernize the existing and develop the new trends in improvement of the mortgage lending system under the conditions of economic post-crisis development in Russia. We use the dialectical method, providing the objective character of study and the systematic approach to the examination of complex economic processes and phenomena. Methods of abstract-logical, comparative-analytical, statistical and economic-mathematical analysis were applied in different combinations on all the stages of the investigation. This enabled us to provide the grounds for the induced offsprings. We put forward a complex indicator to exercise estimation of the mortgage lending system functioning efficiency; to propose the algorithm of determining this indicator; to realize*

the economic-mathematical modeling of quantitative prospects for the national system of the mortgage. The monitoring of the mortgage lending system functioning efficiency in Russia showed the significant increase of efficiency in the organization of financial-economic and organizational-legal relations, formed in the process of mortgage lending system functioning. The proposed complex indicator acts as such, enabling to provide spatial-temporal compatibility of criteria and indicators of state in the primary and secondary markets of mortgage lending, to form the integral and accessible information base of the system development dynamics as well as of its elements, to expound the priority trends in the regulation of specific for this country type of credits.

Keywords: mortgage lending; integral efficiency indicator; credit organization; mortgage lending market; commercial bank.

Introduction

The research gap covered by this paper is a lack of an integrated approach to the methodological provision of Russian mortgage lending system functioning. Without integral approach, the high-interest rate stipulates high profitability in the business of the banking sector but tells negatively on the financial position of the population. The enlarging of benefit crediting on account of the budgetary means makes housing more accessible but leads to the additional load on the finances of the state. In this research, we provide an integral indicator for evaluating the efficiency degree of the state policy regarding mortgage lending, taking into account the budgetary, commercial and social-economic efficiency of the mortgage lending system.

The theoretical and historic grounds of the mortgage lending organization, the analysis of the global practice, first of all, in the developed countries, as well as the study of mortgage lending development problems in Russia are reflected in the works of Ambrose, Benjamin and Chinloy (2003), Becker, Osborn and Yildirim (2012), Booth and Walsh (2001), Chen, Chen and Chou (2010), Cushman (2012), Courchane, Darolia and Zom (2014), Crawford and Rosenblatt (1999), Diaz-Serrano and Raya (2014), Gary-Bobo and Larribeau (2014), Goremykin (2014), Mintz (2012), Nesiba (2003), Stolbov (2012), Torluccio and Dorakh (2011). In spite of a number of works of the above-mentioned authors, a significant number of materials in the problems of mortgage lending development, the specialists in this field are of no accord in the line of the most perspective trends in improving the mortgage lending system of Russia.

Therefore, being of a high opinion of the results, arrived at in the papers of the mentioned authors, we deem it necessary to note that there are a number of aspects, requiring keen analysis, introducing corrections and additions.

The progressive integration of the Russian economy into the world economic system requires incorporation of the national mortgage market into the international financial system. Participation in the international mortgage mechanisms leads to an intensification of cross-country capital movement, consolidation of the countries' financial spheres and approximation of international finance to the needs of the real economy, which will provide the basis for the stable development of the world economy.

In Russia, the mortgage lending institutions assume greater importance due to the systemic crisis recovery under the economic sanctions imposed in 2014. Development of the mortgage lending will allow diversifying business portfolios of national and international banks, insurance and investment companies. This is also necessary to improve the investment climate, to improve the standards and quality of living. The Russian mortgage market is at a critical juncture of its development, given its institutional deficiencies, infrastructural and administrative constraints imposed on its development.

The *Aim of the paper* is the investigation of one of the trends in improving the system of mortgage lending in the country, of the mortgage lending system efficiency complex estimation in the country, taking into account the interests of all the participants: of the population, state, financial-credit institutions, having at their disposal temporary free money units, and offering them for temporary use.

The *tasks* are: to investigate the topical problems of mortgage lending system functioning; to put forward the complex indicator to estimate the efficiency of mortgage lending system functioning; to examine the relevance of the worked out complex indicator practical application as well as of the presented algorithm, its defining in the estimation of mortgage lending system functioning efficiency; to realize economic-mathematical modelling of quantitative prospects in the national mortgage lending system development.

Materials and methods

In the present work, the key category is “the credit relations model”, because the organization of mortgage lending in different countries is characterized by special features, due to the various levels of their social-economic development, the specifics of financial-credit system functioning, historical and modern norms of legislation, regulating relations in the sphere of real estate pawn. Cross-country comparisons revealed a strong empirical relationship between levels of effectiveness of legal systems, comprehensive accounting and auditing standards, and credit registries, on the one hand, and the stability of financial systems, on the other hand (Badev et al., 2014, p.6). We can implement this rational approach to the classification of mortgage lending models in the developed and developing countries:

- the balanced autonomous model (contract-saving) of mortgage lending, based on allowance-saving functioning principle after the type of German “constructing savings-banks” (co-operatives);
- the reduced (traditional, one-tier or one-level, cut-open), a simplified model of mortgage lending, based on the primary transfer of pawns, presupposing the acceptance of securities on the provided credits by the clients of the financial-credit organization, and the next use of them as a provision for the part of attracted outer resources. This model of mortgage lending developed in Great Britain, France, Denmark, Spain, Israel and a number of other countries in Europe, Australia, South America, and also in such developing countries as Bulgaria, Poland, Hungary;
- the expanded open model (spread-open, two-tier, secondary mortgage market model), based on the secondary transfer of pawns, presupposing re-financing of financial-credit organizations with the help of securities market, specially organized for

this purpose – the securities, provided with pledges on the objects of real estate. A credit size depends on the client's income and credit history (Bricker et al., 2017). The present model of mortgage lending got development in the USA. It is noteworthy that the spread-open model of mortgage lending acts as a priority in Russia. Let us explain this further.

The *balanced autonomous model* is a "closed" financial structure, starting with the formation of an authorized capital – the source of financing to provide credit. Moreover, all the funds of the "construction bank", both equity and debt, are used only to fulfill its statutory activities, i.e. these funds are spent on real estate construction and granting housing loans. The balanced autonomous (contract-saving) model of mortgage lending is most successfully practiced in Germany and involves the following stages: within 2-10 years prior to the purchase of the real estate object, the creditor begins to make targeted savings in the "construction banks" or other specialized financial and credit institutions; once the amount reaches 45.0% of the property value, the buyer receives a state subsidy at a rate of 10.0% of the property value, along with a subsidized loan for 10-15 years to cover the remaining cost (Carragher & Webster, 2011).

The use of balanced autonomous model (contract-saving) of mortgage lending in real estate construction in Germany is determined by the dominance of its advantages: being closed, it is not directly affected by changes in the financial market; the borrower does not have to confirm his income, since his solvency is checked at the stage of saving; the interest rate on the mortgage is much lower than the average; the model ensures availability of loans for borrowers with different income levels and high efficiency of construction or acquisition of the real estate objects at low cost. The shortcomings are: the borrower has the right to purchase a real estate object only after the end of the saving period; this model helps to limit the volume of financial resources flow to the real estate sector due to restricting access of investors' resources to the mortgage market. There were several attempts to introduce cooperatives in Russia and recently there have been renewed attempts, but this practice remains underdeveloped (Mazure, 2012).

In Russia, the implementation of the surveyed mortgage-lending model is currently unreasonable because: it restricts the amount of mobilized resources only by the volumes of savings of investors interested in obtaining loans for purchase or construction of real estate, and does not cover savings and free financial resources of other economic entities; high inflation and a constant probability of an increase of its acceleration and increase in interest rates on competing savings programs and, accordingly, the need for higher government subsidies as the only way to preserve the attractiveness of contractual savings.

At present, the product line of some commercial banks operating in Russia offers special savings deposits or "mortgage deposits", which allow customers to collect a certain amount of savings within a few years, and then use it to pay part of the property cost and obtain a mortgage credit on better terms.

The relative simplicity determines the popularity of *reduced (cut-open) model*: in the Anglo-Saxon mortgage system, individuals may not notarize the act. At the same time, the subject of a pledge is not clearly defined (Blackwell & Kohl, 2017). Among the shortcomings are: interest rates on mortgage loans depend on the state of the national financial market, which affects the decline in lending activity during periods of crisis; no strict standards for mortgage lending – duration, cost; limited availability of credit

resources. Despite the fact that the reduced model (traditional, one-tier, cut-open) model of mortgage lending is a prototype of the market model for organizing credit relations, it is not acceptable in Russia.

In the *expanded open model*, mortgage lending with households acting as the borrower plays the key role. In the housing sector of Russia, private ownership of households in residential buildings is prevailing, and the cost of their houses significantly exceeds the annual income of their owners. Accordingly, obtaining a home loan in financial and credit institutions for purchase or construction of housing is almost the only means of financing, while mortgage lending is the most reliable loan method for economic entities. In the US, this model provided a huge growth in the real estate sector (Leathers, Raines & Richardson-Bono, 2015). It might be of interest to Russia since it involves self-sufficiency and self-financing; the model is rather stable due to the fact that most of the securities ensuring the inflow of credit resources have previously declared profitability and repayment period; it implies openness and focuses on obtaining financial resources from the capital market by independent investors.

Results and discussion: Methods of the mortgage lending system functioning efficiency

Complex estimation should be an integral indicator, which includes the data, taking into consideration different aspects of mortgage lending system efficiency – budgetary, commercial and social-economic. In this paper, we used statistic materials of the Central Bank of Russia (CBR), Rosstat, the data in official reports of the Housing and Mortgage Lending Agency (AHML).

The efficiency of the analyzed credit form is determined by social-economic, budgetary and commercial efficiency of mortgage lending. The subjects, acting as the pawnbrokers, creditors, and regulators of credit relations are the population (households), the state and the private sector. All these subjects pursue different aims: the population – improvement of housing conditions, the private sector – acquiring benefits, the state – enhancing the efficiency of the country's economy, overall, and improving the well-being of the population, in particular.

Our methods of the mortgage lending system efficiency estimation systematize the criteria and indicators for the estimation efficiency from different angles:

- it is supposed to carry on the estimation under the criteria and statistic indicators, considering social-economic, budgetary and commercial efficiency of the mortgage lending system, that ensures regarding the interests of all the parties concerned – the population, the representatives of mortgage community and the state;
- it is recommended to take into consideration the integral coefficient in the developed algorithm, that enables to compare the mortgage lending system management efficiency in dynamics and to estimate the condition of analogous systems in other countries (regions within the country).

The complex estimation of the mortgage lending system functioning efficiency presupposes several stages: constructing the rating system of the mortgage lending system functioning efficiency, based on the statistic indicators; carrying out the estimation of statistic indicators influence trends in the system of mortgage lending; developing an integral indicator of the mortgage lending system functioning efficiency in the country.

The set of the mortgage lending system functioning efficiency estimation criteria and the corresponding statistic indicators are represented in Table 1.

Table 1. The set of indicators, characterizing the mortgage lending system functioning efficiency (Composed on the base of the expert estimations method by Courchane, Darolia & Zom, 2014; Diaz-Serrano, 2015)

Criteria of estimation	Name of the indicator
social-economic efficiency	– the ratio of the amount of paid and issued mortgage credits – the level of the interest rate in mortgage lending – the level of the average terms in mortgage lending
budgetary efficiency	– the number of credit organizations – participants in the mortgage lending market – the number of credit organizations – participants in the secondary mortgage lending market – the number of overdue payments in mortgage credits
commercial efficiency	– the number of issued mortgage credits – the number of mortgage credits re-financing

The indicators, reflected in Table 1 and participating in the determining of the mortgage lending system functioning efficiency, are not always the same in value, and their mere sum may lead to an error in estimation of the integral indicator. This circumstance is explained by the following reasons:

- first, it is a generally accepted and necessary requirement for the calculation of any integral indicator to compare all the indicators of estimation, from the point of view of the universal system of measuring;
- second, the high figure of the integral indicator can be got through high figures of the less important statistical indicators, while the more important ones will have rather insignificant figures.

In this respect, there arises the necessity to apply weight figures to the indicators, participating in the mortgage lending system functioning efficiency determination. It is noteworthy, that the determination of weights in statistical figures through purely mathematical methods is impossible. That is why, in order to solve the arising problem, the most important of heuristic methods of investigation – the expert estimations method – was used. The received results testify to the fact, that the most important characteristics of the mortgage lending system functioning process efficiency are „social-economic results” (20 points), and the least one – is „commercial results” (12 points). The specialists in the banking business, on the whole, and in mortgage lending, in particular (Mintz, 2012), stick to the same position, regarding the mortgage lending system development as aimed in providing accessible housing for the Russian citizens – the system, basing on market principles, free from monopolism.

The next stage is the figuring of weights of each criterion, characterizing the efficiency of the mortgage lending system functioning efficiency by means of dividing the total estimation of the expert groups' members in each criterion by the total sum of estimations. The results of ranging the values of the mortgage lending system functioning efficiency criteria, based on the set of statistical indicators, in combination with the opinions of experts together with the calculations of the indicators weights are cited in Table 2.

Table 2. The final rating and weight of criteria in mortgage lending system functioning efficiency estimation (Composed by the authors on the basis of the data from AHML 2014, 2015, 2016; Rosstat 2014, 2017; CBR, 2018)

The criterion of the mortgage lending system efficiency evaluation	The final rating	The indicator weight
The criterion of social-economic efficiency	20	0,42
The criterion of budgetary efficiency	16	0,33
The criterion of commercial efficiency	12	0,25
Total	48	1

Thus, with the method of expert estimations, let us determine the weight figures of the statistical indicators inside the groups of the mortgage lending system functioning efficiency estimation criteria, where more than one indicator is calculated. Because the number of estimated positions is insignificant, a five-point scale was applied. The results of value ranging and calculating the weights for the criteria of social-economic, budgetary and commercial efficiency are reflected in Table 3.

Table 3. Ranging the values and calculating the indicators' weights for the criteria of social-economic, budgetary and commercial efficiency in the mortgage lending system (Composed by the authors on the basis of the expert estimations method by Courchane, Darolia & Zom, 2014; Diaz-Serrano, 2015)

The criterion of the mortgage lending system efficiency evaluation	The final rating	The indicator weight
The criterion of social-economic efficiency	20	0,42
The criterion of budgetary efficiency	16	0,33
The criterion of commercial efficiency	12	0,25
Total	48	1

The next stage in carrying out the complex estimation of the mortgage lending system functioning efficiency is determining the influence trend of each statistical indicator on the total indicator. This estimation was held, considering the leading Russian economists' positions Goremykin (2014) and Cochman (2012) put forward by them in their works, while analyzing this or that indicator. The opinions of experts are also taken into consideration – of those of the staff and the clients of the branches, additional offices of the Public Auctioneering Companies: Sberbank, Vneshtorgbank-24 (VTB-24), Rosselkhozbank, Gazprombank, situated on the territory of Magnitogorsk. The results of each statistical indicator's calculating trend in proportion with the total indicator during 2012-2016 are represented in Table 4.

Table 4. The estimation of statistical indicators' influence on the total indicator of the mortgage lending system functioning efficiency (Courchane, Darolia & Zom, 2014; Diaz-Serrano, 2015)

The indicators, enhancing the figure of the total indicator	Indicators, deteriorating the figure of the total indicator
$\Pi_{1.1}$ – the ratio of the amount of paid and issued mortgage credits	$\Pi_{1.2}$ – the level of the interest rates in mortgage credits
$\Pi_{2.2}$ – the number of credit organizations-participants of the secondary market in	$\Pi_{1.3}$ – the level of the average terms in mortgage credits
$\Pi_{3.1}$ – the number of issued mortgage credits	$\Pi_{2.1}$ – the number of credit organizations-participants in the primary market of mortgage lending
$\Pi_{3.2}$ – the amount of re-financing mortgage credits	$\Pi_{2.3}$ – the amount of arrears on mortgage credits

The carried out research testifies to the fact that statistical indicators have the contradicting influence on the state of the mortgage lending system. This fact should be taken into consideration in calculating the total indicator. The order of calculating the complex indicator of the mortgage lending system functioning efficiency estimation through the use of the statistical indicators integrity can be represented in the form of the following formula (1):

$$\Pi = \sum_{i=1}^n (P_i \times \sum_{j=1}^{\Pi_i} Q_{ij} \Pi_{ij}), \quad (1)$$

where P_i is the weight of the point in the i^{th} group of statistical indicators, or the value of statistical indicators separate group in the total estimation, $\sum P_i = 1$;

Q_{ij} – the weight of the point in the j^{th} statistical indicator in the i^{th} group, or the value of the separate indicator in the corresponding group, $\sum |Q_{ij}| = 1$. In case, if the increase of the j^{th} indicator tells positively on the quality of the mortgage lending system, then $Q_{ij} > 0$; in another case - $Q_{ij} < 0$;

Π_{ij} – the j^{th} statistical indicator, included in the i^{th} group, or its deviation from the optimal measure, in case, it does not fall under the range of optimal meanings;

– n – the number of indicators' groups (in our case $n = 3$);

– Π_i – the number of statistical indicators in the i^{th} group (in our case $\sum \Pi_i = 8$).

The results of calculating the complex indicator, represented in Table 5, enable us to speak about the enhancing of financial-economic and organization-legal relations organization efficiency. These relations are formed in the process of the mortgage lending system functioning under the Russian conditions from 0,97 in 2012 to 1,34 in 2016 (Table 5).

Table 5. The dynamics of the mortgage lending system efficiency integral indicator in the Russian Federation (Composed by the authors on the basis of the data from AHML 2014, 2015, 2016; Rosstat 2014, 2017; CBR, 2018)

Year	2012	2013	2014	2015	2016
The Figure of the Integral Indicator	0,97	0,98	0,95	1,17	1,34

So, the special complex indicator, proposed in the framework of the present article, ensures spatial-temporal compatibility of the criteria and indicators in the state of the primary and the secondary markets of mortgage lending, forming the universal and accessible information base in the dynamics of system development, as well as of its elements, exposing priority trends in regulation of the country-specific kind of crediting through the analysis and indicator diagnostics.

Today, residential construction in Russia is dependent on mortgage lending, which rates are high in comparison with Western countries. To adapt different mortgage models used in foreign countries to the Russian conditions, it is necessary to implement the following provisions in domestic legislation: implementation and realization of mortgage mechanisms with State participation; introduction and implementation of leasing schemes to purchase housing; development of the federal and regional programs to prevent risks in the housing market; interaction of the Bank of Russia and commercial banks to provide housing for the population.

Today it is objectively necessary to develop savings and loan programs institutionalized through construction banks. However, challenges remain such as standardization of mortgage lending procedures, its maintenance, and refinancing, reduction of transaction risks and costs, the enhanced development effectiveness of mortgage markets.

Conclusions

The examination of the financial-economic and organization-legal relations on the whole, arising in the framework of the Russian mortgage lending market exposed the insufficient working out of the issue under consideration – the lack of the unified approach to the study on the base of statistic indicators and the total indicator of efficiency in the country's mortgage lending system functioning.

The analysis of three key models, characteristic of the foreign practice in mortgage lending, their compatibility with the national priorities enable us to point out the initial positions of any order forming the system of credit relations in question in the country, namely: guarding the creditor's and the debtor's interests in the mortgage lending relations; providing conditions of mortgage credits accessibility to the common citizens and, in the credit sphere – the priority for organizations, specializing in mortgage lending; activation of the state part in mortgage lending relations.

In the framework of the present paper we issue the algorithm, which *in contrast to the already presented* in the literature methods aids, systematizes the criteria and indicators of the mortgage lending system functioning efficacy of the estimation, grounding on the following stages: constructing the rating system, estimating the criteria of the mortgage lending functional efficiency, regarding the total of statistical indicators: carrying out the estimation of influential trends of statistical indicators in the state of the mortgage

lending system; working out the integral indicator of the country's mortgage lending system functioning efficiency.

The results enable us to speak about the significant efficiency enhancing of the financial-economic and organization-legal relations, forming in the process of the Russian mortgage lending system, from 0,97 in 2012 to 1,34 in 2016. The practical application of the developed complex indicator provides the possibility of economic-mathematical modeling in quantitative prospects of the national mortgage lending system and is a need for the state, but also provides banks instruments for making forecasts and improving the efficiency of their business. The implementation of a proposed algorithm for mortgage lending system efficiency assessment can strengthen Russia's positions in the global financial market and reduce social tension caused by low level of housing affordability for the simple citizen who borrows money from banks.

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MANAGEMENT AND LEADERSHIP

THE PERSPECTIVE DIRECTIONS OF RESEARCHES IN THE FIELD OF SMALL AND MEDIUM BUSINESS DEVELOPMENT

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Abstract. *Small and medium business plays an important role in the social and economic development of many countries. In spite of its importance, small business faces many problems. As a result, according to some estimates, about 30% of new small businesses stop running during two years, and about 50% – within five years; according to other estimates – about 60% of businesses get closed during three years. These circumstances cause growth interest in various aspects of the development of small and medium businesses from the scientific community. At present higher flow of information in all fields emphasizes the necessity to identify methods and approaches to optimize its structure and determine key researches. The purpose of this article is to set out perspective directions in reviewing the development of small and medium business based on the bibliometric analysis. The study used the following methods and tools: a) CiteSpaceV program, which allowed to define the perspective directions of researches on the basis of a co-citation method and to visualize research fronts; b) the semantic analysis methods, which allowed to define the directions of researches on the frequency of used terms. The scientific publications presented on Web of science and Russian Science Citation Index from 2010 to 2016 formed information base of a research. The study revealed the main directions in the area of entrepreneurship of small and medium businesses that include market orientation, international entrepreneurship, innovative knowledge, financial crisis, data quality factor, and social responsibility. The results show that there are considerable differences between the directions of researches of the Russian scientists and the world scientific community. Russian publications are more aimed at theoretical rather than practical research. A bid internal problem is the absence of feasible space of knowledge, uniting scientific schools, competence centers, scientific centers and working groups. The study investigates the causes of the gaps in the field of small and medium businesses studies. Comparison of research fronts on foreign publications with Russian subjects may form a basis of forecasting perspective research directions.*

Keywords: *small and medium business; research fronts; bibliometric analysis.*

Introduction

Small and medium business plays an important role in the social and economic development of many countries. In spite of its high social and economic importance, small business faces many problems. As a result, according to some estimates, about 30% of new small businesses stop running during two years, and about 50% – within five years (Solomon, Bryant, May, & Perry, 2013); according to other estimates – about 60% of businesses get closed during three years (Mrva & Stachová, 2014).

Although now Russian authorities emphasize the importance of developing this sector of the economy, its share in the national economy is much lower than abroad (figure 1).

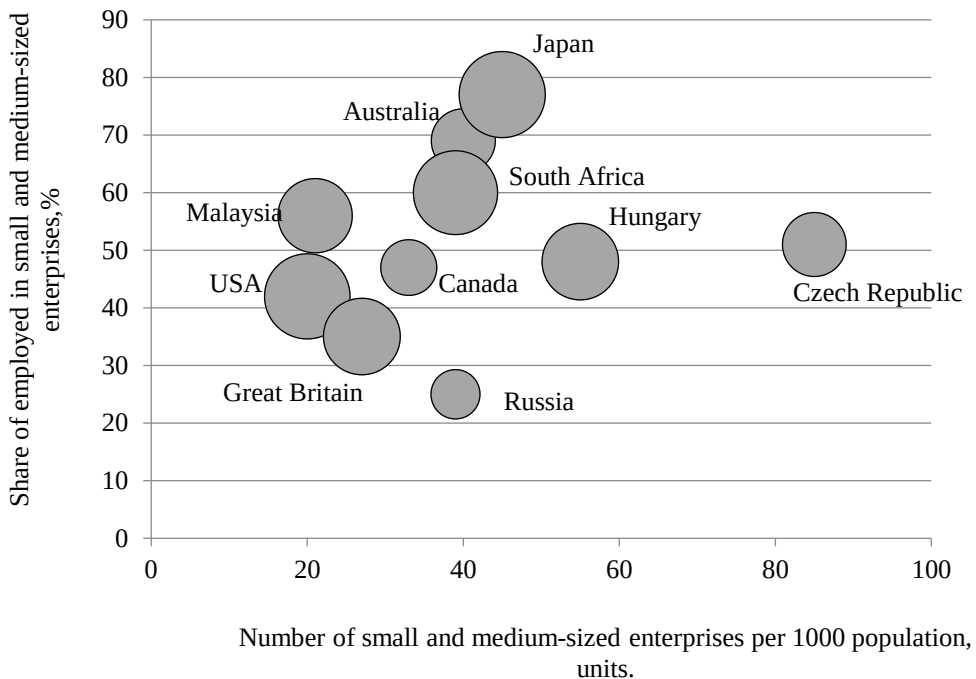


Figure 1. The number of small and medium enterprises, the average size of small and medium enterprises and the share of small and medium enterprises in the GDP of various countries (Source: Ministry of Economic Development of the Russian Federation, 2016)

Comparing the level of small and medium business development in Russia with other countries, we can see that we are lagging dramatically behind by a number of indices. For example, the share of small and medium business in GDP of many foreign countries exceeds 40% (circumference diameter in Figure 1), while in Russia it is 22 %. The similar situation is with the share of personnel employed in the small and medium business. In Russia, the small and medium business provides employment of 25% of the population, while in developed countries this parameter varies from 35% to 80%. The number of small and medium businesses per 1000 people in Russia is more or less the same as other countries. But the average amount of added value, produced by one small or medium business, is much lower than abroad.

Therefore, it is a must to carry out a comprehensive analysis, reviewing not only possibilities in developing small and medium business in economic systems but also Government instruments, affecting the development of this sector of the economy. At present, a higher flow of information in all fields emphasizes the necessity to identify methods and approaches to optimize its structure, determine key researches, which constitutes the purpose of this review (Albort-Morant & Ribeiro-Soriano, 2016).

A list of contemporary research fronts is continually updated and published by Clarivate Analytics (Clarivate Analytics, 2017). Recently, a large number of bibliometric studies in the field of entrepreneurship development have appeared. The authors consider various aspects of the development of entrepreneurship, such as the birth of new firms (Dzikowski, 2018), the impact of business incubators (Albort-Morant & Ribeiro-Soriano, 2016), and social entrepreneurship (Rey-Martí, Ribeiro-Soriano, & Palacios-Marqués, 2016). In modern Russian publications some bibliographic reviews are presented, but unfortunately, there are no techniques for conducting a full bibliometric analysis.

The purpose of this article is to set out perspective directions in reviewing the development of small and medium business based on the bibliometric analysis.

Methods of research

Identification of prospective directions for these studies in the field of Small and medium business has been conducted via bibliometric analysis and based on technology of identification of prospective research fronts, the methodic of which is widely represented in foreign scientific publications (Dzikowski, 2018; ; Merigó & Yang, 2017, Laudano, Marzi, & Caputo, 2018, Rey-Martí, Ribeiro-Soriano, & Palacios-Marqués, 2016).

To identify perspective lines of research in the sphere of small and medium business development, we will stick to the following stages.

At the first stage, keywords were established to determine perspective research lines. Used in the capacity of keywords were “SME”, “small and medium enterprises”, “small and medium-sized businesses”, considering logical conditions and combinations. These keywords reflect the maximum extent of the research directions.

At the second stage of the study, a selection of scientific methodological bases for the study was carried out. Currently, there are many databases of peer-reviewed literature such as Scopus, Web of Science, Astrophysics, PubMed, Mathematics, Chemical Abstracts, Springer, Agris, GeoRef etc. Bases like Web of Science and Russian Science Citation Index were selected because they are scientific metric bases, used to assess the work efficiency of scientists in Russia. One of the limitations of the Russian Science Citation Index is an impossibility to unload research results, hampering further analysis. The use of various databases facilitated parallel research in each database separately.

At the third stage, an original pool of scientific publications was made, using keywords for both scientific metric bases. On Web of Science and Russian Science Citation Index databases, 12251 and 18722 publications were received respectively. As shown by preliminary analysis of received publications, some articles, represented in the Web of Science, run counter to the research profile, referring to other spheres of science, such as physics, chemistry, medicine, astronomy. Selection of articles in the Russian Science

Citation Index also included articles, not in compliance with the research profile. That is why at the fourth stage all articles were checked for compliance with the research profile, canceling some of them.

The difference between databases and possibilities to perform their analysis predetermined the use of different methods and instruments. At the subsequent stage, while analyzing publications, received from the Web of Science, a freely distributed product was used CiteSpaceV (Li, Ma & Qu, 2017), making it possible to do without duplicate information.

During bibliometric analysis in the Russian Science Citation Index, a content-analysis was done of major publications. The procedure of content-analysis is to squeeze a text under review within a limited framework of certain elements, which are subsequently calculated and analyzed. Special attention is paid to the frequency of symbol use. Statistical analysis of publications vocabulary makes it possible to trace the penetration depth of new ideas and methods, which can be set by the frequency of word use, coding whole concepts. Every year between 2010 and 2016, selected were 30 most quoted publications. The search was based on names, keywords, annotations and bibliographic list by means of the information resource, capable of semantic analysis. For each period under review, based on mostly used word combinations, a semantic core was determined, outlining basic research directions of Russian scientists.

At the last stage, carried out was a comparative analysis of researches, presented in the Web of Science and Russian Science Citation Index.

The main limitation of the research made is the impossibility of comprehensive analysis of publications, presented in the Russian Science Citation Index. Still, these methods allow us to identify the main specific features of researching small and medium business development.

Results

The world scientific community is paying high attention now to the problems of small and medium business development, which is confirmed by the number of publications, rising each year (figure 2).

As shown in the Figure 2, the number of publications on problems of small and medium business development, presented in the Web of Science, is on the rise. The number of publications, presented in the Russian Science Citation Index, during 2010 – 2016 is much higher than that of the Web of Science. As shown in the detailed review of Russian publications in the sphere of small business development, such significant excess is due to duplicating research results in different magazines, or due to absolutely or partially same names, which is unacceptable for leading world publishers.

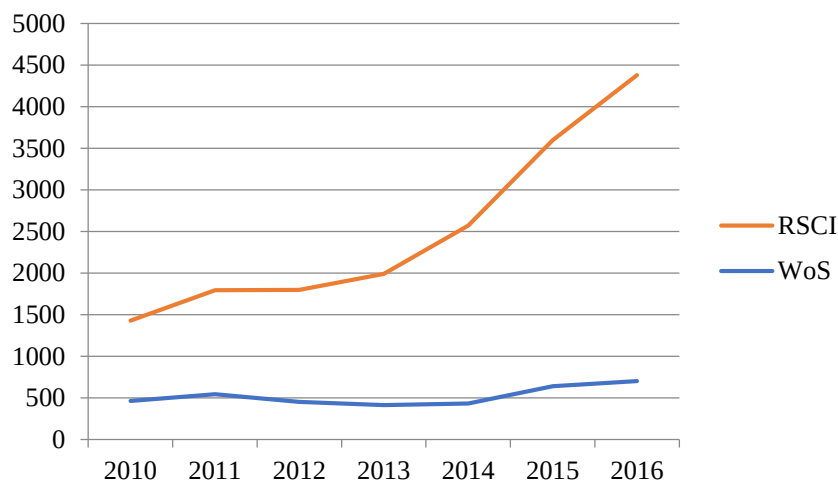


Figure 2. Dynamics of the publication activity of scientometric databases Web of Science (WoS) and Russian Science Citation Index (RSCI)

Scientists throughout the world monitor closely problems of regional economic development (figure 3).

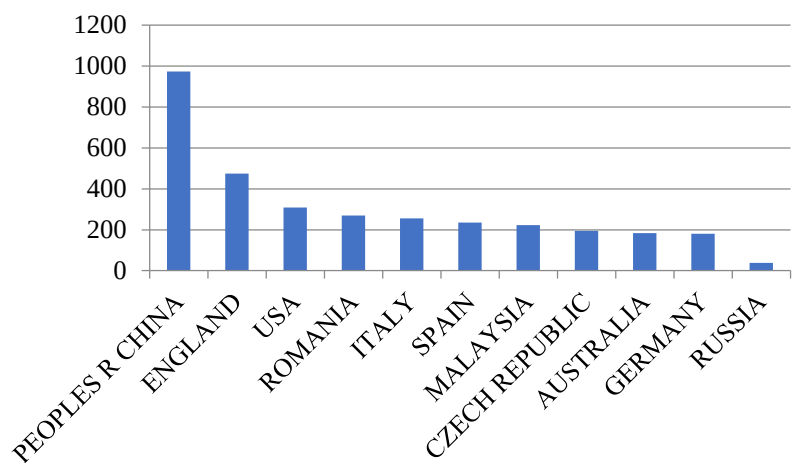


Figure 3. Distribution of publications by country in the Web of Science

As seen in the Figure 3, most publications are in China, around 20% of all, related to problems of small and medium business development, England accounts for about 9%, and USA – 6%, of those presented in the Web of Science. The share of Russian publications is less than 1% of the total.

To identify prospective research directions, publications, presented on the Web of Science platform, were clustered by means of CiteSpace V software.

As a result of the analysis 6 research fronts were determined (figure 4).

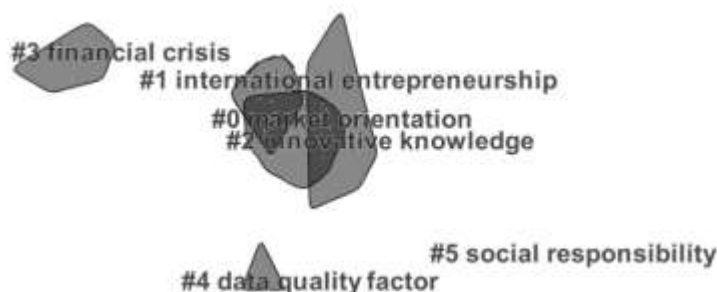


Figure 4. Research fronts in the field of small and medium business development

Analysis of publications, being a part of major identified clusters, made it possible to set out and form their main subjects. Depending upon names of publications, keyword and other information, subjects of research fronts were determined. The period of research front formation is the one, having highest intensity of quotation on the specific scientific subject. The network is divided into 6 co-citation clusters. These clusters are labeled by index terms from their own citers. The largest 2 clusters are summarized (table 1).

Table 1. Summary of the largest 2 clusters

Cluster ID	Size	Silhouette	Label (LLR)	Label (MI)	Mean (Citee Year)
0	19	0,746	market orientation	SME characteristics (1,51); diffusion way (1,51); relevant successful experience (1,51); exploring management perspective (1,51); geographic scope (1,51); service SME (1,51); Mexican software industry (1,36); formalizing network development (1,36); innovation capabilities (1,36); bank ownership type (1,28); social responsibility (1,28); bank financing (1,28)	1991
1	10	0,637	international entrepreneurship	SME characteristics (0,24); geographic scope (0,24); diffusion way (0,24); relevant successful experience (0,24); exploring management perspective (0,24); service SME (0,24); Mexican software industry (0,21); formalizing network development (0,21); innovation capabilities (0,21)	1995

The largest cluster (#0) has 19 members and a silhouette value of 0,746. It is labeled as market orientation by LLR, relationship by TFIDF, and SME characteristics (1,51); diffusion way (1,51); relevant successful experience (1,51); exploring management perspective (1,51); geographic scope (1,51); service SME (1,51); Mexican software industry (1,36); formalizing network development (1,36); innovation capabilities

(1,36); bank ownership type (1,28); social responsibility (1,28); bank financing (1,28); bests practice intervention (1,25); long-term outcome (1,25); pharmaceutical industry (1,22); radical change (1,22); managing knowledge asset (1,22); public credit guarantee (1,2); different institution (1,2); employee-oriented CSR (1,18);) by MI. The most active citer to the cluster is 0,26 (Aziz & Mahmood, 2011).

The second largest cluster (#1) has 10 members and a silhouette value of 0,637. It is labeled as international entrepreneurship by LLR, internationalization by TFIDF, and SME characteristics (0,24); geographic scope (0,24); diffusion way (0,24); relevant successful experience (0,24); exploring management perspective (0,24); service SME (0,24); Mexican software industry (0,21); formalizing network development (0,21); innovation capabilities (0,21); bank ownership type (0,19); social responsibility (0,19); bank financing (0,19); bests practice intervention (0,19); long-term outcome (0,19); pharmaceutical industry (0,18); radical change (0,18); managing knowledge asset (0,18); public credit guarantee (0,18); different institution (0,18); entrepreneurs management innovation intention (0,17); employee-oriented CSR (0,17); foreign subsidiaries (0,17) by MI. The most active citer to the cluster is 0,5 (Kraus, 2011).

The vital problem for Russian scientists is outlining perspective directions of research in the field of small and medium business development. Russian database in the Russian Science Citation Index is just being formed and is not capable yet of a comprehensive bibliometric analysis. Used for bibliometric analysis were methods of semantic analysis. As a result, a semantic core was determined, reflecting the main direction of research by Russian scientists in the sphere of regional economic development. Main research directions are shown in Table 2.

As shown in Table 2, most Russian researches are of general nature, aimed at the development of small and medium business, identifying problems of its development during transformation to a new for modern Russia market economy. At the same time, starting from 2013 we have been witnessing publications, related to legal protection, the labor market, Republic of Crimea, social responsibility. This is confirmed by the appearance of such keywords during research, as taxation, regional development, agriculture.

Table 2. The semantic core of the most significant publications in Russian Science Citation Index

Year	The semantic core of publications (the frequency of use of words and phrases in parentheses,%)
2010	Small business (2.24), governmental support (0.86), innovative entrepreneurship (0.77)
2011	Small business (1.74), governmental support (1.54), Local government (0.86), support of small business (0.82)
2012	Small business (2.59), governmental support (0.83), innovative entrepreneurship (0.83), interaction of regional enterprises (0.7)
2013	Small business (1.73), economic growth (0.87), innovative entrepreneurship (0.74), legal protection (0.62)
2014	Small business (1.70), governmental support (1.13), Siberian Federal District (1.28), innovative entrepreneurship (0.78)
2015	Small business (1.36), governmental support (1.00), the labor market (0.96)
2016	Small business (2.10), governmental support (0.88), republic of Crimea (0.88), social responsibility (0.61)

The bibliometric analysis showed that Russia is outside of scientific research of mechanisms and ways to develop small and medium business. One of the problems is the absence of feasible space of knowledge, uniting scientific schools, competence centers, scientific centers and working groups. There are no comprehensive databases on results of research in scientific publications. Most organizations, involved in scientific research, have no access to renowned foreign databases on research and development, preventing them from assessment of world scientific and technical achievements, the discovery of scientific results, which can be interesting for Russian business.

Conclusion and discussion

That is why, the use of bibliometric methods is a good and convenient instrument to plan and assess scientific work, realizing scientific achievements.

As a result of the research, two main clusters were identified in the sphere of small and medium business development. Research fronts are inter-discipline clusters, incorporating publications from several adjacent fields. Research of clusters helped to determine vital subjects in this sphere and will contribute to further exploration of various issues of small and medium business development.

Results of publishing activity by Russian scientists manifest more intensive research of small and medium business in the Web of Science database. But according to the bibliometric analysis of scientific publications flow, there is a dramatic limitation in the exchange of scientific information. Poor communication between Russian scientists and their colleagues abroad causes clusterization of Russian research initiatives, slowing down the search for and identification of perspectives of Russian small and medium businesses development.

The bibliometric analysis showed that Russia is far away from scientific research fronts in the field of small and medium business development. Russian publications are more aimed at theoretical rather than practical research. A bid internal problem is the absence of feasible space of knowledge, uniting scientific schools, competence centers, scientific centers and working groups. There are no comprehensive databases on results of research in scientific publications. Most organizations, involved in scientific research, have no access to renowned foreign databases on research and development, preventing them from assessment of world scientific and technical achievements, the discovery of scientific results, which can be interesting for Russian business.

Comparison of research fronts on foreign publications with Russian subjects may form a basis of forecasting perspective research directions. But this activity requires profound research and its development may constitute an important factor in substantiating support for scientific research in Russia in the interests of small and medium business.

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ARE INVS SO DIFFERENT?

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Abstract. *Many studies focus on the pre-internationalization phase and very few pay much attention to the post-internationalization phase. This study aims to bridge this gap, exploring the speed at which traditional firms, INVs, and Born-again-Global firms become international and their degree of internationalization, and how this process is reflected differently vis-à-vis innovativeness and competitive advantage. It is important to note that the firm's age when it carries out its first internationalization activity is what conceptually differentiates these kinds of firms. Based on a sample of 129 Portuguese metalworking firms, we develop several hypotheses to test. Surprisingly, new forms of firms (INVs and Born-again-Global firms) do not seem more innovative and do not have a greater competitive advantage.*

Keywords: *INV; internationalization; Born-Global; Speed; Degree; Innovation; Competitive advantage*

Introduction

Globalization promotes new opportunities for small and medium-sized enterprises (SMEs), which are expanding their activities to external markets, in order to gain a competitive advantage internationally. International New Ventures (INV) from their very inception broaden their horizons, leaving behind local views that usually characterize small new firms (Oviatt & McDougall, 1994). At the same time, the increasingly global environment has fueled the vision and business strategy of some traditional companies, driving them to suddenly expand across borders. These companies are referred to as *Born Again Global* (BaG) companies, as they suddenly internationalize after a long period of being focused on the domestic market (Bell, McNaughton, Young & Crick, 2003).

The extant literature extensively covers the period prior to the first internationalization period and the factors that influence the timing of entry into the international market, however, there are few studies that analyze the period after the company's initial entry into the foreign market.

This study intends to bridge this gap, by analyzing the different dimensions of internationalization after the first entry into the external market, both in traditional companies, and new forms of companies (INV and BaG) and their innovativeness and *competitiveness*. In terms of defining what differentiates these companies from each other is the time when they begin their internationalization process.

Literature review

Some studies suggest two central dimensions in the process of internationalization are *degree* and *speed* (Cesinger, Fink, Madsen & Kraus, 2012; Zahra & George, 2002). The degree of internationalization is related to the level of commitment of the company to its international expansion process (Casillas & Acedo, 2013). Speed is the time that elapses from the time the company is established to its first international activity. More strictly speaking, this is the starting speed. The speed of internationalization refers more specifically to the number of international activities that the company performs within a certain period of time after its first international activity (Casillas & Acedo, 2013).

New firms typically compete in global niche markets and are quite flexible in adapting to the needs of their customers (Rennie, 1993). Their ease of adaptation to new markets enables them to reach new international markets faster. Traditional firms have a more rigid stance, which hampers the process of adaptation to new international markets (Autio et al., 2000; Hilmeresson & Johanson, 2016), as they have to deconstruct some of the routines developed for the domestic market (Hilmeresson, Johanson, Lundberg, & Papaioannou, 2017), slowing them down. Therefore, Hypothesis 1a (H1a) is as follows:

H1a: The post-internationalization speed of new forms of companies is faster than the post-internationalization speed of traditional enterprises.

The new forms of companies have more in-depth market knowledge, partly driven by the founder's previous international experience, which allows them to make international commitment decisions more easily (Madsen & Servais, 1997), as well as establish new subsidiaries. Therefore, Hypothesis 1b (H1b) is as follows:

H1b: The speed at which new forms of enterprises are prepared to commit their resources to the outside is greater than the speed at which traditional enterprises are prepared to commit their resources to the outside.

De Clercq et al. (2005) report that companies that are more predisposed to participate in international activities have a greater degree of internationalization. Given their characteristics, the new forms of companies have a more international posture, since from the beginning they seek to sell their products to multiple countries (Oviatt & McDougall, 1994).

Reuber and Fischer (1997) point out that companies that have international entrepreneurs (usually INVs) that influence them to establish international strategic partnerships have a greater degree of internationalization. Therefore, Hypothesis 2 (H2) is as follows:

H2: The degree of internationalization of new forms of enterprises is greater than the degree of internationalization of traditional enterprises.

A company that is innovative is willing to abandon old routines and test new ideas (Menguc & Auh, 2006), developing or adopting new products and processes. New forms of companies are established in various world markets through the introduction of a unique and specialized product for each niche market. Thus, it is assumed that new forms of business must continually develop new products to meet the demand of the various markets. Therefore, Hypothesis 4 (H4) is as follows:

H3: The innovativeness of new forms of business is greater than the innovativeness of traditional enterprises.

Companies can enter international markets because they have valuable, unique assets (Oviatt & McDougall, 1994), which is a source of competitive advantage. Companies that seek competitive advantage through an intangible resource, such as knowledge, are more likely to develop learning skills useful for adapting to new markets than firms that rely almost exclusively on tangible resources (Autio et al., 2000). New forms of firms usually have a very dynamic organizational structure enabling them to develop knowledge-based products hard to imitate (Zahra et al., 2000). The capacity of the founder is also a source of competitive advantage for new forms of business since it allows opportunities in international markets to be detected and new ways of exploiting them to be developed (Zahra, 2005). Therefore, Hypothesis 5 (H5) is as follows:

H4: The competitive advantage of new forms of business is greater than the competitive advantage of traditional enterprises.

Methodology

A quantitative methodology is used in large samples to obtain an overview of the study area and to determine any patterns or inconsistencies in the sample (Park & Park, 2016).

The hypothesis test is a statistical inference process that aims to verify if sample data are compatible with certain populations. According to the study sample and the type of variables to be analyzed, parametric (*t-student* test) or non-parametric (Kruskal-Wallis and Wilcoxon-Mann-Whitney tests) statistical inference tests were used.

The population under study is the Portuguese metalworking sector (MM). It is a very heterogeneous sector that integrates a set of different activities in industry and offers a range of diversified products. Most of the activities produce goods to support the production of other sectors, that is, intermediate goods and capital goods or produce durable goods for final consumption. The MM sector represented 22% of all Portuguese companies, 26% of turnover and 25% of employees (INE, 2017a, 2017b 2017c) in 2015. In 2015, the MM sector reached the highest ever value of exports amounting to 14,968M€ of which 75% represents exports to the intra-Community market, while the remaining 25% represents exports to the extra Community market (INE, 2017d, 2017e). Thus, this sector occupies a central position in the Portuguese economy.

The instrument most commonly used in data collection, based on a quantitative approach, is the questionnaire. The questionnaire used for the purpose of this study consists of 30 questions, answered by a representative holding the position of CEO or similar.

By definition, the main difference between traditional enterprises and new forms of business is the time between the founding year of the company and the year of their first international activity. Questions 2 and 5, respectively, measure the year the company was founded and the year of its first international activity.

BaG companies are included in the new forms of companies. Question 16 identifies the companies that, as a rule, undergo a critical event that drives them to internationalization.

Firm size is measured through questions 3 (number of employees) and 4 (turnover).

International speed is understood as the relation between the amount of time between when a firm is first established and the first international events of a company (Casillas & Acedo, 2013). The company's uptime is measured by the difference between 2016 and question 2. The company's international events are measured through questions 13, 14 and 15, which were elaborated on the basis of the Transnationality Index-TNi (UNCTAD, 1995). TNi measures the ratio of foreign sales to total sales, the ratio of foreign assets to total assets, and the ratio of foreign employment to total employment. In order to determine the post- internationalization speed TNi is divided by the company's activity time, the difference between the current year of the company's activity and the year of the first internationalization activity. The speed of international commitment is measured through question 10, taking into account the time elapsed since the first international activity.

The degree of company internationalization is the level of the company's commitment to its international expansion process (Casillas & Acedo, 2013). To measure the degree of internationalization, there is a multiplicity of variables as mentioned in the literature review. Questions 8, 12, 13, 14 and 15 measure these variables, the last three questions answering the TNi and question 12 allows the Network Spread Index (NSi) variables to be measured.

Based on the following:

$$TNi = \frac{\frac{\text{Foreign Sales}}{\text{Total Sales}} + \frac{\text{Foreign Actives}}{\text{Total Actives}} + \frac{\text{Foreign Employees}}{\text{Total Employees}}}{3}$$

$$Nsi = \frac{n}{n'}$$

n = countries with subsidiaries

n' = all possible countries

$$\text{InternationalizationDegree1} = Nsi \times Tni$$

$$\text{InternationalizationDegree2} = \frac{\text{Foreign Sales}}{\text{Total Sales}}$$

Innovativeness reflects the company's tendency to engage and support new ideas and experiences that may result in new products, services or processes (Lumpkin & Dess,

1996). The scale for measuring innovativeness was validated and tested by Uz Kurt et al. (2012) and used in the present study with appropriate adaptations.

According to Sigalas et al. (2013), competitive advantage reveals itself when a company exploits market opportunities and neutralizes competitive threats superior to the industry in which it is inserted. The authors developed a four-point scale to measure the competitive advantage, which was adapted to the present study. Topics 27 and 28 measure the exploitation of market opportunities, while questions 29 and 30 measure the neutralization of competitive threats.

Results and discussion

Of the 13,369 companies in Portugal in the sector, 6,100 email addresses were collected, to which the research questionnaire was subsequently sent. 129 valid answers were provided.

54% of companies have a turnover of fewer than 2 million euros, 36% have a turnover between 2 to 10 million and 10% of companies have a turnover of between 11 and 50 million, and none have a turnover of over 50 million euros. According to this criterion, 100% of the companies in the sample are SMEs.

26% of the companies have less than 10 employees, 48% have between 10 and 50 employees, 23% between 51 and 250 employees and only 3% have more than 250 employees. Therefore, according to this criterion, 97% of the sample companies are SMEs.

44% of companies are considered INV since their first international activity occurred in or before their third year of existence (Knight & Cavusgil, 2004; Nordman & Melén, 2008). Traditional companies represent 44% of the sample, about 12% of companies are BaG, as they had a long period when they were only active in the domestic market and then suddenly expanded internationally, driven by a critical event. Some of the main critical events presented by such companies were a change of owners or the governing body and/or an alteration in the international attitude of customers that led them to follow the path of internationalization.

Velocity

Table 1. Kruskal-Wallis test for speed between new forms of companies and traditional companies

	ET	Sig. (2-tailed)	Decision
Speed1	25.715	0.000	Reject H0

Taking into account the results present in Table 1, considering the *p-value*, there is sufficient statistical evidence to reject the null hypothesis. Thus, it is possible to conclude that there are significant differences in the post-internationalization velocity of the new forms of companies and traditional companies.

To test if the post-internationalization velocity INV is identical between INVs and traditional firms, the *t-student* test for independent samples is used (Table 2).

Table 2. Test *t-student* for speed 1 between INV and traditional companies

		Levene Test		T Test	
		F	Sig	T	Sig (bilateral)
Speed1	Equal Variance Assumed	13,403	0,000	2,789	0,006
	Equal Variance not assumed			2,763	0,008

As the hypothesis is "the post-internationalization speed of new forms of enterprises is greater than the post-internationalization speed of traditional enterprises", a unilateral test is required.

Concerning the observed data, $t = 2.763$, then the $p - value\ unilateral = \frac{0,008}{2} = 0,0004 < \alpha = 0.05$, is estimated. There is sufficient statistical evidence to reject H_0 . According to the results obtained, INVs present post-internationalization velocity higher than traditional companies.

Table 3. Wilcoxon Mann-Whitney for velocity 1 between BaG companies and traditional business

		Ranks		
	Type	N	Mean Rank	Sum of Ranks
Speed1	Traditional	54	31.89	1722.00
	BaG	15	46.20	693.00
	Total	69		

Test Statistics^a

		Speed1
Mann-Whitney U		237.000
Wilcoxon W		1722.000
Z		-2.452
Asymp. Sig. (2-tailed)		.014
Exact. Sig. (2-tailed)		.013
Exact. Sig. (1-tailed)		.007
Point Probability		.000

a - Grouping Variable: Type

To test whether the post-internationalization speed of BaG companies is identical to the post-internationalization speed of traditional firms, the Wilcoxon-Mann-Whitney test is used for independent samples (Table 3). In this case, we intend to carry out a one-sided test to the right, so that the one-sided (exact) *p*-value is used. With the ***p-value* = 0,007**

$\alpha = 0.05$, then H_0 is rejected. Therefore, the post-internationalization speed of BaG companies is higher than the post-internationalization speed of traditional businesses.

Table 4. Wilcoxon Mann-Whitney for velocity 1 between INV and BaG

	Type	Ranks		
		N	Mean Rank	Sum of Ranks
Speed1	INV	53	37.21	1972.00
	BaG	15	24.93	374.00
	Total	68		

Test Statistics^a

	Speed1
Mann-Whitney U	254.000
Wilcoxon W	374.000
Z	-2.126
Asymp. Sig. (2-tailed)	.034
Exact. Sig. (2-tailed)	.033
Exact. Sig. (1-tailed)	.016
Point Probability	.000

a – Grouping Variable: Type

To test whether the post-internationalization velocity of INV is statistically different from the post-internationalization velocity of BaG firms, the Wilcoxon-Mann-Whitney test is used for independent samples. In this case, we aim to carry out a one-sided right-hand test, so that the unilateral p-value is used to analyze the results. With the $p\text{-value} = 0,016 < \alpha = 0.05$, then H_0 is rejected. In conclusion, there is a significance level of 5%. Thus, the post-internationalization speed of INV is higher than the post-internationalization speed of BaG companies.

The speed of internationalization is also quantified through other individual indicators, such as commitment speed. Speed2 refers to the speed at which companies commit their resources abroad.

Table 5. Kruskal-Wallis test for speed2 between new forms and traditional companies

	ET	Sig. (2-tailed)	Decision
Speed2	2,252	0.324	Not Reject H_0

In order to test whether the speed at which companies commit their resources to the outside is identical in the new forms and in the traditional companies, we use the Kruskal-Wallis test. Through the observation of the p-value (Table 5), it is possible to conclude that with a significance level of 0,05, there are no statistically significant

differences. Therefore, the speed at which companies commit their resources to the outside is identical in the new forms of companies and in the traditional companies.

The null hypothesis- "The post-internationalization speed of new forms of enterprises is identical to the post-internationalization speed of traditional enterprises" -is rejected. Therefore, new forms of companies (INV, BaG) have a higher post-internationalization speed than traditional companies. This result is consistent with the extant literature since companies that are internationalized at an early stage seem to be faster to internationalize (Chetty et al., 2004; Hitt, Li & Xu, 2016). Rapidly expanding companies will gain experience in different environments, which is then absorbed into the company's know-how and will then be used in different external markets (Hilmersson & Johanson, 2016). On the other hand, companies that expand gradually face challenges and a lack of flexibility in their routines, taking longer to acquire the resources needed to enter new markets (Autio et al, 2000; Hilmersson & Johanson, 2016).

INVs have a higher velocity than the BaGs. This is not surprising, as BaG companies are older companies, with more established procedures, so they have to acquire knowledge about the markets, therefore taking more time. However, these companies are very close to INVs due to their ability to expand rapidly.

The second null hypothesis - "the speed at which new forms of enterprises commit their resources to the outside is identical to the speed at which traditional companies commit their resources to the outside" -is not rejected. Following the traditional approach, companies make difficult decisions to strengthen their position in the external market (Johanson & Vahlne, 1990). The company with the greatest speed of internationalization is likely to be involved in greater resource commitments (Johanson & Vahlne, 1990, 2009). In the first hypothesis, it was determined that the new forms of companies have a higher speed than the traditional companies, as we had expected since they commit resources abroad at a higher speed. However, this does not happen; the speed of commitment of the new forms of companies is equal to that of traditional companies. It should be noted that the sample is made up of companies from the metalworking sector, an industry which is highly active in the export sector. This sector belongs to the "heavy industry" sector, the lead time of much of its equipment is high, extending for many months. Given the specialized dimensions of much of the equipment produced by this sector, it is often necessary to manufacture and assemble the equipment for international customers, which leads to a displacement of company employees to the international markets. This explains why the resource commitment rate of traditional businesses and new forms are similar.

Degree

The degree of internationalization was measured in two ways.

"Degree1" is composed of a combination of two distinct indexes, the TNi and the NSi.

Table 6. Kruskal-Wallis test for degree1 between new forms and traditional companies

	ET	Sig. (2-tailed)	Decision
Degree1	0.434	0.805	Not Reject H0

According to the results (Table 6) obtained for the Kruskal-Wallis one-way analysis of variance, with the $p - value = 0,805 > \alpha = 0.05$, then there is not enough statistical evidence to reject H0. Therefore, the conclusion drawn is that the degree of internationalization, measured by the combination of TNi and NSi, is equal for the new forms and traditional companies.

"Degree2" is measured by the ratio of the external sales to total sales.

Table 7. Kruskal-Wallis test for degree2 between new forms and traditional companies

	ET	Sig. (2-tailed)	Decision
Degree2	6.912	0.032	Reject H0

According to the Kruskal-Wallis test (Table 7), with the $p - value = 0,032 < \alpha = 0.05$, there is sufficient statistical evidence to reject H0. Therefore, there are significant differences in the volume of exports between the new forms and traditional companies.

Table 8. Test t-Student for the volume of exports between INV and traditional companies

		Levene Test		T Test	
		F	Sig.	T	Sig (bilateral)
Degree2	Equal Variance Assumed	6.160	0,015	2.839	0,006
	Equal Variance not assumed			2,868	0.005

Analyzing the result of t-test (Table 8) for "equal variances not taken", it appears that $t=2.868$, whereby the $p - value unilateral = \frac{0,005}{2} = 0,00025 < \alpha = 0.05$, there is enough statistical evidence to reject H0. Therefore, the volume of exports of INV is higher than the volume of exports of traditional companies.

The Wilcoxon-Mann-Whitney test is used to compare the volume of exports of traditional companies with BaG companies. We used a unilateral test to the right (Table 9), with the $p - value unilateral = 0,068 < \alpha = 0.1$. There is adequate statistical evidence to reject H0. Therefore, we conclude, with a significance level of 10 %, the volume of exports of BaG companies is higher than the volume of exports of traditional companies.

Table 9. Wilcoxon Mann-Whitney test for degree2 between traditional and BaG companies

Degree2	Ranks			
	Type	N	Mean Rank	Sum of Ranks
	Traditional	47	29.56	1389.50
	BaG	15	37.57	563.50
	Total	62		

Test Statistics^a

Degree2	
Mann-Whitney U	261.500
Wilcoxon W	1389.500
Z	-1.497
Asymp. Sig. (2-tailed)	.134
Exact. Sig. (2-tailed)	.137
Exact. Sig. (1-tailed)	.068
Point Probability	.001

a – Grouping Variable: Type

Table 10. Wilcoxon Mann-Whitney test for degree2 between INV and BaG companies

Degree2	Ranks			
	Type	N	Mean Rank	Sum of Ranks
	INV	51	34.04	1736.50
	BaG	15	31.67	475.00
	Total	66		

Test Statistics^a

Degree2	
Mann-Whitney U	355.000
Wilcoxon W	475.000
Z	-.421
Asymp. Sig. (2-tailed)	.673
Exact. Sig. (2-tailed)	.679
Exact. Sig. (1-tailed)	.340
Point Probability	.003

a – Grouping Variable: Type

Finally, in order to compare the volume of exports of INV with BaG companies, the Wilcoxon-Mann-Whitney test is also used (Table 10). With a significance level of 5 %, we can conclude that there are no differences in the volume of exports of INV and BaG companies.

Thus, the null hypothesis– *“the degree of internationalization of new forms of enterprises is identical to the degree of internationalization of traditional enterprises”* –is not rejected. New forms of companies (INV, BaG) have a degree of internationalization equal to traditional firms. This contradicts the extant literature, in the sense that firms that are more predisposed to participate in international activities have a higher degree of internationalization (De Clercq et al., 2005). The measure used to quantify the degree of internationalization indicates that the degree of internationalization increases the higher the percentage of activities abroad and the more these activities are disseminated in foreign countries. Thus, we would expect that the new forms of companies maintain more activities abroad, by being more flexible and benefitting from faster learning, and consequently, they have a higher level of commitment to the markets in which they operate. However, as has been tested, commitment in terms of resources to markets is the same in new forms of business and in traditional enterprises. At the same time, one would expect the new forms of companies to be more highly dispersed worldwide, in global niches, in order to be able to offer specialized products to global market niches (Rialp et al., 2005). However, in the MM sector, the new forms of firms have the same degree of internationalization as traditional firms. According to Johanson et al. (1988), the internationalization level of the company is related to its network (industry) level of internationalization. It is through their network that companies develop relationships that ensure access to important resources (Johanson et al., 1988). Thus, the fact that the companies under study are situated within a sector that is highly integrated with the outside, provides them with the same degree of international engagement, regardless of the company’s age when its first internationalization activity took place.

The null hypothesis– *“the volume of exports of new forms of enterprises is identical to the volume of exports of traditional enterprises”* –is rejected. It has been found that INVs have a higher volume of exports than traditional companies. The age at which the company begins its internationalization process is an important indicator to predict export volume in subsequent years (Moen & Servais, 2002). In fact, in the run-up to their entry into the international market, new forms of companies explore and evaluate ideas and markets, as well as locating unique resources that influence their long-term performance, level of exports (Trudgen & Freeman, 2014). This result is consistent with the literature. With regard to BaG companies, they have a higher export volume than traditional companies and have an equal volume of exports when compared to INVs. This result is not surprising, as BaGs are driven by critical events that lead them to follow a rapid internationalization path (identical to INVs).

Innovation

To measure innovativeness, we used a scale developed by Uzokurt et al (2012). The scale was adapted and has been validated (Cronbach's alpha-0.884, CR-0.907, AVE-0.526). The scale was reduced to 9 independent items, which in turn were reduced to one factor.

Table 11. Kruska-Wallis test for innovation between new forms and traditional companies

	ET	Sig. (2-tailed)	Decision
Innovation	2.063	0.357	Not Reject H0

It is verified (Table 11) that the null hypothesis is not rejected. This result contradicts what we expect, innovativeness means that a company is proactive, exploring new market opportunities, a feature that appears in the literature as intrinsic to new forms of business. Traditional companies tend to be more reactive to the market and to the development of new products and processes, taking a more opportunistic stance, which consequently will lead to a lower level of innovation vis-à-vis new forms of companies. The results obtained indicate that the level of innovativeness of the new forms of companies and traditional companies is identical.

Competitive advantage

To measure the competitive advantage, we used a scale developed by Sigalas et al. (2013), adapted and validated (Cronbach's alpha-0.898, CR-0.907, AVE-0.763). We chose to use a 7-point Likert scale, as an increase in the number of points on the scale is accompanied by an increase in scale reliability (Berk, 1979).

Table 12. Kruska-Wallis test for competitive advantage between new forms and traditional companies

	ET	Sig. (2-tailed)	Decision
Competitive Advantage	0.367	0.832	Not Reject H0

As the p-value is over $= 0.05$ (see Table 12), there is not enough statistical evidence to reject H0. The null hypothesis- "*the competitive advantage of new forms of business is identical to the competitive advantage of traditional enterprises*" -is not rejected. This result contradicts what we expect. According to the literature, new forms of companies have the ability to adapt to new markets, developing products tailored to their customers' requirements. These companies tend to offer adapted products, resulting from product innovation, they offer their customers unique products that are difficult to imitate, ensuring a source of competitive advantage. However, it was found that new forms and traditional enterprises have the same degree of innovation. Consequently, it does not come as a surprise that the level of competition between the two companies is also identical since theoretically, the increased competitiveness arises from the higher degree of innovativeness.

Conclusion

New forms of firms do not behave very differently from traditional firms (at least in most of the dimensions analyzed, and in the context of the metalworking sector), as

companies that internationalize at an early stage and those that become internationalized at a later stage tend to depict the same behavior in their international path.

More importantly, the international path followed by new forms of business and by traditional firms is not reflected in different degrees of innovation and competitive advantage. Considering that the new forms of companies achieve a greater post-internationalization speed than that of traditional businesses, we would expect that this also takes place concerning the speed at which they commit resources abroad. However, this did not take place. All forms of companies have the same speed at which they commit their resources. This result may be due to the fact that the companies under study are part of a highly internationally-oriented sector, consequently, the transfer of resources is a natural event inherent in all forms of business.

The new forms of companies tend to operate in global niche markets that are scattered across multiple markets, while traditional companies take longer to internationalize. As for the degree of internationalization, there were also no differences between the two forms of companies. This is in line with the speed at which they commit their resources abroad, thus, it is not surprising that there are no differences between companies.

According to the theory of INVs, the new forms of enterprises have a very dynamic structure, as they are proactive, seek to exploit market opportunities, are more flexible in adapting to the demands of global markets while traditional firms are more reactive, have more opportunistic behavior and have a more rigid structure. Given the results, in the metalworking sector, there are no particular differences between companies that take longer to internationalize and those that are faster in terms of competitiveness and innovation, which may raise some questions regarding the theory of *International New Ventures*. In this sector, in particular, the traditional companies and the new forms of companies have very similar international behavior. This may be related to the environment in which companies are located. According to Johanson et al. (1988), the level of internationalization of the company depends on the direct relationship of the company with other companies (micro-positioning) and the dynamics existing within the whole network where it is inserted (macro-positioning). Thus, it justifies the behavior of new forms of companies as they tend to follow the behavior within the existing network.

The first limitation of this study relates to the fact that it has addressed only one specific sector of the Portuguese economy, and therefore, the results are not generalizable to the various sectors of the economy. However, on the other hand, we analyze companies that are subject to the same background, thus obtaining more robust results. It may be interesting to replicate this study by extending it to several sectors or, on the other hand, to analyze the metalworking sector across a larger number of countries. The other limitation is related to the dimensions considered (only two). Other criteria may be used for the internationalization process, which may lead to different results. Finally, it may also be interesting to introduce new variables to the study, such as a company's financial performance, a topic that is of great interest to corporate managers.

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COMPANY MANAGEMENT AT A CROSSROADS - FOCALISATION ON THE STAKEHOLDERS

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Abstract. *The starting points of our paper are represented by: a) our long and numerous contacts with organization management consultants and researches in Romania and other countries which have revealed quite a few limits of the present management theory and practice and its incapacity to fully valorize the new opportunities and challenges provided by the transition to the knowledge-based economy and society; b) our review and analysis of the numerous studies published by renown reviews and publishing houses which emphasized the increasing difficulties faced by the management in all types of organizations and the necessity to reinvent it. The paper main objective is to demonstrate the necessity and the possibility of the new type of the company management – stakeholders based management - instead of the classical management based on shareholder - manager - executant relationships. In order to achieve this objective, the study is structured in three main parts. The first part contains the demonstration of the necessity of the stakeholders based management, in the present period, using three categories of arguments - organizational, managerial and societal. Among the managerial arguments we mention: awareness of the existence of a comprehensive network of the stakeholders inside and outside organization; management of organization is based on the absolute primacy of the owner/ or shareholders' interests; potential of a large part of the companies endogen stakeholders (executants, managers) is used only to a small extent; traditional managerial relationship, manager-subordinate is not performing enough in the majority of the organizations; potential of the most part of companies exogenous stakeholders (clients, suppliers, investors, etc.) is frequently ignored or used only to a small degree; conceptualization, based on the stakeholders theory, of the firm as a „multipurpose entity”. The second part of the paper deals with the possibility to focus the management on the endogen and exogenous stakeholders. In order to demonstrate this, 26 arguments are structured on three levels – organizational, managerial and societal. The final conclusion of the study is that the organization stakeholders based management could and should represents the new type of the management in the company. This means new managerial strategy, system, mechanism, processes, culture and performance. Stakeholders based management is able to deal and solve much better and competitively the complex problems faced by companies during the transition to the knowledge-based economy and society, under the comprehensive impact of the present digital revolution.*

Keywords: *stakeholders; stakeholders based management; knowledge-based economy; management challenges.*

Introduction

We are living now in times of knowledge revolution, which determines the transition to the knowledge-based economy and knowledge-based society. The contemporary environment is characterized by VUCA – volatility, uncertainty, complexity, and ambiguity (Bennett & Lemoine, 2014). Never before, in the long history of mankind, the society and the economy have faced such environment. Every component of the economy and society is affected by these processes. Every component of the economy and society in order to survive, to be able to work and to be sustainable should make major changes in the processes. In the last years becomes very visible and influent digital revolution, which is a major component of the knowledge revolution. Digitization, digitalization, and digital transformation are three major processes which generate substantial changes in the volume, variety, speed and efficiency of the work processes. Economy and society are facing new demands, challenges, threats and opportunities, structures, mechanisms, and performances. Every component of the economy and society needs a new management able to elaborate strategies and policies, to create activities, structures, and systems, to make and implement decisions, actions and behaviors generating functionality and competitiveness.

In order to achieve such essential mutations, mandatory for organizations, the management should change deeply itself. If we look at what happened in the last decades, both in management practice and theory, we could see a lot of improvements, a lot of innovations, a lot of performances. Meantime we could see also numerous unsolved managerial problems, many questions without efficient answers, many organizations – some of them very large and powerful – which not survive, which disappeared in only a few years. The many and the substantial managerial advances occurred, especially in the developed countries, there were not able to solve performant a large part of the societal, organizational and individual requirements and challenges. The famous „Renegade Brigade” involving 136 of leading management professors, consultants and managers from the USA, Europe and Canada, in the Manifesto published by Harvard Business Review has concluded that the management should be reinvented. They have formulated a set of 25 challenges that should be taken into consideration in this very difficult undertaking.

In our paper, we try to find an answer to a large part of these challenges, and we outline a new innovative approach to these managerial relationships. We propose to enlarge and to change the nature of the management relationships. Traditionally, from the ancient times, the management is dealing mainly with the relationships manager – executant, based on the hierarchical authority and competences. We consider that the managerial relationships should be focused on the all relevant stakeholders involved in each organization. The managerial relationship with relevant stakeholders – executants, suppliers, bankers, designers, and of course shareholders and managers – should be based on the win-win approach in order to fully motivate and engage their information, knowledge and all other types of their resources. This means a radically new type of management. Based on the comprehensive review and analysis of the management literature we have identified two categories of arguments regarding stakeholders based management. The first category supports the statement that the management focused on the stakeholders it is necessary now, in order to replace the traditional management based on the relationship manager - executants. The second category of arguments

demonstrates that such management is possible now, taken into consideration the characteristics and the mutations at the societal, organizational and managerial level.

In our opinion, the radical change to the stakeholders based management could solve many of the present management deficiencies and concomitantly to generate new managerial capabilities in accordance with the content and the requirements of the new type of society and economy- based on knowledge. Stakeholders based management is much better equipped than the present management in order to valorize the opportunities created by digitization, digitalization and digital transformation and to overcome the many present deficiencies.

Why is necessary the stakeholders based management system now, in the present period?

Organizational arguments

- *Perception and understanding of organizations - of course including companies* - as the social constructions. This means that they are artifacts created by human beings to serve their ends. They follow processes that are shaped by human purposes, and they do not exist independently of human minds and actions. Organizations are systems of human actions in which means and ends are guided by the intentions, strategies and hoped-for incomes. They are in effect created by meaning, with a rich tapestry of cultural rules, roles, and intentions (Coghlan, 2016, p.7);

- *Development of a new type of company focused on knowledge* is characterized by resources, operations, and functionality which are quite a different comparative with the classical capitalist company; it is named knowledge-based company;

- *Companies contextualization by amplification of the extern environment influence* on their objectives, resources, activities, functionality, performance and sustainability, in the conditions of the multiplication and the acceleration of the companies inputs and outputs;

- Intellectual capital plays a decisive role in the survival, functioning, and development of modern companies, based on knowledge;

- *The resources of a large part of the companies* have changed deeply during the last decades through:

- the appearance of two new categories of resources - information and knowledge;
- the components, the structure and the functionality of "classical" resources - human, technical-material and financial - has substantially changed;
- the human resource, very closely associated with information resources and knowledge resources, has a major role in the modern organizations, much higher than in classical companies.

- *Companies activities have heavily changed during the last decades* through:

- the formation of the consistent activities focused on the creation, purchasing, use, share, valorization a.s.o. of the knowledge; all these operations constitute the content of the new company function – knowledge function; this function is a transversal company

function, different from vertical functions-research - development, commercial, production, finance-accounting and from classical company;

- the content and dynamics of classical activities (supply, production, sales, accounting, finance, etc.) also have changed deeply;

- human resources training, because of their size and major impact within the organization, become gradually - especially in the large and middle companies - a distinct company function fulfilled partially by externalization outside them.

- *Modern companies based on knowledge, is quadro-dimensional*, trying to achieve concomitantly four types of objectives:

- economical;

- social;

- ecological;

- educational.

- *The knowledge-based company represents an ecosystem presenting the following features:*

- the system made up of interactive parts which act together;

- multidimensional community - human, economic and ecological;

- networking endogen complex;

- system interconnected with other exogenous systems and with its environment.

- *The background of the performance and the sustainability of the knowledge-based company is represented by the sustainability diamond based on knowledge*, as we can see in figure 1 (Nicolescu & Nicolescu, 2017);

- *The manifestation of the new organizational paradox discovered by Gary Hamel* "The organization should become more adaptable, innovative and inspirational, without being less focused and disciplined or less oriented on performance" (Hamel, 2009);

- *Awareness of the fact that the success of a firm is determined by its ability to establish and maintain relationships within the entire stakeholder network* (Post, Preston & Sachs, 2002, p.96);

- *Companies reinvention* taking into consideration the multiple changes and challenges occurred at mondo, macro, and microsystems. Recently, in a study published in MIT Sloan Management Review has outlined: "It is no longer about how companies should thrive, but rather how they must reinvent themselves to survive because that's the key issue today" (Weill & Woerner, 2017).

Managerial arguments

- *Awareness of the existence of a comprehensive network of the stakeholders - inside and outside the companies* - who have a major impact on their functionality, performance, and sustainability;

- *Traditional management, still predominant in the most part of the companies, is based on the absolute primacy of the owner and/or shareholders interests*, the necessities and expectations of the other stakeholders, being ignored or only sporadically taken into consideration. A partial exception from this refers sometimes to the companies' top managers;



Figure 1. Sustainability diamond

- *Potential of a large part of the companies endogen stakeholders* - managers and especially executives - is used for the sustainable organization development only to a small extent;

- *The traditional managerial relationship, manager – subordinate*, involving two of the most numerous and important company stakeholders, which is based on hierarchy and on the "strong" authority of the manager, is not performing enough in the majority of organizations. As consequence, in companies have been developed new managerial elements based on participation, flexibility, collaboration, strategic agility, which could solve only partially this problem;

- *Potential of most part of companies exogenous stakeholders* - clients, suppliers, investors, bankers, consultants, a.s.o. - is frequently ignored or used only to a small part. Because of this situation, these stakeholders do not contribute enough to the generation of the company value added and to obtain a competitive advantage;

- *The ascertainment by many reputable specialists of the necessity to elaborate and to practice a new type of management*, radically different comparative with the management predominantly in the present – the management focused on stakeholders. This idea was very well formulated by the renowned Professor Eduard Freeman in the foreword of the book "Unfolding Stakeholder Thinking: Theory Responsibility and Engagement" - The need for a new era of management thinking and theory: one based on the idea of stakeholders. We need to rewrite management theory and practice!" (Andriof, et al., 2002, p.89);

- *Conceptualization based on the stakeholder theory of the firm as a "multi-purpose entity"* (Crane, et al., 2014). This reconceptualization "opens" the door for "de facto" integration of the stakeholders in the company strategy, functioning and performance.

Societal arguments

- The discovery by Harvard University mathematical biologist Martin Nowak in 2006 that "*natural cooperation*" as the *third fundamental principle of evolution* beside of mutation and natural selection (Nowak, 2006);

- *Human beings "are more cooperative and less selfish than most people believe*. Organizations should help us embrace our collaborative sentiments" (Benkler, 2011);

- *Societal requirements* formulated by prestigious specialists based on the valuable studies "*we should re-frame capitalism in the terms of stakeholders' theory* so that we come to see business as creating value for the stakeholders" (Freeman, et al., 2010, p.211);

- *Transition* in the national and international economy, from the competition between companies to *competition between networks of companies stakeholders*. We "have competing networks of stakeholders, where one competing network is in competition with other networks" as can be seen from the next figure. As consequence all relevant companies stakeholders should be integrated into networks able to compete successfully on the local, regional, national and international markets and environments;

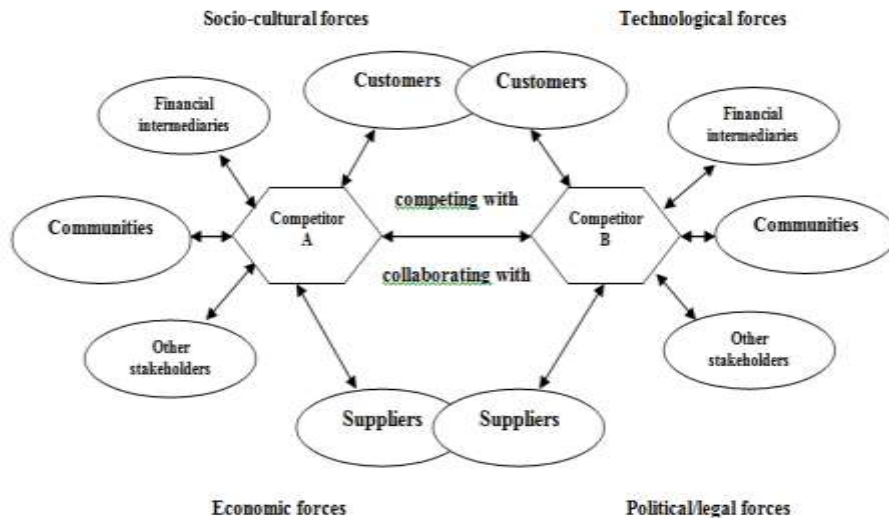


Figure 2. Competing stakeholder networks

We mention that the overlapping ovals are an indication that competitors are likely to share some of the same customers and suppliers. We acknowledge that overlaps may also occur with other types of stakeholders as well (Freeman, et al., 2010, p.117).

Why is possible stakeholders based management now, in the current period?

Organizational arguments

- *Manifestation in the companies of the very strong modernization tendency of the resources, activities, and functionality, many companies becoming and acting as ecosystems able and open to the intensive innovation and change;*
- *Transformation of the increasing proportion of the companies in the knowledge-based organizations, which detain the necessary vision and resources - especially the knowledge and information - in order to remodel them according to the new challenges, necessities, and opportunities;*
- *Transformation of the large percentage of the companies into learning organizations, amplifying substantially companies and their managers and executives capacity to innovate and to remodel themselves;*
- *Fast digitization of the companies and business environment, which enhances and accelerates the organization and people access to the knowledge and information, the communication and the consultation with the companies stakeholders, internal and external, actual and potential;*
- *Amplification on the information and knowledge detained, shared and used by the companies and their components, and of the other stakeholders;*

- *Proliferation* at the level of companies of the approaches focused on the sustainability and corporate social responsibility, which make them more open and proactive to their stakeholders.

Managerial arguments

- *The deep transformation of the in management practices in numerous companies - corporations and large companies in the pole position - being on quasi-continuous innovation and change;*

- *The appearance in quite many companies of the new managerial dimensions - provisional, innovational, flexible, motivational, methodological, informational, formative, participative, systemic and international - but still not enough used and valorized by them;*

- *Seizing, taking into consideration and valorizing to a large extent by the numerous companies managers of the huge potential of the new organization resources - information, knowledge - and intellectual capital;*

- *Awareness of a large number of managers of the company many categories of stakeholders existence major impact on it and their clients, suppliers, managers, executors, shareholders, investors, a.s.o.;*

- *Development in numerous companies of the specific and effective managerial mechanisms for certain important stakeholder categories, which has proved the possibility, the usefulness, and high capacity to produce a performance of such managerial mechanisms. The largest used and performant such mechanism there are the Customer Relationship Management (CRM) and Supply Chain Management (SCM);*

- *Development under environmental challenges and demands for certain stakeholder categories (local communities, company employees, for example) of the specific managerial approaches with human and ecological dimensions like Corporate Social Responsibility (CSR);*

- *The recent formulation of the thesis that the combination of the focus on management process with the stakes of companies stakeholders, could represent to the present necessities and realities an alternative solution for obtaining sustainability (Sadun, Bloom & Reenen, 2017);*

- *Remodel of the organization and employees culture, placing emphasis on the novelty, creativity, change, flexibility, participation, and adaptability;*

- *Manifestation, because of the mutations on the company environment, associated with the transition to the knowledge-based economy and society - both in management science and practice - of the numerous innovative ideas and approaches, continue amplified and diversified in order to increase company performance and sustainability;*

- *Identification of the necessity to radically remodel the organization management by the great number of renowned management scientists and top managers from prestigious companies and the formulation by them of appeals and urges in this respect. Among*

them, we mention "*Renegade Brigade*" published by Harvard Business Review in 2009, and the strategic document adopted at the Davos Forum in 2017, called "*The Compact for Responsive and Responsible Leadership - A Roadmap for Sustainable Long-Term Growth and Opportunity*". (World Economic Forum Annual Meeting, 2017);

In *Renegade Brigade Manifesto* (Hammel, 2009), 136 of leading professors, consultants and managers from USA, Europe, and Canada have concluded that „the modern management“ (management 1.0) of which dates back to the late nineteenth century, has reached the limits of improvement. They have laid out a roadmap for reinventing management proposing to construct management 2.0 taking into consideration 25 management's grand challenges (see the table 1):

Table 1. Management's grand challenges

1.	<i>Ensure that the work of management serves a higher purpose.</i> Management, both in theory and practice, must orient itself to the achievement of noble, socially significant goals.
2.	<i>Fully embed the ideas of community and citizenship in management systems.</i> There's a need for processes and practices that reflect the interdependence of all stakeholder groups.
3.	<i>Reconstruct management's philosophical foundations.</i> To build organizations that are more than merely efficient, we will need to draw lessons from such fields as biology, political science, and theology
4.	<i>Eliminate the pathologies of formal hierarchy.</i> There are advantages to natural hierarchies, where power flows up from the bottom and leaders emerge instead of being appointed.
5.	<i>Reduce fear and increase trust.</i> Mistrust and fear are toxic to innovation and engagement and must be wrung out of tomorrow's management systems.
6.	<i>Reinvent the means of control.</i> To transcend the discipline-versus-freedom trade-off, control systems will have to encourage control from within rather than constraints from without.
7.	<i>Redefine the work of leadership.</i> The notion of the leader as a heroic decision maker is untenable. Leaders must be recast as social-systems architects who enable innovation and collaboration.
8.	<i>Expand and exploit diversity.</i> We must create a management system that values diversity, disagreement, and divergence as much as conformance, consensus, and cohesion.
9.	<i>Reinvent strategy making as an emergent process.</i> In a turbulent world, strategy making must reflect the biological principles of variety, selection, and retention
10.	<i>De-structure and disaggregate the organization.</i> To become more adaptable and innovative, large entities must be disaggregated into smaller, more malleable units.
11.	<i>Dramatically reduce the pull of the past.</i> Existing management systems often mindlessly reinforce the status quo. In the future, they must facilitate innovation and change.
12.	<i>Share the work of setting direction.</i> To engender commitment, the responsibility for goal setting must be distributed through a process in which the share of voice is a function of insight, not power.

13.	<i>Develop holistic performance measures.</i> Existing performance metrics must be recast since they give inadequate attention to the critical human capabilities that drive success in the creative economy.
14.	<i>Stretch executive time frames and perspectives.</i> We need to discover alternatives to compensation and reward systems that encourage managers to sacrifice long-term goals for short-term gains.
15.	<i>Create a democracy of information.</i> Companies need information systems that equip every employee to act in the interests of the entire enterprise
16.	<i>Empower the renegades and disarm the reactionaries.</i> Management systems must give more power to employees whose emotional equity is invested in the future rather than the past.
17.	<i>Expand the scope of employee autonomy.</i> Management systems must be redesigned to facilitate grassroots initiatives and local experimentation
18.	<i>Create internal markets for ideas, talent, and resources.</i> Markets are better than hierarchies at allocating resources, and companies' resource allocation processes need to reflect this fact.
19.	<i>Depoliticize decision making.</i> Decision processes must be free of positional biases and should exploit the collective wisdom of the entire organization and beyond
20.	<i>Better optimize trade-offs.</i> Management systems tend to force either-or choices. What's needed are hybrid systems that subtly optimize key trade-offs.
21.	<i>Further, unleash human imagination.</i> Much is known about what engenders human creativity. This knowledge must be better applied in the design of management systems.
22.	<i>Enable communities of passion.</i> To maximize employee engagement, management systems must facilitate the formation of self-defining communities of passion.
23.	<i>Retool management for an open world.</i> Value-creating networks often transcend the firm's boundaries and can render traditional power-based management tools ineffective. New management tools are needed for building and shaping complex ecosystems.
24.	<i>Humanize the language and practice of business.</i> Tomorrow's management systems must give as much credence to such timeless human ideals as beauty, justice, and community as they do to the traditional goals of efficiency, advantage, and profit.
25.	<i>Retrain managerial minds.</i> Managers' deductive and analytical skills must be complemented by conceptual and systems-thinking skills.

"The Compact for Responsive and Responsible Leadership - A Roadmap for Sustainable Long-Term Growth and Opportunity", has been elaborated by 100 leading business and finally adopted by all participants in Davos Forum 2017. According to this document, there is a need for a Compact that recalibrates the relationship between public corporations and their major investors, and conceives of corporate governance as a collaboration among corporations, shareholders and other stakeholders working together to achieve long-term value and resist short-termism. Disagreement between stakeholders is best resolved in a transparent and respectful manner, de-escalating conflictual stances wherever possible. Each manager participant as a responsive and responsible leader has undersigned and commit to acting within the remit of his/ her responsibilities, duties and influence to promote meaningful engagement between the

board, investors and other stakeholders that builds mutual trust and effective stewardship, and promotes the highest possible standards of corporate conduct and to implement policies and practices within the organization that drive transformation towards the adherence to long-term strategies and sustainable growth for the benefit of all stakeholders.

- *Enhancement of the managers' professionalization tendency*, who because of the high knowledge level and of the vision focused on change, innovation, and participation, are able to initiate and practice a new management type in the relationships with the companies' stakeholders, valorizing their large potential in a win-win approach.

Societal arguments

This category of arguments is represented by the *tendencies in the organization environment* which enable and make possible the implementation of the stakeholders based management, we just enumerate them in the figure 3. (Nicolescu & Nicolescu, 2017).

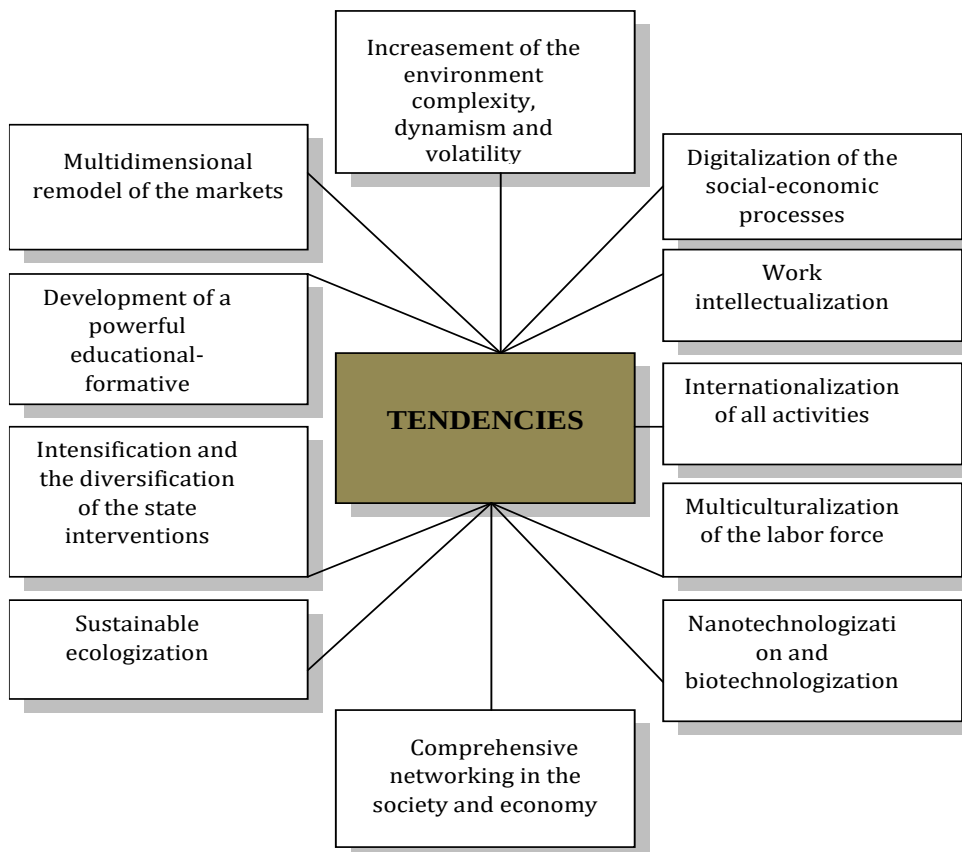


Figure 3. The main tendencies in the organization changing the business environment

Some of these tendencies there are very complex, influencing not only the possibility of the company management to focus on the stakeholders, but also to the necessity to do this in order to survive and be sustainable.

Conclusions

In our opinion, the logical answer to all elements presented in this paper is the transition to the new managerial vision and to stakeholders based management. Such revolutionary mutation involves deep and complex changes in all major company management components:

- company strategy
- entire organization management system
- decisional management subsystem
- methodological management subsystem
- organizational management subsystem
- informational management subsystem
- human resources management subsystem
- organizational culture
- company organizational behavior
- company performance and sustainability.

Company stakeholders based management shall be more performant comparative with the predominantly management of companies at present, because it shall be able to use the resources and the potential of their endogen and exogen relevant company stakeholders: managers, executives, shareholders (owners) clients, suppliers, investors, bankers, local community, a.s.o. It shall be focused on the knowledge - the main company raw material, production, means, product capital and competitive advantage in the knowledge-based economy (Nicolescu & Nicolescu, 2011). The use and valorization of the intellectual capital of the relevant stakeholders shall be in the center of all managerial processes and relationships, generating the quadridimensional sustainable performances – economic, social, ecological and educational (see figure 1).

Transition to the stakeholders based management depends decisively on the managers. They should be the first to remodel the vision, mentality, approach, decisions, actions, and behavior. The implication of all relevant stakeholders in management practice and theory is absolutely necessary. RSMS - Romanian Scientific Management Society - could and should play a major role in the transition toward organization stakeholders based management.

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MANAGERIAL CHALLENGES IN THE CONTEXT OF DIGITAL ECONOMY

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Abstract. *The aim of the article is to present how and with what consequences the dynamic development of Information and Communication Technologies (ICT) affects the transformation of the work of contemporary managers. In accomplishing this goal, the essence and explanation of the specificity of the managerial profession were presented to confront traditional expectations addressed to managers with expectations resulting from the development of the digital economy. ICT was presented as General Purpose Technologies (GPT), which led to the third technological revolution. Next, new ICT solutions are synthetically presented, which currently have a particularly strong impact on the work of managers, their decisions and the strategies and management methods they adopt. The main attention was paid to such solutions as mobile and wireless technologies, Big Data, Cloud Computing, Internet of Things and 3D printing technology. The importance of ICT power resulting from their range and universality of the application was also emphasized and it was also indicated that such solutions as artificial intelligence, supercomputer, autonomous cars, robots, bitcoins and blockchains and neurotechnologies are also interesting. Next, an attempt was made to explain how the expectations addressed to contemporary managers change. It was pointed out that currently, managers need to revise the existing, traditional management methods. At the same time, new approaches to management should apply to virtually all dimensions of their activity and responsibility. Fundamental changes should include, among others, organization strategy, shaping organizational structures, human resources management practices, marketing, managing people and managing teams. As a consequence, managers should be able to implement new business models. As it results from the analysis, the managers' approach to the tasks they fulfill should change fundamentally. In the conditions of the digital economy, they should be ready to give up some of their power and link the organization's success with work within flattened organizational structures. In a new way, they also have to approach the implementation of organizational leadership and team management. The paper is an attempt to implement the prognostic goals of management theory and practice. It is based on a critical analysis of available, very extensive literature on the subject in the area covered by the topic. It also used the analysis of statistical data on ICT development and the results of querying reports and thematic studies of well-known consulting companies. Also included are business case studies published in reputable business journals, which particularly use ICT effectively.*

Keywords: *management; manager; Information and Communication Technologies; digital economy; e-manager; managerial challenges.*

Introduction

Managers are an extremely numerous group of specialists, occupying various managerial positions (Barabel & Meier, 2010, pp.147-250), in various types of organizations (Thiétart et al., 2007, p.1), both business and administrative, and even non-profit organizations. The nature of their work, related to management, makes them constantly confronted with new challenges. At present, Information and Communication Technologies (ICT) and the more general nature, i.e. the functioning of the organization within the so-called digital economy. Challenges appearing before managers are not only related to ICT solutions implemented in a given organization, but also result from changes in competitors, cooperating entities and, above all, clients. The lack of adequate response to market changes and the failure to take advantage of the opportunities associated with the opportunities offered by ICT may, in fact, lead to the deterioration of the competitive position of the organization, and finally to its disaster in today's extremely demanding market.

In connection with the above, the paper attempts to present how and with what consequences the dynamic development of Information and Communication Technologies (ICT) affects the transformation of the work of contemporary managers. Based on a critical analysis of extensive literature, the analysis of statistical data on the development of individual ICT elements, review of consultancy companies' reports and case studies of companies using advanced ICT, traditional expectations addressed to managers were anticipated with expectations resulting from operating in the conditions of the digital economy. Suggestions were also given on how managers should modify their management approaches.

The essence and specifics of the work of managers - a literature review

Generally speaking, the managerial profession from other professions is distinguished primarily by the fact of direct involvement in matters related to the management of organizations. It is managers who start processes related to the functioning of the organization, participate in their implementation, observe their course, introduce (or not) adjustments, control individual activities or participants of given processes, shape relations with stakeholders and the environment. Thus, managerial professions distinguish not only the positions they occupy but also the specificity of their position and completed tasks. Moreover, managerial phenomena are characterized by such imprecise nature of work, the authority they have over people and organization resources, responsibility for themselves and others, concentration on problem solving, special type of activity inside and outside the organization, creating goals, attention to results, necessity initiating pro-development activities and responsibility for management processes.

Managers are in particular professionals responsible for the entire organization or its separate part. They perform their tasks through people who are subject to them or other people who do not have to be their subordinates (Mintzberg, 2011).

It seems that managers can be assumed to be *employees of organizations who, because of their position, define the framework and principles of functioning of teams, cells or entire structures, and through significant participation in the disposal of resources and*

management of people are responsible for setting and achieving the goals of the organization or part of it.

Inspired by the concept of H. Fayol (Mintzberg, 1990, pp.24-25), traditional approach to the work of managers was presented for example by L. Gulick in the classification of the POSDCORB acronym, i.e. Planning, Organizing, Staffing, Directing, Coordinating, Reporting, Budgeting (Martinet & Pesqueux, 2013, pp.9-10). P.F. Drucker saw this issue sooner a little bit differently and distinguished five basic operations carried out by managers, namely: setting goals, organizing, motivating and informing, measuring performance and developing people (Drucker, 2006). For some time, these classifications have been simplified and it is usually assumed that managers are responsible for the implementation of functions: planning, organizing, managing people and controlling (Schermerhorn, 2004).

The above approaches to the work of managers have been questioned (or, as some people prefer - developed) H. Mintzberg in the authorial concept of managerial roles (Barabel & Meier, 2010, p.179). He distinguished 10 roles, which he divided into three groups. He included the following roles for the interpersonal group: representative (symbol), leader and connector. In the information group, he distinguished the roles: active observer, relay, and connector, while in the decision group he indicated the roles: entrepreneur, regulator, resource manager and negotiator (Mintzberg, 1984). The authors of the work titled "Becoming a Master Manager" have distinguished eight managerial leadership functions. These are the functions: mentor, moderator, monitoring, coordinator, director, implementer, intermediary and innovator (Quinn et al., 2003). The classifications presented here do not exhaust the diversity of managers' job approaches but seem to suggest enough how it can be heterogeneously perceived, and how this perception has changed over the last decades.

It should also be added that in practice the matter is additionally complicated, which can be exemplified by the analyses of the work of managers such as: L. Gerstner (IBM) (Slater, 1999) or S. Jobs (Apple) (Isaacson, 2011), presentations of his own management approach to J. Welch (General Electric) (Welch & Welch, 2005) or A. Morita (Sony) (Morita, Reingold & Shimomura, 1986), as well as extensive research on the work of managers carried out by The Gallup Organization or H. Simon's research on the management of small and medium-sized companies. The analysis of various sources leads to the conclusion that the implementation of managerial functions largely depends on the personality of managers, their views on management, and also that it is strongly culturally determined.

Management, which is the subject of managerial activities, is a social technology with a very rich history. But since the first scientific concepts on this subject came into being, almost everything has changed. There are other markets and competition, there are completely new legal regulations, organizations operate in other structural arrangements, and managers are confronted with more and more challenges (Gonciarski, 2012). However, as R. Norman aptly notes, as in the times of the industrial revolution, technology is the driving force behind change. With the fact that this time, it is digital technology (Norman, 2012, p.35).

Information and communication technologies as general purpose technologies

The analysis of the relationship between the development of technology and management allows distinguishing technologies that have such a powerful impact that they have changed the course of civilization development. In the literature on the subject, these phenomena are often referred to as a revolution, in the sense of sudden and radical changes, and the consequences of which concern economic and social systems and lead to the formation of new management concepts.

In socio-economic analyzes the technologies that trigger revolutionary changes are referred to as General Purpose Technologies - GPT. Consequently, technologies included in this category can also be analyzed from the perspective of their impact on management, including the work of managers.

In general, GPT is a set of core technologies that are critical in generating and spreading incremental and radical innovations in various fields, sectors and economic sectors, and affect social and economic systems. They are technological innovations so powerful that they disrupt and accelerate the normal rhythm of economic development (Brynjolfson & McAfee, 2015a, p.29). Therefore, as GPT develops, it will spread throughout the economy, lead to overall productivity gains, and from the point of view of management change the rules of functioning of markets and organizations (Brynjolfson & McAfee, 2015b, p.15).

It is usually assumed that the first major breakthrough under the influence of GPT took place at the end of the 18th century (the first industrial revolution). His driving force was the invention of a steam engine and the development of railways. The next major changes occurred due to the second technological revolution, whose driving forces were electricity, a mobile technological line and mass production (Schwab, 2017, p.18).

Another major breakthrough, referred to as the third technological revolution, took place due to the development of technologies related to Information and Communication Technologies – ICT (Jarosson, 2009, pp.43-46). This term is understood as a broad set of techniques and technologies, which mainly consist of devices and applications related to the flow of information. The ICT conceptual scope includes, above all, co-existing techniques related to microelectronics, data processing (hardware and software), ICT and a variety of communication media, in particular, the Internet, wireless networks, Bluetooth networks as well as cellular and satellite networks. The term 'ICT' used in the analyzes hides in itself various types of techniques and technologies that, taken together, meet the criteria for being included in GPT.

It can be assumed that since the beginning of the 1970s ICT has started to meet the basic GPT criteria (Brynjolfson & McAfee, 2015, pp.107-108), which are according to B. Jovanovic and P.L. Rousseau: ubiquity, the ability to constantly improve and the ability to create new innovations (Jovanovic & Rousseau, 2005, pp.1181-1224). They also fulfill the additional condition defined by Wright, namely the ability to exert a significant influence on many economic sectors (Wright, 2000). This is confirmed by in-depth studies in which the impact of ICT on the economy was analyzed and which showed that it was unambiguously positive. Of course, these positive results were not only generated by ICT but were generated by transforming business entities, innovative business models and generally a new management approach implemented by managers. It should

be noted that ICT is changing at a dizzying pace and in addition, significantly changes the rules of competition and generate radically new customer expectations (Danneels, 2004, pp.246-258). These technologies are therefore a challenge for both engineers and managers.

It should be emphasized at this point that there are currently classifications distinguishing the fourth technological revolution (Skilton & Hovsepian, 2017). The authors of this paper believe, however, that it is too early to make such distinctions. Technologies that are treated as discriminants are in ICT, difficult to separate from others, and moreover, do not seem to meet GPT criteria by themselves.

ICT determining the work of contemporary managers

ICT - since the first computers - has undergone a far-reaching transformation over the last few decades. Particularly many new opportunities arose at the beginning of the 21st century when the Internet from Web 1.0 was transformed into a Web 2.0 version (Fayon & Tartar, 2014; Gonciarski, 2010; Świątkowski, 2015). As aptly noted by M.R. Dugage this new version is a kind of innovation platform that creates the conditions to reveal the real potential of the network (Dugage, 2008, pp.74-45). Apart from technological aspects, one should notice three extremely useful features of this new version of the Internet (Scheid, Vaillant & de Montaigu, 2012, p.28), namely:

1. The ability to facilitate and share any content at any time.
2. Making the Internet user from the passive content recipient an active network user.
3. The ability to create communities, connect to existing ones and initiate relationships with other users.

In the first and second decade of the 21st century, new solutions and technologies appeared that significantly modify the functioning of the organization, and thus the work of managers. In particular, it should be distinguished:

1. Increase in the popularity of mobile and wireless technologies that allow the use of digital technologies in any place and time, in professional and private life.
2. Big Data, which allows the analysis of unstructured, partially structured and structured huge data streams flowing through different channels, both from the inside of the organization and from its environment (Germain, 2014, p.37). As proven by research, this technology gives the opportunity to raise performance and profitability ratios by approx. 6% above the results of companies that do not use this solution (Barton & Court, 2013, p.62). In addition, Big Data has the potential to release enormous value, create new winners and losers (Mayer-Schönberger & Cukier, 2014, p.251).
3. Cloud computing, that is, storage and processing of data in the so-called digital clouds. It is a solution that reduces the costs for IT, paying for the actual use of resources, enabling access to solutions that are not offered as standard and greater data security (Mateos & Rosenberg, 2011, p.260).
4. Internet of Things- IoT is a network of interconnected devices that communicate themselves and acquire data. Then - with the help of appropriate systems - these data are analyzed, leading to conclusions and automated actions. This guarantees organizations that use IoT solutions achieve the expected business benefits (Choroś, 2015, p.4; Witkowski, 2017). Cisco introduced the term Internet of Everything (IoE), which is now treated as equivalent to IoT. At the same time, the IoE system is created not only by things, but also by processes, data, people, and even animals or

atmospheric phenomena, because everything can be treated as variables. Many experts say that IoT will soon overtake the Internet of people in its present shape in terms of size, significance and generated revenues (Miller, 2016, p.29). According to the World Economic Forum report published in 2015 (Deep Shift ... Survey Report, 2015), the critical size of IoT development is to connect 1 billion sensors to the network, which will probably be achieved in 2025.

5. The 3D printing technology consists in the fact that the digitally designed model is reproduced in a special printer as a physical object through layered, gradual application of molten plastic, molten metal or other raw material. The use of this type of production revolutionizes traditional production methods and causes that the possibility of production is not limited by space, and both corporations and prosumers can benefit from it (Rifkin, 2016, pp.101-105). As argued by R. D'Aveni (2013, pp.55-65), spatial printing technology has already gone far beyond the prototype phase.

From the point of view of management, the strength of digital technologies results from their range and universality of the application on a global scale. All this is now strengthened by such solutions as interactive websites, blogs, and microblogs, social networking sites, wikis, instant messaging, etc. In practice, this means - for both companies and customers - the possibility of a continuous presence in networks and their implementation professional and private tasks.

Volumetric constraints of this article make it impossible to even characterize other new ICT solutions. It should be pointed out, however, that such solutions as artificial intelligence, supercomputers, autonomous cars, robots, bitcoins and blockchains, neurotechnologies are noteworthy. All of this, taken together, creates a synergic arrangement that creates the basis for new management paradigms, which puts managers ahead of new challenges. Under these circumstances, at the end of the second decade of the 21st century, managers must make a significant return on management.

Managers against challenges posed by the ITC

Managers in the twenty-first century are confronted with all kinds of new phenomena, sometimes so surprising that they fall into the category of so-called Black Swans described by N. Taleb (2007, 2012). In this part of the article, however, only some consequences will be indicated - determining the work of managers - resulting from the spread of ICT in areas related to the management of organizations.

The most general consequence of the spread of ICT is the transformation of the traditional market into a version known as e-business and e-commerce extracted from it (Chaffey, 2014). The new economic system created in this way by M. Volle defines the interesting neologism "Iconomie" (Greek: eikon - image and nomos - organization). The term means "(...) a society whose economy, institutions and ways of life are based on the synergy of microelectronics, software and the Internet" (Volle, 2013, p.11). Others describe this new type of economy as the electronic economy, network economy (Benkler, 2008), Macrowikinomics (Tapscot & Williams, 2011), e-economy, information economy, Economy 2.0 (Jarrosson, 2009) or the digital economy (Gonciarski, 2013). Recognizing the differences between these terms, it seems that for general considerations they can be treated as synonyms.

Operating in these new conditions means for managers the need to revise traditional strategies and management methods. The power of the digital market is demonstrated by the data presented in the report from January 2018 (We are a social agency, report, 2018). It shows that currently, over 4 billion people around the world use the Internet. Which means that more than half of the world's population is now connected to the network, and more than a quarter of a billion new users arrived in 2017. The number of users of social networks in 2018 is 3.196 billion, an increase of 13% year on year, and the number of mobile users increased by 4% and is 5.135 billion.

Necessarily, managers become so-called digital managers who are expected to have skills related to the use of ICT and know how to apply digital management techniques in practice to increase the efficiency of their teams and thus increase the efficiency of the entire organization (Zara, 2016). This requires the implementation of often fundamental changes regarding company strategy, market positioning, customer relationship management, the transformation of structures, implementation of new procedures for formalizing activities and reporting as well as flattening the hierarchy and ensuring effective control over communication (Boyer & Equilbey, 2013). This last issue is extremely important, because digital connections implemented in a continuous system (24h/24h) cause that the boundaries are blurred, both for companies and their leaders, managers, and employees. The boundaries between the interior and the environment of the organization disappear, as well as between professional life and private life (Reyre & Lippa, 2015, p.32).

From the manager's point of view, it is important that ICT caused radical changes in the production of goods and provision of services, including globalization of product development, an adaptation of workplaces to technology and expansion of service sectors. Increasingly, they enable digitization and virtualization of products as well as the individualization of services. They have changed the traditional relations between the state, business and consumers and create opportunities for creating a new type of services. They significantly increased the possibilities of individuals' access to information, created new forms of tracking individual behaviors and created favorable conditions for communication at a distance, facilitating the exchange of information and maintaining social relations (Souter et al., 2010, p.17).

Digital technology lets us end with the era of Taylorism through digital transformation, which concerns in particular (Delorme & Djellalil, 2015, p.11-12): business models, the scope of business and sectors, ecosystems, cooperation within the company, recruitment, marketing plans, customer relations, distribution, services, pricing mechanisms, promotional activities, gaining customer loyalty, communication and shaping brand value and reputation.

The ultimate goal of digital technology in the work environment and management is to create added value. New expectations formulated in relation to managers are connected with the need to reconcile several paradoxes (Zara, 2016, p.9):

- traditional enterprise culture with the culture that ICT introduces, based on listening, co-creation and collective intelligence;
- managerial control with the need for employee autonomy, in a very open and transparent digital environment;
- real operation with functioning in a virtual environment;
- previous skills with expected new competences.

It is also important to be aware that digital technology is an important aspect of managers' actions, but what really matters most is the management implications that this technology causes. I. Reyre and M. Lippa argue, in this context, that managers should have the following new skills (Reyre & Lippa, 2015, pp.42-46):

1. Ethical and kind behavior;
2. Conduction using teamwork;
3. Creating innovation;
4. Using collective intelligence;
5. Thinking and intercultural activities;
6. Developing recursive thinking;
7. Efficiency in the use of new media;
8. Transdisciplinary activities;
9. Make full use of the potential of all employees;
10. Organizational knowledge management;
11. Agile operation as part of virtual cooperation.

A particularly difficult field for managers in the digital age is the need for a new approach to managing people, organizing teamwork and leadership. Managing people in new organizational structures, using new ICT technologies also requires a new type of leadership. In this regard, it is worth approving of the position of H. Mintzberg, who claims that there is no reason to distinguish between managers and leaders - "instead of separating management from leadership, we should treat managers as leaders and conceive leadership as well-performed management" (Mintzberg, 2011).

Targeting in today's - created under the influence of ICT - virtual, flexible, flattened organizational structures requires a readiness to give up some of the managerial authority. Therefore, the popularity of the so-called distributed leadership, whose characteristic feature is the assumption that the leader can become any employee who is ready in a given situation and able to gather supporters around him and at the same time take responsibility for the tasks being carried out (Ciuk, 2012, p.435). However, the challenge for many managers is to limit the typical control functions for coaching or mentoring. Therefore, the basis of modern people management are partner relations based on trust, participation and effective communication (Barabel & Maier, 2010, pp.597-598). These conditions give the potential to involve colleagues in effective organizational processes.

It should be noted that ICT enables employees to perform their tasks remotely. Dispersed teams can be created in this way, which usually operate in different places - in different cities, regions or countries, and even continents. This new situation creates a number of possibilities for cooperation. The possibility of employing the best specialists, regardless of where they live, if they only have access to the Internet, seems particularly important.

Team managers are able to use new technology to keep remote workers plugged into the home team. Meeting software, instant messaging, video chats, project management software and mobile applications make it easier than ever before to stay connected. Some examples of new, modern communication technologies are given in table 1.

Table 1. Examples of IT communication tools appropriate for dispersed teams
(Own study, based on the idea of S. Sałek, 2016, and websites of individual tools)

Tool	Examples of IT tools	Ways and situations of application
Communicator	Skype, MSN, Messenger, WhatsApp	Immediate communication The need for fast, not extensive information Need of quick answer the questions
Shared services	Microsoft Exchange	Task delegating Storage of important data in one location Current list of contacts to team members and checking their availability
Remote access	Remote desk, WebEx	Sharing desk with other team members if needed
Video-conference, Teleconference	WebEx, Skype, VoIP	Possibility to discuss the project's progress and gaining its requirements Discussing the problems and finding the solutions
Traditional e-mail	Many different www. Sites	The ability to quickly transfer information and send electronic documents
Knowledge-based and company social media	Confluence, Jira, Intranet, Wiki	Informing about the events in the organization The ability to create thematic forums, sharing knowledge, solving problems and storing documents

An example of an interesting innovative solution using ITC and integrating the organization's personnel at the same time is the construction of internal inter-unit networks at Procter & Gamble (P&G). There are 30 communities in the company, which include volunteers from various parts of the group, whose task is to solve various organizational problems. These communities take part in technology summits every month along with representatives of ten business units (Hansen & Birkinshaw, 2011, p.126).

Currently, the so-called collective intelligence, which is a synergistic sum of intellectual resources of the organization. From the manager's point of view, it is associated with simultaneous building, sharing, transforming and implementing intellectual (internal and network) resources in activities (Zara, 2008, p.25).

ICT also enables such new solutions as flexible working time, employee leasing, outsourcing and offshoring of personnel functions, teleworking, e-learning, etc. New

managerial skills are also needed to manage these new employee systems (Gonciarski, 2013a, p.147).

ICT sets new expectations for managers in the area of shaping relationships with clients who, thanks to new technologies, have clearly strengthened their position and have become significant market partners. Currently, the especially innovative relationship potential can be launched thanks to the Web version of the Internet, and especially to social networks. In special situations, this leads to the creation of an innovative community-based partnership production model (Benkler, 2008, p.78). This phenomenon applies in particular to the so-called Generation Y, which becomes truly prosumer (Tapscott, 2010, p.351). In this situation, managers have to adapt the organization's structure to a new type of relationship in which stakeholders should be able to have direct, mutual contacts (Ramaswamy & Goullart, 2011, p.104). Unfortunately, management using these solutions is not easy, because they undermine current views on the role of management, especially the ability to control customer experience (Cook, 2009, p.122).

The obligation to shape new customer relationships leads managers to seek innovative solutions in the field of marketing. The reason is that marketing moves to the web and social media, both in market research and in shaping relationships, public relations, advertising and promotion. This is reflected in the concept of Marketing 2.0 (Laurent, 2008, p.209) or Digital Marketing (Scheid, Vaillant & de Montaigne, 2012). It should be emphasized, however, that regardless of associations, these are concepts that definitely go beyond online marketing and are actually more social than technological phenomena.

It should also be noted that at present some specialists are already formulating Marketing 3.0 paradigms (Kotler, Kartajaya & Setiawan, 2010, p.21 and next), and even Marketing 4.0 (Kotler, Kartajaya & Setiawan, 2017). The latter is, on the one hand, the answer to the latest ICT solutions, and on the other is extremely homocentric.

The impact of ICT on the work of managers is particularly visible in the possibility of implementing new business models that are gradually starting to displace traditional ways of running companies. Among these new business solutions, the following models deserve particular attention: models focused on the client, common infrastructure, virtual communities, net value integrators and digital content providers, co-creation, and sharing.

Conclusions

Digitization is probably one of the biggest and deepest changes that our societies have ever experienced (Delorme & Djellalil, 2015, pp.201-202). Generally, it changes the nature of work (De Saint Laurent-Kogan, pp.27-32) and makes it possible to create innovative technical and organizational solutions (Caseau, 2015, pp.17-22). It is not surprising that it causes radical changes in the functioning of the organization, and thus poses a number of challenges to managerial profession.

For decades, the task of managers was to control the structures they managed. In the digital era, however, the task of managers is not to rule, but to accompany, attend and listen. This is because the digital economy smoothes the hierarchy, "horizons" organizational arrangements, and in social networks, every employee can "take over"

and create formal activities without formal titles. As a result, the managerial profession in the 21st century refers more to the relation of expression and natural authority than to the power relations. The manager's position in the organization results in more from what he does than what is associated with the title on the business card (Rey-Millet & Rey-Millet, 2017, pp. 57-60).

Digital technologies are a difficult challenge for managers, but in the end, they allow a management revolution as a system and free the manager as a person (Rey-Millet & Rey-Millet, 2017, p. 298). The response of managers - for radically changed operating conditions - should be the creation of new organizational arrangements and the gradual implementation of a new art of management, shaped by the strength of coherent ideas built on experimental organizational and managerial innovations (Brilman & Hérard, 2011, p.47). In these circumstances, flexibility has become an obligation, a type of categorical imperative, and the conditions and means of its implementation have become elements of the current management and the coming years (Boyer & Equilbey, 2013, pp.72-73).

The management of organizations (especially virtual ones) requires a break with traditional management based on hierarchy and order, and the transition to decentralized management based on trust. In this situation, managers from supervisors should become coordinators who are responsible for creating an atmosphere that allows these new teams to function freely.

Unfortunately, the transformation of a manager into a digital manager is a real challenge, because shaped habits - anchored in procedures and traditional management principles, reinforced by many training - are not easy to change (Zara, 2016, p.122). To achieve this, managers have to go through the so-called management 2.0, which presents the new dimensions of managers' work in the digital economy in a systematic way.

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STRATEGY FOR ENSURING THE COMPETITIVENESS OF HIGH-TECH INDUSTRIAL ENTERPRISES

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Abstract. *The stable and efficient functioning of the Russian economy in the face of increasing contradictions, the struggle for resources, markets and technological leadership requires the building of the development potential of the high-tech sector. This requires a "smart" economy that produces unique knowledge, new things, and technologies that are useful to people. There are opinions that industrial enterprises currently do not have sources of competitive advantages that ensure the company's competitiveness for a long time. Other experts believe that such sources are available. They include qualified personnel, working as a cohesive team, innovation, patents and much more. The independent competitive advantage of the company is the stability of the competitive positions of the companies. In modern conditions, a particular importance is acquired by such a chain of concepts as sustainability - competitiveness - management of the enterprise's competitiveness. The level of competitiveness of industrial enterprises depends on many factors and acts as a driver of the economic development of the economic system. Low competitiveness entails: The purpose of the work is to determine the directions for increasing the competitiveness of industrial enterprises. Tasks: 1. identify the most significant factors and sources of ensuring the competitiveness of industrial enterprises; 2. to form a system of requirements and conditions necessary to ensure the competitiveness of industrial enterprises; 3. assess the level of competitiveness of high-tech industrial enterprises; 4. Development of a mechanism for managing the competitiveness of industrial enterprises. The empirical base of the research includes the reporting of industrial companies that are publicly available, reports of consulting companies, industry reviews, as well as data obtained during a questionnaire interview. The analysis used indicators such as the level of competitiveness, indicators that characterize the state and dynamics of the development of high-tech industrial enterprises. As a result of the study, the following results were obtained: 1. a combination of sources of increasing the level of competitiveness of high-tech industrial enterprises is revealed, among which key ones are: operational efficiency and strategic positioning; 2. a methodology for assessing competitiveness has been proposed and its approbation has been carried out; 3. The model of management of competitiveness of industrial enterprises is developed, on the basis of which recommendations are offered on increasing the degree of their competitiveness.*

Keywords: *industrial enterprise; competitiveness; competitive advantages; stability.*

Introduction

The development of the world economy is predetermined by various prerequisites, including the interests of states. "... China is focused on stimulating the domestic market, Germany is looking for an opportunity to protect itself from the economic decisions of its neighbors, Russia is developing import substitution programs, and the US is channeling efforts to strengthen the financial system" (Leonard, 2015). But with all the diversity considered, the key driver of promising economic development is manufacturing enterprises in the technological boundaries of the 4th industrial revolution and with a marketing focus on the domestic market. The manufacturing sector at present is "... the heart of the economic development process" (Amsden, 2003), the source of technological power of the state (Kondratyev, 2013), he "... is and will remain an important component ... of the economy" (Grunke, 2015). The reduction of this segment is a clear "sign of the economic decline of the country" (Kondratyev, 2013).

Thus, the development of manufacturing enterprises is a strategic task. Achieving such strategic objectives and in the long run, is seen through the creation of special mechanisms for the synergistic interaction of all elements existing potential. Such an important mechanism can, in our opinion, mechanism competitiveness of the organization's stability, focused on creating such intra-production conditions that will ensure the formation of sustainable competitive advantages in the long term.

The aim of the research is to find ways to increase the competitiveness of high-tech industrial enterprises.

Research methods

The study was carried out in three stages:

1. identify the most significant factors and sources of ensuring the competitiveness of industrial enterprises;
2. to assess the level of competitiveness of industrial enterprises;
3. development of competitiveness management requirements industrial enterprises.

The empirical base of the study includes the reporting of Russian industrial companies, which is in open access in the system of information disclosure by Interfax, reports of consulting companies, industry reviews, as well as data received during a questionnaire interview. In the course of the analysis, indicators such as the level of competitiveness, indicators characterizing the state and development dynamics of industrial enterprises were used. The observation period is 8 years and covers 2008-2015.

Just as the source of significant factors and conditions ensuring x competitiveness industrial enterprises involved materials of scientific and practical and analytical publications, scientific reports.

Results of the study

It makes sense to investigate the problem of the competitiveness of manufacturing enterprises only if they are in a state of competitiveness or if there are all opportunities to achieve this state in the near future. This happens as long as the characteristics of production, economic and financial activities of enterprises and the market remain unchanged in the established target standards. The problem of competitiveness was

raised in their studies by Post, Preston and Sachs (2002), Rumelt (1997), Hotelling (1990), Krivorotov (2014), Arrow, Block and Hurwicz (1959), Kozhevina (2012).

Competitiveness implies the dynamic stability of the basic economic characteristics of the enterprise and can be reflected by the formulation of certain targets, which are expressed by the ordering of some indicators of its economic condition. At the same time, we should not forget that sustainability is a property of enterprises that retains certain (specified, necessary) qualities during the observed period, allows resisting external influences. Based on this, it can be assumed that the planning of the conditions under which industrial enterprises do not move from one state to another (worse) can be controlled.

Within the framework of this study, the competitiveness of industrial enterprises is understood as the stability of maintaining competitiveness (achievement of strategic competitiveness) with a minimum of fluctuations in this criterion with respect to the trend. Strategic (Baloch & Inam, 2013) refers to the ability to maintain leadership in the long-term (10-25 years) perspective, based on the active development of innovative and investment factors in the context of objectively understood institutional transformations of the industry and the economy as a whole. The competitiveness of the organization has a number of properties:

- sufficiency for ensuring competitiveness and strategic development;
- adaptability to environmental changes and scientific and technical development;
- stability, determined by the technical cycle and the specified period of time;
- self-regulation and self-development in accordance with the dynamics of the internal environment;
- flexibility to ensure the competitiveness and development of the enterprise.

At the most abstract level, the competitiveness of industrial enterprises can be defined as a set of advantages, the use of which gives enterprises the opportunity to take a profitable position among competitors. Then the category of "competitiveness of the enterprise" and the category of "competitive advantages" - there are subordinate concepts, that is, "competitiveness" of the industrial enterprise is the result of the presence and use of competitive advantages. Therefore, competitive advantages - a system that has any exclusive value, giving superiority over competitors in the economic, technical and organizational spheres of activity (Mazilkina, 2007).

There are two types of advantages: comparative and competitive advantages. Comparative advantages ensure the competitiveness of an industrial enterprise through sources such as labor, natural resources (land) and capital. In modern conditions, only the availability of labor, capital, and raw materials do not ensure the competitive advantage of the enterprise, and precisely because they have become widely available, and thus the opportunity to gain advantages due to these differences is excluded. Proof of this is the acute awareness of the world's limited factors of production, in their classical sense, compared with the current and increasing level of needs. Therefore, due to the given objective circumstances, the task is to achieve the greatest satisfaction of needs with the least and rational use of resources and rational behavior of the economic entity. In an economy where all sectors can use advanced technology and highly skilled personnel to achieve a high level of development, the gap between production and service disappears.

However, where there is equality of conditions of functioning, the differences are leveled out. There is only one way out for producers – to create advantages (differences) themselves. Artificially created by the enterprise advantages in competition and should be attributed to competitive advantages.

Thus, competitive advantages are the determinants that determine and shape the competitiveness of an industrial enterprise, but at the same time, we can talk about the causal difference between these concepts. Competitiveness is the result of fixing the presence of competitive advantages. However, the presence of certain competitive advantages does not mean automatic preference, only in the complex they can have a decisive influence in choosing the best.

There is a certain hierarchy of concepts (table 1), which fits into the existing traditions of theoretical analysis and corresponds to the theoretical ascent from the abstract to the concrete: from the essential comparative advantages – through certain competitive advantages – to the criteria of competitiveness.

It should be borne in mind that the competitiveness of the enterprise and its competitive advantages are formed as a response to the factors of the external environment, including the characteristics of the market, industry, type of competition and its intensity, strategic opportunities and behavior of competitors, goals, and interests of customers, etc. So, the factors of the market environment that have an impact on the level of comparative competitive advantages, include market capacity, corporate structure, market conditions, segmentation, types of barriers to entry, etc. That is, the competitive position of the firm is a function of the state of the market environment, competition and competitors, industry factors that make up the macroeconomic, institutional and legislative, technological environment (Ogoleva & Radikov, 2003).

Table 1. The correlation between the concepts of "comparative advantages", "competitive advantages"

Comparative advantages	Competitive advantages	Competitiveness
An abstract category is used to characterize the preferential position of one market entity in comparison with another, which gives it the opportunity to win in a competitive struggle.	The result of the existence of comparative advantages, the concept corresponding to real market practice, related to real market opportunities (relative to costs or differentiation), and therefore, assuming a concrete practical form	The form of realization of competitive advantages, results of search and use by the market subject of new opportunities
The essential concept	It is a real representation of the essence, characterizes the conditions of market behavior	Expresses the result of market behavior
To identify comparative advantages, comparative characteristics of the effectiveness of the use of factors of production	It is expressed in specific indicators that can be accounted for and quantified (availability of a cheaper resource, economies of scale, availability of a special quality product), which indicates a certain source of leading position.	Empirical category, which has certain quantitative indicators. Competitiveness indicators quantify and qualitatively express competitive advantages.

In a simplified form, the definition of competitive advantage can be formulated as follows: manufacturers who sell their goods or services profitably have superiority over their rivals if customers prefer their products. However, some benefits are more valuable than others. In particular, in order to have competitive advantage has become strategically important, it is necessary to fulfill three conditions (Kevin, 2000).

1. Customers awareness of significant differences between goods or services offered by a particular company and those of its competitors. They must be unique in one or more key criteria for the evaluation of goods or services, according to which the real consumer choice is made and the decision to purchase is made.

2. This differentiation of products should be based on a sufficiently significant difference in the potential of producers, that is, the gap between the greater capabilities of a particular high-tech industrial enterprise and the less significant capabilities of its competitors. However, not every differentiation leads to the formation of a competitive advantage.

Differentiation should be based on key criteria of consumer choice. The set of such criteria practically does not include the "internal characteristics" of the manufacturer (for example, its location or the type of raw materials used). The only exceptions are those cases when these features cause the appearance of differences in the end product in terms of its delivery, influencing consumer decisions. In each specific market segment, the number of key criteria is limited, so effective differentiation of goods should be aimed at least one of the criteria included in this narrow circle.

The main criteria for the purchase are the price of the goods, the degree of its availability and such features as, for example, the quality of the goods, its appearance, functionality, availability of after-sales service, etc. in any case, the main properties of the offered products are taken into account, and very rarely - its additional features or functions. The cost of a product or service is not always a key criterion for the customer's choice of high-tech enterprise products. There are many examples of low prices that have not only not increased demand, but rather provoked a decline in demand or had no impact on consumer choice. An example is the experience of Texas Instruments. At the prices, the resources of competitiveness of industrial enterprises are almost exhausted. They are already comparable to the level of Western manufacturers and especially for high-tech equipment-processing centers, robotics. On the one hand, expensive components, on the other - constantly growing rates. And today's loans to domestic industrial enterprises are practically unavailable."

The gaps between the capabilities of competing companies can usually be classified into one of the following four categories (Kevin, 2002):

- a) Differences in corporate business systems due to the ability of a firm to perform individual functions more effectively than its competitors.
- b) Positional gaps arising from earlier decisions, as well as previous actions and circumstances. It takes into account the corporate reputation, consumer confidence, accumulated order book, irreversible investment decisions (for example, more profitable than competitors, the location of the enterprise).
- c) Differences caused by certain actions of the state in the field of legislation and economic regulation. This may be the obtaining of any patents and import quotas or the emergence of consumer safety laws.

d) Gaps caused by internal features of the organizational structure or the quality of management decisions. In turn, they are a consequence of whether the firm is able to innovate and adapt to market changes faster and more effectively than competitors.

3. Differences in the purchasing characteristics of products and in the potential of companies should exist for a long time. Thus, the competitiveness of industrial enterprises is the unity of intra-competitive advantages created by the business environment, but assimilated, integrated data by a competing enterprise. The external factors of competitive business environment mastered by industrial enterprises become their internal competitive advantages. Thus, from the point of view of creating competitive advantages, the production apparatus, all subsystems of a single production system should operate in the mode of optimizing the factors and parameters of the external and internal environment based on the unity of the elements of the integral system. Linking the scientific, technological, organizational level of production with the requirements of customers creates opportunities for the utmost use of the factors of production.

However, while industrial enterprises rely only on the policy of "importing" competitive advantages with a focus on "best practices" typical for efficient, competitive domestic and, mainly, foreign production companies, in practice, such enterprises often face serious problems of survival of these advantages. The fact that an imperfect internal environment, distortions in the management of often extinguish possible pulses of transformations that involve "imported" competitive advantage. Therefore, we cannot agree with the view that it is more effective not borrowing policy and the policy of growing competitive advantages – with the gradual introduction and integration into the existing system. These built-in competitive advantages provide the enterprise with competitive strength. Then competitive advantages are factors of competitiveness.

Competitive advantages have different forms of manifestation, which can be classified. The most complete division into groups is presented in Table 2.

Naturally, it is not possible to envisage all possible variants of the division. However, it can be stated that the classification is much easier if we take into account the extent to which the properties and characteristics of the competitive advantage allowing us to achieve the goal set by the industrial enterprise.

Therefore, in the study of competitive advantages, a systematic approach is important to ensure the identification and consideration of the most important factors affecting the evaluated (compared) objects. From the point of view of the system approach, it is important to create (modeling) sources of sustainable competitive advantage that provide the enterprise with the opportunity to achieve strategic competitiveness, the basis of which is the ability of the enterprise to implement a knowledge management system or training of the organization. Nile Fligstin in his work emphasizes the relevance of this area of ensuring competitiveness: "to withstand the onslaught of next-generation technologies, it is necessary to constantly improve the product, and the only way to do it is to train the organization" (Fligstein, 2004). Moreover, the ability to learn faster than its competitors is already considered as one of the few reliable sources of superiority over them. Goods that realize the simulated advantages that determine the requirements of consumers have "absolute" competitive advantages, that is, they have: first, a unique use value, and secondly, they necessarily overcome the framework of

competition for a certain time and occupy a monopoly position in the market, fully supported by the state and fixed by patenting fundamentally new characteristics of the goods.

Table 2. Classification of competitive advantages of an enterprise producing high technology products

Classification feature	Classification groups of competitive advantages	Classification feature	Classification groups of competitive advantages
Sphere of manifestation	In R&D in production in the implementation in product maintenance	Types of manifestation	Technical, economic, managerial
Level of manifestation	Forming the competitiveness of products, forming the competitiveness of the enterprise, forming the competitiveness of the region, forming the competitiveness of the country.	Benefit type	Material (based on material resources); Intangible (based on intangible resources): a) on intangible assets; b) on intellectual resources; c) on the relationship; d) on organizational resources.
Readiness for implementation	Real, potential	Source of occurrence	External, internal
Nature of the source	Based on economic factors, based on regulatory legal acts, structural nature, caused by administrative measures, determined by the level of development of the market infrastructure, technical and technological, based on awareness, based on geographic factors, based on demographic factors, of a non-legal nature	By the degree of measurability	Not measurable, these advantages are divided into simulated (formalizable, described with the help of models) and non-simulated (non-formalizable, have only a qualitative description). Measurable by expert means. Measurable by direct account.
By completeness	Accounted for New opportunities	On the way to achieve competitive advantages	Advantages of low order advantages of a high order
Whenever possible, use	Available inaccessible	The ability to simulate	Unique simulated
The degree of stability of the	Sustainable unsustainable	By constancy of impact	Permanent Periodic

Classification feature	Classification groups of competitive advantages	Classification feature	Classification groups of competitive advantages
manifestation of benefits.			Non-periodical Sporadic
If possible, create	Unreleased (basic) Created (developed)	Nature	Intense Extensive
By the degree of influence on competitiveness	The advantages of weak influence. The advantages of a strong influence. Multiplicative advantages	Market Coverage	On a separate market segment, on several market segments, in the market as a whole

Sustainable competitive advantage has several properties (characteristics): unique, difficult to copy, stable, applicable to different situations, better than competitors. For example, a resource that can provide the company with a sustainable advantage is the good reputation of the company, which is created over the years thanks to the constant exceptional quality of products and excellent service. A good reputation gives the company an advantage over its competitors. Excellent reputation in its specific expression is largely unique and, as a rule, there are only a few companies in the industry, that is, there is rarely and inextricably linked with the company that won it (a specific resource of the enterprise). A good reputation cannot be imitated by competitors, because the creation of something comparable requires a lot of years. In addition, accurate imitation is not possible, since the reputation of the enterprise can be formed based on a certain set of sources, such as product quality, innovative technology, excellent service, competent and professional staff, etc. the contribution of each source to the reputation cannot be accurately determined due to the ambiguity of cause-effect relations, objective difficulties of simulation, etc. If the company effectively and efficiently plan, maintain and use your online "reputation" within the framework of targeted management (management of resources), here are all the conditions to gain a sustainable resource of competitive advantage (Wolfgang, 2004).

In modern conditions, a large number of factors affect the competitiveness resistance industry. In this case, a change in the significance of various factors is observed (Table 3).

Table 3. Change in the importance of selected factors to ensure competitiveness, % (Unternehmerische Innovationspolitik in Deutschland: Ein Situationsbericht. Materials consulting firms «SCI Unternehmensberatung Görlitz», n.d.)

Factors	The 1970s	The 1990s
1.Reduction of production costs	19.7	13.9
2. Expansion of market share	46.9	12.7
3. Creating new products	25.3	57.4

The survey respondents identified the factors influencing the company's sustainability (Figure 1). They prefer factors related to the image of the company and its brand (Berns et al., 2009).

WHAT ARE THE BENEFITS OF ACTION?

Survey respondents cite the impact on a company's image and brand as the paramount benefit of addressing sustainability. But thought leaders differed — emphasizing instead a broad continuum of rewards grounded in value creation.



Figure 1. The results of the answers to the question "What are the benefits of action?" (Berns et al., 2009).

Thus, the presence of such an amount of information it requires systematization. In Table 4 we will result in results of the analysis of the influence of factors on the competitiveness of the industrial enterprises and functional areas of competitiveness of the enterprise.

It should be taken into account that a competitive advantage of any type gives enterprises a higher productivity than competitors.

The art of enterprises in achieving competitiveness consists in their emphasis on a particular competitive advantage or a combination of them. In modern conditions of management, as the practice notes, it is necessary to pay attention to as many factors as possible to ensure the competitiveness of the enterprise, and to find their favorable ratio. Alfred Marshall wrote (Marshall, 1961) that "the trend towards diversity is the main cause of progress". Obviously, the wider the organization's set of factors of competitiveness and the more diverse their configuration, the more favorable prerequisites it has for successful activity in the market.

Management of competitiveness requires the following actions: analysis of competitive advantages and weaknesses of the organization; definition of an integral assessment of competitiveness; development of general and local strategies for the preservation and development of competitiveness.

If the competitiveness is considered as a statistical characteristic of competitiveness indicators, then their fluctuations in the dynamics should be minimal, and correspond to a certain trend of their change.

Table 4. Assessment of the degree of influence of competitive advantage on the competitiveness of an enterprise

Competitive advantage	Innovative activity	Logistics	Internet technologies	Image	Branding technology	Mobile workforce
To competitiveness	+++	++	++	++	++	+
Functional areas of competitiveness	all	Economic, competitiveness of products	Marketing, financial	Marketing product competitiveness	Product Competitiveness	Staffing
Competitive resistance	+++	++	+++	+++	+++	+
Competitive advantage	And integration into foreign markets	Strategic planning	The productivity of fixed assets	Reducing the cost of manufacturing products	Compliance with international standards	Intellectual resources of the enterprise
To competitiveness	++	++	+++	++	+++	+++
Functional areas of competitiveness	Personnel, competitiveness of the management system, scientific and technological, production and technology	Competitiveness of the management system	Industrial-technological economic	Economic, financial	Competitiveness of products, ecological, industrial and technological	Scientific-technological, production-technological, personnel
Competitive resistance	+++	+++	++	+	+++	+++

+++ - strong influence; ++ - the effect is moderate; + - slight influence

These conditions underlie the assessment of competitiveness and are transformed into the formulation of two tasks:

1. Measuring the sustainability of enterprise competitiveness levels in dynamics. The solution of this problem is possible on the basis of calculations of individual stability

indices (i_y), which represent the ratio of the average of the levels above the trend (the average level of competitiveness for favorable periods of time - $\overline{F_{\delta n}}$) and the average of the levels below the trend (the average level of competitiveness for adverse time periods $\overline{F_{не\delta n}}$), which is expressed in the form of the formula:

$$i_y = \frac{\overline{F_{\delta n}}}{\overline{F_{не\delta n}}}$$

The closer the value of individual indices to unity, the less is the variability and, accordingly, the higher the stability.

Calculation by example

2. An assessment of the sustainability of the competitiveness of the VTCP can be obtained on the basis of the calculation of the Spearman coefficient (Aganbegyan, 2014):

$$K_{ycm} = 1 - \frac{6 \cdot \sum_{1}^n d^2}{n^3 - n}$$

where n is the number of observation periods;

d - p aznost grade level of competitiveness for years and ranks period rooms.

Interpretation of the Spearman coefficient is as follows: if each subsequent level of competitiveness is higher than the previous one, then the ranks of these levels and the

numbers of the periods coincide, that is, $K_{ycm} = +1$.

For comparative generalizing characteristics industrial competitiveness composed matrix shown in Figure 2.

Stability of the trend of competitiveness change	Unstable tendency ($K_{ucm} < 0.2$)	12	11	10
	Weak tendency stability ($0.2 \leq K_{ucm} < 0.4$)	7	8	9
	Average trend stability ($0.4 \leq K_{ucm} < 0.6$)	6	5	4
	High trend stability ($K_{ucm} \geq 0.6$)	1	2	3
		High ($i_y < 1,1$)	The average ($1,1 \leq i_y \leq 1,2$)	Low ($i_y > 1,2$)
		Individual stability of competitiveness levels		

Figure 2. Components of competitiveness

Enterprises falling into the quadrants 1, 2, 6 - have a high competitiveness; in 5, 7 - the average competitiveness; all other quadrants are characterized by low competitiveness.

According to this algorithm, the competitiveness of several enterprises has been assessed. These enterprises operate in the machine building industry in Russia. The evaluation results are represented in Table 5, 6. The table shows the levels of competitiveness in favorable times.

Table 5. Indices of enterprise competitiveness stability

Businesses	Levels of enterprise competitiveness								Individuals Sustainability Indexes levels competitiveness enterprises
	2008	2009	2010	2011	2012	2013	2014	2015	
The company with the highest level of individual competitiveness	0.553	0.523	0.448	0.475	0.36	0.495	0.424	0.535	1.01
Ent term with the lowest of individual competitiveness	0.556	0.437	0.369	0.573	0.573	0.521	0.59	0.6	1.275

Table 6. Evaluation of the stability of the trend of changes in enterprise competitiveness

Businesses	Ranks are equal to her competitiveness of enterprises								Coefficient of Spearman
	2008	2009	2010	2011	2012	2013	2014	2015	
The company with the highest level of individual competitiveness	8	6	3	4	1	5	2	7	-0.29
Ent term with the lowest of individual competitiveness	4	2	1	5	6	3	7	8	0.71

Management of the organization's competitiveness is carried out on the basis of compliance with certain requirements:

1. Mandatory analysis of the mechanism of action of economic laws.
2. Knowledge of the mechanism of action of the laws of the organization of structures and processes.
3. Compliance with the requirements of a set of scientific approaches to management.
4. Focus on specific markets and needs.
5. System automation of management.
6. Progressive methods of analysis, forecasting, rationing, optimization.
7. Focus on quantitative methods of evaluation and control.
8. The design of the models for the evaluation of competitiveness should take into account the weight of the incoming factors.
9. The indicators included in the assessment model of both aggregate capacity and competitiveness of the organization should be primarily dimensionless and relative.
10. Organic interrelation of the management system of competitiveness and strategic management, marketing, and human resources management.

Conclusion

The importance of studying the competitiveness of the enterprise is due to the fact that it is the firm's competitive positions that characterize the efficiency of its economic activities. The research carried out by us has made it possible to determine the factors that influence competitiveness. Such factors include expansion of the market share, product innovations. In addition, a significant role is played by the availability of competitive advantages and the business model used in the implementation of process innovations. A stable competitive advantage of the company is seen as a key factor of competitiveness.

The method for assessing competitiveness is presented, consisting of two stages: an assessment of the individual competitiveness of the enterprise and an assessment of trends in the change in competitiveness. For their calculation, standard and widely used statistical functions, such as the coordination coefficient, the rank correlation coefficient, were used. The approbation of the methodology was carried out at the enterprises of machine building in Russia. The study presents selective calculation results. The requirements of competitiveness management are defined. Presentation of the Methodic allows comparative analysis of different levels competitiveness stable enterprises. Secondly, monitor the change in competitiveness for a particular enterprise. This allows you to monitor the dynamics of competitiveness, point to apply management tools to ensure the stability of competitive positions.

Further research of the authors will be connected with the deepening of the study of the problems of ensuring competitiveness and competitiveness of industrial enterprises.

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MANAGEMENT OF KNOWLEDGE WORKERS. SUPPORT FOR CREATIVE THINKING AND ACTION – THE CASE OF CREATIVE INDUSTRIES

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Abstract. Creativity remains the source of innovation and therefore talented workers, presenting large creative potential are highly desirable. Their activities are characterized by creative, unconventional, original thinking and functioning. Highly gifted people represent the core of Creative Industries (CI), especially in video games studios e.g.: computer specialists, animation programmer, concept artist, combat designers, creative audio director. Their activities are based on creativity. CI was defined as the activities which have their origin in individual creativity, skill and talent as well as open the potential for wealth and job creation by generating and taking advantage of intellectual property. It is of crucial importance to establish such working environment which enhances creativity. Creativity is fundamental for innovation processes the effects of which are increasingly complicated and complex. The activities characteristic for enterprises operating in the sector of creative industries are initiated based on the individual creativity of talented, open and competent workers. Simple management systems based on the confirmed forms of control, supervision, and formal procedures are insufficient to create added value in the sector of creative industries. The analysis of the subject literature provides some, but not many ideas on how to manage knowledge workers. It applies, in particular, to the new sector of creative industries. The aim of this paper is to develop a model of knowledge workers' management supporting creative thinking and acting. The research was based on survey studies. The survey questions were addressed to entrepreneurs and managers. The study sample consisted of several SME businesses operating in the sector of creative industries in Poland. The obtained results were used as the starting point in the discussion and in presenting the final conclusions. The paper will be divided into the following parts: the first offer the subject literature review: the essence of such phenomena creativity, knowledge worker in CI sector, the second describes the conducted empirical research including their results to be followed by the discussion presenting the Author's model of work environment for knowledge workers in creative industries includes factors enhancing creative thinking (third parts of chapter) The study was finalized with conclusions and the list of references. One of the conclusions: The elements of the work environment which stimulate creativity are mainly represented by the so-called "soft" management" components referring to various aspects of human capital management in an organization. Their coexistence has to be adequately focused on strengthening workers' skills, willingness and confidence in applying knowledge at an individual, group and organizational level.

Keywords: creativity; Creative Industries; knowledge workers; management of knowledge workers; model of the work environment.

Introduction

A creative person has the ability to invent and develop original ideas. Gifted people with many talents, creative and presenting competencies, which allow creating new ideas included in technologies and products, constitute the essence of creative industries sector, i.e.: computer technology specialists, fashion designers, architects, theatre and film artists, musician. Their activities are based on creativity. The vast majority of staff employed in enterprises operating in creative sectors participate in the processes of knowledge identification, absorption, accumulation, creation, transfer, and commercial application. Their personal knowledge, ingenuity, professional intuition constitutes the background for initiating consecutive business projects (Morawski, 2014, pp.708-715). CI requires a solid base of knowledge, some create capabilities to build greater competitiveness, the natural ability if shaping the climate conducive to encourage the creativity of the organization's human capital.

Highly gifted people represent the core of creative industries, e.g. ICT specialists, engineer, fashion designers, architects, theater artists, and filmmakers or musicians. Their activities are based on creativity and high competences. In the literature of management science, they are often called *knowledge workers*. Well-educated, talented are now responsible for finding new solutions which are to be translated into the development of their company. Human creativity and innovation at both the individual and group level, are the key drivers of these industries and have become the true wealth of nations in the 21st century. The analysis of the subject literature provides some, but not many ideas on how to manage knowledge workers. It applies, in particular, to the relatively new sectors of creative in The aim of this paper is to developing a model of knowledge workers' management supporting creative thinking and acting. The research was based on survey studies. The survey questions were addressed to entrepreneurs and managers. The study sample consisted of several SME businesses operating in the sector of creative industries in Poland. The obtained results were used as the starting point in the discussion and in presenting the final conclusions.

The paper will divided into the following parts: the first offers the subject literature review: the essence of such phenomena creativity, Creative Industries, knowledge worker in CI sector, the second describes the conducted empirical research including their results to be followed by the discussion presenting the Author's model of work environment for knowledge workers in creative industries includes factors enhancing creative thinking (third parts of chapter) The study was finalized with conclusions and the list of references.

Creative industries sectors and knowledge workers

Creative industries sectors (CIS) constitute the most important area in the contemporary global, knowledge-based economy. These enterprises which operate in creative sectors represent the most innovative business representatives. Creative sectors can contribute to that increase of innovation in other fields of the economy by providing them with ideas for a new product or service or delivering already finished projects. Such sectors generate both growth and employment as well. It is one of the most rapidly growing sectors of the world economy. Companies covered by CIS represent the perfect area of research focused on various aspects of knowledge management, e.g. strategic advantage coming from knowledge, human capital

management based on the approach to specialists, work in teams and others flexible forms of organizational structure, knowledge sharing processes, organizational learning processes and others. The term “creative industries” has been receiving theoretical and empirical attention within the last two decades (Hartley et al., 2012; Andari et al., 2007; Caves, 2000, 2003).

The following characteristics are decisive in terms of CI specificity (on the basis of the literature review):

- They provide products and services which are linked with cultural, artistic or usually entertaining value; in general, creative industries are deeper involved in the new value creation process than manufacturing industry (Berg & Hassink, 2016);
- Products are subject to continuous improvements, their ongoing development results from the swift verification of their usefulness and attractiveness by means of presentations, demonstrations, and meetings with clients, testing and sharing sample versions of products with their users, collecting valuable opinions through social networks
- Creative processes require the simultaneous involvement of specialized and highly diversified resources;
- Various products are created within the framework of CI: books, journal publications, visual art (painting, sculpture), performance art (theatre, opera, concerts, dancing), recordings, cinema and TV films, fashion, toys and computer games; e.g. NESTA model divides the diversified creative products into creative service providers, creative content producers, creative experience providers and creative originals producers (Flew, 2010);
- The majority of CI products represent goods perceived through visual, aesthetic or spiritual experiences. Their value is not based just on their market value or the one resulting from their functionality, but also and to a great extent, on their expressive value;
- It is necessary to detect, ahead of time, and search for a new formula which could meet the upcoming trends, fashions, changing fascinations and expectations;
- Most final output in the creative industry can reach consumers with the help of other inputs that respond to ordinary economic incentives. For example, a visual artist needs a gallery to display and promote his/her works to potential purchasers (Caves, 2003);
- Internal and external cooperation of an organization remains an imperative. Complex interactions between private and public sector are of major importance (Ratzenbock et al., 2004).

Before developing the concept of creative industries, culture and arts were structurally separated from economics, entrepreneurship, and innovation. Assuming the approach of CI, culture is described as a service category. The creative assets can be developed and then marketed. Since Tony Blair reconfigured the British Department of Heritage into the Department of C.M.&S. in the late 1990s, retrograde separations of culture and economics into different portfolios or policies would block more complex, innovative and entrepreneurial understandings of development and sustainability (Brabazon, 2015). CI definition presented by the UK Government's Department for Culture, Media and Sport is as follows: “Those industries which have their origin in individual creativity,

skill, and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property”.

Creativity is fundamental for innovation processes the effects of which are increasingly complicated and complex. The activities characteristic for enterprises operating in the sector of creative industries are initiated based on the individual creativity of talented, open and competent workers. Simple management systems based on the confirmed forms of control, supervision, and formal procedures are insufficient to create added value in the sector of creative industries. The creativity of any kind cannot be based on pressure and compulsion. Continuous risks, resulting in negative emotions initiate narrow thinking patterns (Morris, 2001) manifested by the elimination or reduction of problems. Creativity requires knowledge, courage, and uniqueness. Therefore, creativity combined with a commercial approach to ideas requires the involvement of teams, free, informal communication, continuous knowledge sharing and the exchange of experiences.

The term of a knowledge worker is included among the concepts which characterize different categories and groups of employees distinguished among other members of an organization (team, community, enterprise) by the significantly higher level of knowledge, skills, experience, talent, predispositions, etc. In a broader sense, in the conditions of a knowledge-based economy (KBE) these workers create knowledge (or are potentially ready for it) based on the available information. Davenport claims that the primary purpose of a knowledge workers' job involves the creation, distribution, or application of knowledge. Knowledge workers think for a living (Davenport 2005). Mladkova states that knowledge workers represent the special group of highly qualified employees. The specificity of their work and management reflect the intangibility of their major tool and resource, i.e. knowledge. Owing to tacit knowledge, the entire knowledge remains intangible. The intangibility of knowledge makes knowledge workers special and difficult to manage. The most important part of work performed by knowledge workers happens in their heads, even though the final result may be material (Mladkova, 2013, p.446).

The analysis of subject literature (Abbasi et al., 2009; Davenport, 2005; Horwitz et al., 2008; Huang, 2011; Mladkova, 2013) allows concluding that the term 'knowledge workers' covers the category of modern employees distinguished by the following characteristics:

- high expectations regarding the autonomy and independence in implementing tasks and projects,
- high competencies and expertise supported by unique knowledge and experience,
- versatile skills of creative thinking in suggesting new and original solutions,
- interpersonal, leadership-oriented skills resulting from high intellectual potential and intensive professional activity,
- applying knowledge in its various processes, from acquiring and creating through sharing and using in the carried out tasks,
- involvement, at different organizational levels, in creating new knowledge constituting the basis for innovative processes and solutions,
- presenting “tacit” knowledge which offers opportunities for creating added value in an organization.

Emphasizing creativity in the sphere of knowledge workers' activities results in distinguishing a group of employees referred to as the creative ones. R. Florida is the progenitor of such interpretation of some part of knowledge workers. In his opinion, all members of the creative class are characterized by the "joined creativity ethos which values creativity, individualism, differences, and merits. For the creative class members all aspects and manifestations of creativity – technological, cultural, economic – are interrelated and inseparable" (Florida, 2010, p.31). In his definition, Florida divided the discussed class into two elements: the superactive core, represented by scientists, artists, designers, architects and other professions engaged in the creative process. The second component of the creative class consists of creative specialists, e.g. managers, lawyers, doctors and others. A slightly different, but probably more precise definition of creative professions is presented by Krätke (Krätke, 2010, pp.835-853). He distinguishes 5 groups and identifies two as the ones which are of particular significance for the regional innovative capacity. They include artistically creative workers (professional groups involved in culture).

Empirical research

Both in Europe and worldwide these are mainly small and medium size CI companies, usually set up as a result of initiatives and entrepreneurial efforts undertaken by young, educated and competent people attempting to commercialize their passions, invention, and interests. Research several companies in the sector of Creative Industries, conducted in recent years (2013-2014 located in Poland) by the teams of authors, allow to draw the following conclusions (Morawski, 2014, 2015):

- the desire to establish good relations between supervisors and co-workers,
- emotional relations between employees based on positive (sometimes negative) background and behavior,
- the vital rank of personal relations,
- strong identification with an organization in terms of compassion for common fate,
- openness and even enthusiasm towards new concepts,
- a formal approach to procedures, processes, and terminology in the course of performing every day, routine management duties.

It should be noted that the surveyed enterprises were characterized by the following features:

1. The limits between functional areas in the company are dimmed owing to positive feedbacks arising due to continuous information exchange and building, based on this information exchange, thorough knowledge about customers, suppliers, competitors, technologies and products
2. The vast majority of staff employed in CI enterprises operating in creative sectors participate in the processes of knowledge identification, absorption, accumulation, creation, transfer, and commercial application.
3. The major of staff employed in CI enterprises have high competencies and expertise supported by unique knowledge and represent university graduates.
4. Most employees have versatile skills of creative thinking in suggesting new and original solutions.

Summarizing the results of next author's survey (Morawski, 2016), it can be concluded, with adequate care in putting forward unequivocal opinions based on such small

research sample (the 11 small selected private businesses), that the owners of analyzed companies are fully aware of the specificity characteristic for human resources management in their operations. The responses to four questions referring to personnel management processes (recruitment, motivation, appraisal, development) indicated that company owners emphasize the significance of such factors as creative thinking, initiative and workers' ingenuity as well as the opportunities for their realization, but also independence as the motivating factor and the criterion of employee's appraisal, the willingness to share knowledge and the underlying interpersonal skills, including communication and cooperation. Among the factors decisive about company success the owners focused mainly on those related to employees and referring to communication, independence, creativity, involvement, and trust.

Model of the work environment for knowledge workers. discussion and conclusions

The exchange of knowledge between organization members allows developing the resources of shared knowledge with encoded different viewpoints and diverse problem-solving possibilities. It is a perfect background for making discoveries and creating innovations (Dalkir, 2005, pp.132-133). Modern innovations represent processes based on cooperation in integrated teams consisting of high-class specialists in various fields. Such teams guarantee to collect comprehensive, versatile and complementary knowledge from many areas and its appropriate application, resulting from the involvement of professionals.

When the intellect becomes a critical production factor, the successful enterprises differ from the less effective ones predominantly in their approach towards employees. Companies manifest appreciation by granting bonuses for their skills in interacting with others, their commitment, professional expertise, integrity, and other attitudes, but simultaneously create adequate conditions in which employees can develop, acquire new professional skills and increase their work value. In turn, however, the expectations and requirements from knowledge workers keep changing. The success of the growing number of knowledge workers is determined not only by the acquired knowledge but also by their swiftness in learning and sharing what they have learned (Tymon & Stumpf, 2003, p.12).

The increase in knowledge productivity is possible, e.g. through the totally unlimited knowledge transfer. Sharing knowledge generates solutions and benefits which ensure the enterprise competitive advantage (Reid, 2003, pp.43-49). Cultivating knowledge and competences among employees, encouraging creative thinking in teams, educating through organizational learning processes remains realistic only if the mutual trust and, consequently, the willingness to cooperate keeps building up between the organization participants. The more intense network of interpersonal relationships in an enterprise continuously multiplied and extended by the subsequent forms of interpersonal relations, the more developed its social capital. Ch. Evans quotes R. Scase, who said as follows: "whereas once an office used to be the place where work was done, today, in the information age, it is the place where ideas are exchanged and problems are solved. Therefore, office space should be designed in a way that encourages employees to enter into continuous contacts and exchange opinions" (Scase, 2002).

The ability to think creatively does not depend on IT infrastructure only, but more on social and intangible factors present within organizational culture, human and social capital. Creating an appropriate work environment requires integrating various areas of goals, decisions and activities, related to the simultaneous management of information, human capital, interpersonal relations and knowledge.

In the conditions of a turbulent environment, it is necessary to develop such organizational potential which ensures its creative modeling of the future by developing new products, technologies, market segments, etc. The correct anticipation of events remains its basis. However, only the enterprises characterized by a reserve of resources (or even their excess), especially the non-material, knowledge-based ones, whose configuration can be swiftly changed, allowing yet another synergic effect to be obtained, are capable of an anticipation oriented functioning. Accumulated, codified knowledge resources, widely available and continuously updated, constitute a collective organizational memory, which includes good practices, procedures of effective activities, technical descriptions of products representing an invaluable base of knowledge and experience. The collected resources are needed not only to fill in the current information gaps but also constitute a starting point for the new, original interpretation, enrichment, and transformation of what we already know into what we would like to know.

The available resources allow employees' training (internal workshops based on referring to codified experiences, generally available records of good practices, using notes, reports and projects included in enterprise databases), whereas the development of competences encourages establishing contacts and exchanging standpoints. The more intense relationships between employees of different nature (social, substantive, formal, informal contacts, etc.), frequency (regular, intensifying, etc.), content (opinions, recommendations, instructions, etc.), the closer and more direct they become, based on mutual understanding and increasing trust. The gradually densified network of connections between personnel gives rise to the sense of strong bonds and integration in terms of common values. The sense of functioning in a community is developed. The community members are increasingly willing to share their tacit knowledge with other members. It is followed by its absorption, analysis, interpretation, extension, placing in a different context, a different perspective adaptation and also other value judgments. Knowledge sharing processes result in its diffusion, an increase in the average level of competences, the dissemination of similar knowledge causes better understanding of both intentions and proposals offered by the cooperating partners. Discussions, questions, ideas are being developed, innovative processes are initiated.

The model of complex enterprise management in the sector of creative industries presented in Fig. 1 is of tier character. The tier at the model base represents accumulated explicit knowledge, acquired from various sources of an enterprise environment (clients, suppliers, business partners, government agencies, local government institutions, etc.) and from inside of an enterprise (employees, their families, managers, owners/shareholders, other groups: functional departments, project teams, trade unions, etc.).

Rich and diversified collections of knowledge accumulated over the years, is the derivative of applied technologies, manufactured products, provided services, as well as the accompanying events and processes (social, economic, financial, technical and

other), represent the basis for the structured process of knowledge and experience transfer to employees. Effective use of the acquired and codified knowledge is possible not only due to the appropriate technical means: programs, applications, equipment, but also the adequately planned and implemented methods of human capital management. Among the desirable solutions, the following should, for example, be listed: the solutions motivating to exchange knowledge, intensifying interpersonal communication, encouraging for cooperation, creating natural leaders focused on changes and creating openness in mutual contacts.

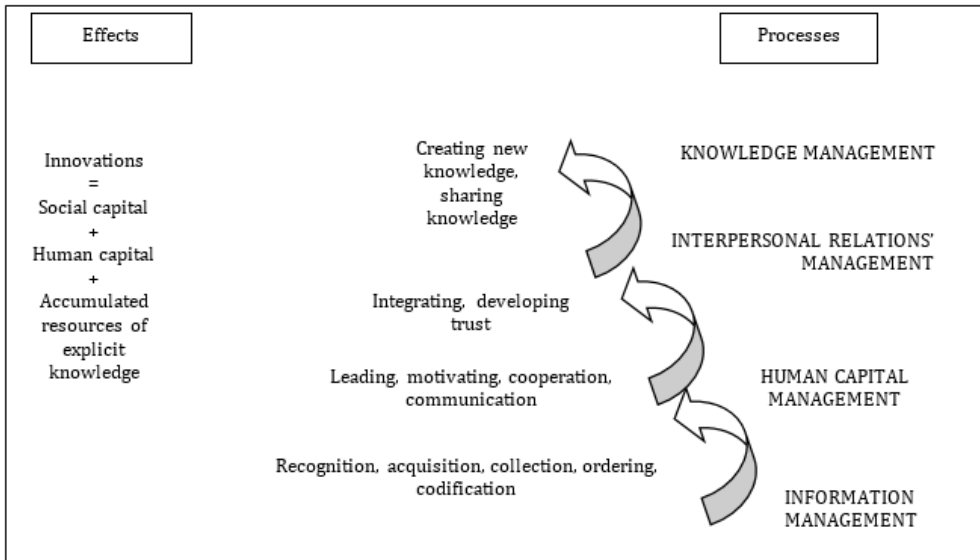


Figure 1. The model of complex enterprise management in the sector of creative industries
Source: own study and research

The two aforementioned tiers represent the organic basis for developing trust as a positive effect of cooperation based on knowledge and competences. Trust – an important element of social capital, built upon interpersonal relationships and the effect of activities strengthening partnership oriented organizational culture – plays a critical role because it strengthens the will to communicate and is of crucial importance for the exchange of knowledge within teams. Trust is related to problems associated with interpersonal contacts. It should be emphasized that trust is listed, in the subject literature, as one of the most often highlighted characteristics in terms of developing consistency in relationships. Therefore, the aspect of trust can be approached as one of the most important cross-sections in analyzing and classifying relationships, primarily when they are of interpersonal and inter-group nature. The developed social capital becomes the basis for less frequently planned, much more spontaneous, informal, interspersed with personal, social and non-substantive motivations of contacts between employees, experiencing close ties with colleagues, having the sense of joint professional interests and values. Creative thinking, sharing knowledge, developing new solutions becomes an unforced and natural component in the professional environment of knowledge workers.

The Author's model of the work environment for knowledge workers in CI includes factors enhancing creative thinking:

Organic leadership

- Searching for optimal – in terms of the effectiveness of knowledge sharing processes – styles of knowledge workers' leadership in such categories as decision making, employees' motivation, and development methods, building partner relationships, training successors and leaders;
- Organizing the course and access to learning processes, acquiring, transferring and applying knowledge;
- Devoting time for assistance and support by managers, stimulating ingenuity and other aspects of colleagues' intellectual efforts, focusing on employees' personal development, activities aimed at co-workers' integration with an organization;
- Teaching employees to take over the role of temporary intellectual and substantive leaders along with the development of appropriate managerial competencies.

Organization of teamwork

- Dissemination of team forms of professional activity organization developed following the initiative, coordinated and managed by key workers;
- Creating organizational and technical conditions for launching and developing independent social media platforms, bringing together the communities of practitioners, enthusiasts, and innovators within the enterprise employees.

Communication processes

- Development of comprehensive communication forms between the particular positions, departments and organizational units, overcoming communication barriers between the positions at various organizational levels, including the popularization of mentoring;
- Dissemination of good practices and principles for solving organizational problems by interdisciplinary teams representing workers of various professions, roles, functions and competences;
- Organizing regular workshops for all employees in an enterprise, providing their participants with the ability to use basic and advanced methods/techniques of verbal and non-verbal communication.

HR processes

- Modeling careers of outstanding employees (high competences, high development potential), including long-term plans for the succession of the most important positions and functions in an organization;
- Analyzing the importance of key workers in terms of an enterprise competitiveness: determining core competences, succession policy of top positions in the organizational hierarchy, paths of employees' transfer and promotion, localizing innovative knowledge, directions of tacit knowledge transfer;
- Analyzing both elements and level of the key workers' satisfaction;
- Continuous improvement of methods and tools for acquiring and retaining employees presenting unique competences, particularly important for maintaining competitive advantage and developing an attractive market offer;
- Preparing individual agreements regarding the share in company profits and other special privileges resulting from high competences;
- Constructing long-term development programs allowing permanent supplementing and extension of knowledge and competences, primarily the ones of both unique and innovative nature;

- Maintaining comprehensive and intense relationships with former key workers by involving individuals in the implementation of consultancy, training, expertise, etc.;
- Developing the brand of an attractive employer ensuring career based on competences and continuous improvement;
- Establishing the desired organizational culture of professionals, highlighting values resulting from the traditional relationship: master-apprentice;
- Efficient use of the resources related to the competencies of key workers (knowledge sharing systems, suggestion systems, competence management methods);
- Purposeful development of organizational memory resources aimed at preserving key knowledge resources by involving key workers in teamwork, a mentoring system, training and corporate university activities.

Additional solutions for improving and supporting creative thinking and performance can take the following form:

- organizing special places for uninterrupted and informal conversations between employees /tables next to coffee machines, rooms used during breaks at work, conference halls, training rooms/,
- special programs for adapting new employees, involving meetings and talks in selected departments and with selected organization members,
- a certain amount of time per work day /week, month/ offered to an employee for his/her free disposition /seeking advice and expert opinions, searching for information from databases, recording own observations and solutions in the generally accessible network, e.g. intranet/,
- formal meetings, meetings on a predetermined subject matter, agenda and final initiatives implemented into practice,
- sessions of ideas arranged spontaneously by co-workers,
- various electronic channels of information /Intranet, e-mail, websites/.

Creativity (author's attitude toward creativity phenomena) like any other mental effort requires intellectual engagement, reflection, concentration, creative passion, and personal interest. At the same time, it is the process of crossing some designated borders, questioning and overthrowing accepted and universally applicable principles or rules, defining problems and the reality in different ways. This means a violation of certain taboos, breaking the stereotypes, repudiation of allegiance to some theses applied in widespread awareness. The outcomes of creative work are both tangible and intangible, to a large extent unique and without past experience. Such understanding of creativity requires a number of conditions to be fulfilled.

Managing knowledge workers in an enterprise within the CI sector should not take the form of a closed project with ultimately outlined goals. The effects to be expected are continuous and essentially timeless, such as the development of good practices or the intensification of learning processes.

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TECHNOLOGIES AND INNOVATION IN THE MANAGEMENT OF THE BANKING SECTOR

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Abstract. *The financial services industry has changed in the last few years: it is more dynamic, focused on innovation and developing new technologies. Therefore, the transition from traditional banking to digital banking is faster than specialists thought it would be. Living in a world where globalization is forcing all the industries to adapt to a computer-based solution, banks are moving their activity online and delivering value-added services to their customers but also protect their data and make them feel secure. In order to emphasize the importance of new technologies in the banking sector, we will be analyzing existing data and will use theoretical perspective to explain the observed behavior of clients – from product to customer orientation. It is important to find the best solutions for the banking system in Romania to change the client behavior regarding the “digital revolution”. Based on statistics, the work brings forward the online banking penetration in Romania from 2006 to 2017. The paper defines the digital single market, which became one of the big priorities of the European Union. Its purpose is to bring down the barriers and unlock the online opportunities. The EU regulations, applicable in all the member states, aim for secure sourcing of banking services by using online/electronic platforms. What the EU wants, is to create a better digitalization of the banking system. Nevertheless, statistics show that both the banks and the clients showed their interest in using online banking products. The study presents the evolution of digital banking in Romania, top online services used by Romanians: online accounts, online loans, virtual payments, mobile banking.*

Keywords: *banking; digitalization; innovation; new technologies; finance.*

Introduction

The rapid evolution of technology is changing structurally the financial-banking services industry. We already live in a digital world and we cannot conceive of our life without a smartphone, tablet, laptop or smartphone, without a digital agenda, electronic wallet, electronic ticket or e-book. According to Kotler (1973), “one of the mixed blessings of

human history is that man increasingly lives, works, and plays in artificial environments.”

The traditional business model and classic bank branch are rethought. Banks focus on customer requirements, competition is on the rise, new financial services providers are emerging on the market, who show agility and are able to respond quickly to customer requirements, therefore creating an artificial environment based on digitalization. Banks need to be prepared to accept that digitization is everywhere, and the consumer is the one around whom gravity is or should be gravitating. The new technologies we are talking about today have real chances to cause major changes in financial institutions, but also to support the process of adapting them to new trends. Internet banking has gone quickly from being an exotic banking technology to a feature one expects to find at a commercial bank (DeYoung, Lang & Nolle, 2007).

It has been pointed out that mobile banking is a powerful new marketing and CRM tool for financial services companies (Sinisalo et al., 2007). A study made by ChauShen Chen (2013) shows that mobile banking users with different behavioral patterns have dissimilar perceptions of innovation benefits and risk.

It is already impossible to imagine our society without internet or mobile phones. Whether we like it or not, they have become part of our lives, they have become normality. Depending on the banks' response to the challenges posed by new technologies, this normality can become a threat or an opportunity. Moreover, the development of mobile commerce and mobile banking in different countries is significantly different (Zhang, Zhu & Liu, 2012). Shaping the future of banking and continuing with a brief analysis of the Romanians behavior regarding the online banking, the study is trying to create a picture of the future in banking.

Shaping the future of banking

Statistics show that consumers prefer more and more digital banking than traditional banking. The technology changes everything. Banks are forced to offer more value to their clients by creating innovations, applications, platforms and faster services. The economic analysts believe that it is a matter of time until the young generation, often called the millennials, will impose their requests in the banking industry. Innovating continuously in financial services influence the scope of financial intermediation and the nature of competition between intermediaries (Nickerson & Sullivan, 2003).

Going digital, clients have quick access to a debit card, without physically going to the bank. Moreover, more accounts can be attached to a single card, in more currencies. The digital nomads have developed secured desktop and mobile applications, digital signatures, instant online money transfers, geographic independence. Specialists believe that the traditional approach of banking should provide better infrastructure and invest in employers' education. Therefore, it is not an effective tool to reach millions of persons, especially those that do not live in main cities.

According to the research made by Mercury Research that involved 1000 subjects, 85% of them would prefer to interact with their bank employees through online video calls from home or in a branch, 84% of phone calls, or have virtual chat assistants (80%). The study attests that Romanians want to interact with banks through modern

communications channels based on new technologies. The Romanians' expectations, from their relationship with the banks, are the increase of employees' competence level and the attention paid to the relationship with the clients, followed by the improvement of the quality of the services. In the relationship with banks, customers want fast and simple support services, because they do not have the time and patience to wait in the physical offices, but they want a personal and trustworthy relationship with the bank. The banks of the future are those who will make the most of the technology to meet such requirements. Online video calls offer the opportunity to strengthen the personal relationship between clients and bank counselors as an easy alternative to direct human contact, benefiting the optimization of time and resources allocated to this.

According to a new MasterCard study (2017), conducted in 11 European countries, six out of 10 consumers welcome digital solutions, and I think digitalization of the banking industry makes their lives easier and safer. The study, conducted among European bank customers, shows that comfort is by far the most representative advantage of digital banking solutions, followed by time savings (70%) and ease of use (59%). The banks of the future are the ones who will make the most of the technology. The study attests that Romanians want to interact with banks through modern communications channels based on new technologies.

The MasterCard study (2017) also demonstrates that clients' loyalty to their current bank is relatively low: almost half of the consumers in Europe (49%) say they will consider switching to a digital bank at some point. In Germany, in particular, consumers show low loyalty: 27% of them plan to leave their current bank in the next 12 months, which is by far the highest rate in Europe. At the same time, the Dutch are the most loyal customers. Only 7% of them say they are considering changing their bank, and 52% want to stay with their bank.

In addition, European consumers believe that the digitization process in the financial sector will affect banks' branches. Two-thirds believe that the branches of banking institutions will continue to exist in the next ten years, but their number will drop, while 6% are convinced that they will cease to exist within ten years.

Evolution of digital banking in Romania

51% of Europeans aged between 16 and 74 years old used Internet banking services in 2017, a double percentage since 2007 when just 25% used this new technology. Taking a deeper look, Romania is on the penultimate spot in the European Union when we refer to the use of Internet Banking, with only 7% of the Romanian population using internet banking last year, according to data published by Eurostat. Only Bulgarians are positioned behind Romania, with only 5% of users. According to the report, only 24% of Europeans with secondary education use the service, the percentage rising to 77% for those with higher education. The penetration rate of Internet banking, as shown in the figure below, describes the top users of Internet banking in Europe: In Denmark, 90% of adults used Internet banking services in 2017, next, Norway (89% of citizens aged 16-74) followed by Finland (87%), Sweden (86%) and Estonia (79%).

However, between 2007 and 2017, the share of Internet banking has doubled in the EU from 25% to 51%, while in Romania it has tripled from 2% in 2007 to 7% in 2017. There is an appetite for going digital in our country as the statistics show, but going digital

doesn't mean eliminating the traditional banking. The statistics may be influenced by the social factor Social influence is defined by Venkatesh et al. (2003) as "the degree to which an individual perceives social influence important and believe he or she should use the new system".

In Romania, there are many categories of customers and we have to admit that not everyone is ready for digital services. Romania has many potential non-banking customers and it is hard to believe that our country will go directly from nonbanking to digital banking. What Romania needs, it is a period of time in which the two concepts will coexist. There are clients who have an increased appetite for digital financial services, but there are still many people who follow traditional banking. The clients want to come back to the bank to stand up with a counselor. Romania is still "a cash country", and customers who prefer this option need to be served.

The banks in our country strive to keep up with the technology and also allocate important resources to financial education projects, bringing Romanians closer to the digital banking concept. The approach of the local banking business on the idea of total digitization of financial-banking services is not yet a solution for the Romanian market, as there is a small mass of clients and potential clients receptive to the new technologies.

In the short term, digital banking is a priority investment in Romania. In the long run, this approach can become a revenue generator, but it depends on the customer segment that is targeted. However, we have to be aware that on the local market we will have a long period of time while we will still combine traditional banking with digital banking. Banks cannot give up on traditional banking unless they are in a market niche, which is currently quite small and cannot generate revenue to cover the huge investments. The concept of "open banking", promoted by the European directives on digitization, generates the possibility to apply other business models on the Romanian banking market and can greatly help in the new customer acquisition area.

I believe that traditional banking and digital banking will fight for a supremacy on the Romanian Banking market, but they can both survive and there is enough place for both concepts, but still, digitalization represents the future.

Online services in Romania

This statistic in figure 1 shows the online banking penetration in Romania from 2006 to 2016. In 2016, five percent of all individuals used the internet for online banking, but usage was higher among those who had used the internet within the last three months, at eight percent. Taking a look at the numbers we can say that Romanians use the new technologies more and more. Moreover, the banks in Romania have changed their strategy and invested in the online services.

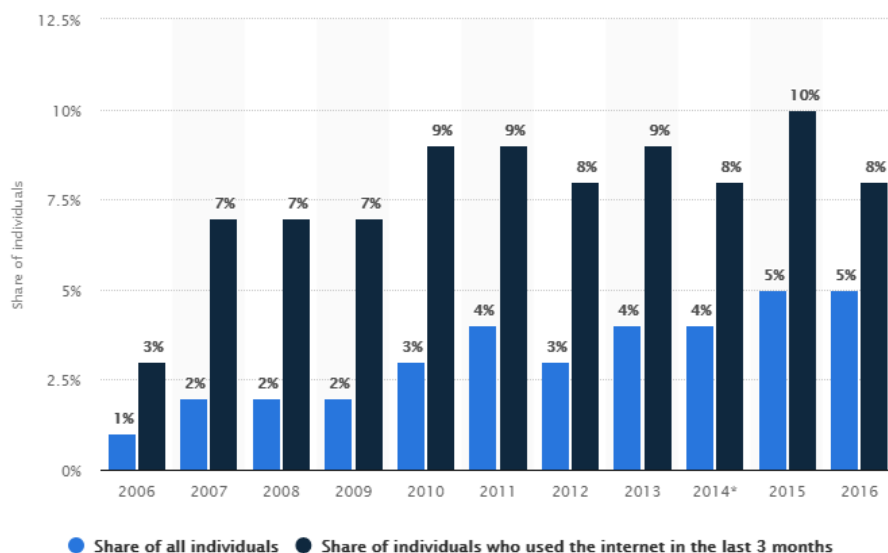


Figure 1. Online penetration in Romania from 2006 to 2016 (Statista, 2018)

All the local banks used their strengths especially in digitization lately. The table below presents a short comparison of the top banks in Romania when talking about the new technologies: internet banking and mobile banking users.

Table 1. Comparison of internet banking applications of the top banks in Romania

BCR	BT BANK	BRD	RAIFFEISEN BANK	ING BANK
-150,000 users in 2016 - currently over 1 million digital clients, 17,800 POS, 2,500 ATMs, 41 cashless branches (according to a Facebook presentation in March 2018)	Approximately 16.8 million is the number of transactions made via BT24 Internet Banking, or over 3.5 million through Mobile Banking, up 16.8% and 126%, respectively, compared to the same period last year. - 350,000 mobile banking customers at the end of 2017, in February 2018 close to 400,000	- 1.4 million Internet / mobile banking contracts, up 21% (final 2017) - 2.33 million active clients - the number of transactions increased by 30% in 2017 and the number of connections by 45% - 460,000 final contracts for mobile banking application in 2017	- 470,000 users active in online banking applications in February 2018 (180,000 in 2016) - 2 million customers to 100,000 companies.	-Over 677,000 customers who have used the app in the past six months have accessed the account 29 million times the online services, 61% of them used the mobile application - has a 51% market share on Internet Banking

A mobile banking comparison between BCR and BT (table 2) shows that it is much easier to access the BT24 mobile application. BT 24 has several options, such as: changing card functions, paying for tax road fee, loading phone cards, receiving money Western Union, opening a new account in lei or other currency. In the table below it is emphasized that customers can use more features for the BT 24 than Touch 24 BCR.

Table 2. Comparison of mobile banking applications of BT Bank and BCR

Touch 24 (BCR)	BT 24 (BT)
-has three logins: static, e-token, or token -password access plus user number Quick options: opening account money deposits pay barcode scanning bills exchange currency internal transfer payment to other IBAN accounts payment to personalized templates	-has only one login option, with the static password, consisting of 5 numbers Quick options: sends money to your personal account pays a bill of utility, and scanning elbows exchange money payment in national currency or other currency pay templates opening money deposits application for BT funds buy the plane ticket recharge your phone card receives Western Union money customer service – ask messages change cards limits temporary lock, lost, stolen cards activate messages alerts reset card pin

Internet banking – a useful tool

Almost all banks offer this service to their customers when purchasing their debit card. Internet banking allows payment to merchants who have platforms developed for online sale.

The best-known feature that customers have access to is the payment of bills and taxes. There are some rules that, implemented, provide the guarantee of safe payments and which you can use to make savings.

How it works –As we mentioned before, banks include the Internet banking package in the services of a bank card. In the case of other banks, clients should make a request to the bank to obtain this service. Each bank designed a special internet page for internet banking where customers can always get access via a password. As a rule, the Internet banking subscription comes packaged with a token, a tool that generates a new password every time you log in, thus ensuring your transaction security. Some banks have given up this device, and every time they log in, with a standard login and

password, they send an SMS with a new password that will be used to access the internet banking service.

Safe Transactions - The problem that comes with the use of Internet banking services, which opens the way to numerous online payments, is that you expose yourself to all the dangers that are lurking on the internet. Cybercriminals can cause major damage from computer failure to accessing your bank account and stealing money from your account. Banking sites contain all the information you need to avoid these problems. The main advice from banks is not to provide card details to people who contact by email or telephone by pretending to be part of the bank's staff who need information shown on the debit or credit card. Also, using a firewall to stop unwanted access to computer data, using a secure browser, and keeping up-to-date, are some of the measures that can keep your computer and your bank account safe.

How to use the service to make savings - Payments to bills, merchant payments or money transfers to other accounts are the main facilities that this service provides. Basically, all of these transactions, which normally involve a bank transfer, can be done via internet banking in front of the computer. With the help of the service, the users will also have the exact records of all these expenses, access to the account statement, without going to the ATM, etc. An "expenses" x-ray will definitely help us eliminate the excess amounts spent.

Greater discounts or bonuses - Expense analysis is not the only way to save money. The same service provides customers with products that are cheaper in the online environment. As a result, banks are on a steady downward path, so they encourage customers to buy various products through internet banking to get rid of the costs of selling the same products in a branch (staffing and branch maintenance). Thus, most banks offer, for example, higher interest rates for open deposits through the internet banking service, and substantial commissions cuts that can even go to zero costs. The range of facilities goes far beyond these deals. For example, there are banks that have selected several partner retailers offering discounts on card purchases using the internet banking service.

Paying bills without costs - The facility that popularized the internet banking service is paying the bills by laying in front of the computer, so no need for that client to go to the vendor or the bank. Banks do not usually charge commissions for these payments, but that does not mean there is no cost. For example, if a vendor does not have an open bank account with the creditor who issued your card then you will need to pay the money from your account to the provider with an account with another bank. The transfer of money between two accounts opened at two different banks, involves the payment of an interchange fee. Instead, if the provider in question has an account with the same creditor who issued your card, there are banks that will not charge you any commission. Before you call the Internet Banking Service to pay your bills, it is advisable to make sure that the utility provider you pay for your bills has an account with your bank.

Payment of taxes - some banks have developed for the Internet banking service a tax payment application, which is usually free of charge. The few dozens of taxes and fees to be paid to the state budget have predefined sections on the internet banking website, the client only has to select the tax that must be paid and make the payment. In a hierarchy of the most time-consuming transactions in the life of the Romanians, the

payment of taxes is certainly the leading place. Through Internet banking, all this time can be saved. Also, internet banking can also be used to pay fines.

Mobile banking

Mobile banking is another useful tool that has been developed in the past few years and it makes it more interesting because of its great potential to “bring basic banking and electronic transactions services to unbanked consumers in developing markets” (Anderson, 2010). Ongoing advancements in smartphone technology, together with the emergence of a more demanding consumer, have created a new playing field for software providers. Mobile payments are a small but growing subset of the broader world of electronic payments (Porteous, 2006).

Focusing on the most common mobile banking activities, such as account balances (representing close to 50% of usage), transaction history and domestic transfers, the mobile application should be built with easy accessibility and user-friendliness at its absolute core. The application should try to provide quicker access to the most-used functions of digital banking, like balances, account history or domestic payments. That also means easier authentication and putting the favorite functions out in front of the customer as clearly as possible. The most striking quality is its high level of customization, appreciative of the fact that different customers have different needs. Based on a widget concept, each user is availed of a personal dashboard, as well as a ‘comfort zone’ screen, in which instant balance and account information is provided without the need to log in. It should be simple, relevant, accessible at any time and personal.

Complete package for financial institutions, the app also must provide the perfect platform to cross-sell additional services. Together with the inbuilt geo-location features on many of today’s smartphones, adverts, promotions and push notifications are triggered in direct correspondence to the account activities and financial profiles of respective users. The end-to-end sales process also includes providing customers with offer widgets on their dashboard, application forms, and call-back requests. However, such messages are based on using specific customer data and are not a means of bombarding banking customers with arbitrary – and often unwanted – adverts. The application should be smart: monitors how the customer does things, and then it learns from these actions, promoting them immediately if they need credit.

For banks, these applications are helping them to communicate more effectively and more relevantly. So, it’s not about hitting the customer with a lot of sales messages but using the knowledge of the customer insight gained through categorization to put out messages that are relevant. As previously mentioned, customers, on the whole, still use applications for checking their account balances, but peer-to-peer (P2P) is becoming a more popular mode of mobile payment, particularly among the younger generation. Attuned to such industry trends, it comes as no surprise that the application may also include a P2P money request gadget, through which payments can be made by email, SMS, and Facebook. In addition, users can collect money from external customers via the likes of PayPal, Pay-by-Link and SEPA. Such functions can also come in handy when splitting the bill between friends at a restaurant for example.

We can conclude that a mobile bank service can create stronger relationships with the existing ones between financial institutions and clients (Riquelme & Rios, 2010).

Digital single market – a priority for the European Union

In a growing digital environment, the Digital Single Market (PUD) has become one of the European Union's (EU) priorities. An essential step towards the PUD, Regulation (EU) 910/2014 on electronic identification and trust services for e-commerce transactions in the Internal Market (eIDAS Regulation) aimed at providing a "common foundation for secure electronic interaction between citizens, businesses and public authorities, thereby enhancing the effectiveness of public and private online services, of e-business and e-commerce "in the EU. According to this regulation, electronic identification and trust services - namely electronic signatures and seals, time stamps, electronic distribution services and internet site authentication services - are intended to benefit from the EU single market, ensuring uniform legal treatment in within the EU, by giving the electronically signed documents the same legal effects as paper documents with handwritten signature.

The eIDAS Regulation specifies that the legal effects of an electronic signature (irrespective of its category) and its admissibility as evidence in court cannot be denied only because it is in electronic form or because it does not fully comply with the requirements for qualified electronic signatures. The eIDAS regulation also provides that qualified electronic signatures have the legal effects of handwritten signatures. In addition, qualified electronic signatures based on qualified certificates issued by a Member State are recognized as such in all other Member States.

Based on the provisions of the eIDAS Regulation (applicable directly in all Member States and prevailing over any conflicting national law against it) and the Romanian legislation on distance contracts, credit institutions in Romania have the legal possibility to provide certain banking services through online/electronic platforms.

Based on the eIDAS Regulation, trusted service providers such as Cryptomathic, IDnow, Connective, DocuSign, and Adobe offer digital solutions that can be integrated into a bank's online platform and allow customers to apply advanced and/or qualified electronic signatures. Some EU credit institutions have already deployed solutions for the use of electronic signatures and seals for both natural and legal customers. These services complement the usual facilities of internet / online banking platforms, allowing customers to access online banking exclusively without the need to be physically present at the bank's counters.

Conclusions

Innovative solutions and applications are a priority on each bank's agenda. Whether we are talking about cards, online payments, intelligent ATMs, Internet Banking or Mobile Banking, new technologies increase the interaction of banks with customers, improve the performance of credit institutions and ease the lives of their users. Banks should focus on using the Internet's unique characteristics and capabilities to make their websites more reliable (Calisir & Gumussoy, 2008). The banks of the future are the ones who will bring out the best of the technology. The main reason is that customers want

to have quick access to services and information to avoid bureaucracy at banks' headquarters, using services based on new generation technologies.

The studies and research reveal that innovation attracts new customers. Transactional Internet banking is both a product innovation and a process innovation. (DeYoung, Lang & Nolle, 2007). Nevertheless, banks should adapt to the new technologies and include them in their present strategy.

All in all, the Digital Single Market that the EU is focused on, creates possibilities of further digitization of the EU banking system. From our information, there is interest both from banks and customers to access online banking products. The involvement of entrepreneurs in the field of financial technology and the alternatives that financial technology companies can offer to the traditional banking system can also stimulate banks to adopt such new technologies.

Adopting new technologies involves complex security and risk management requirements, alongside efforts to implement new European regulations. Banks focus on customer requirements, competition is on the rise, new financial service providers are emerging on the market, showing agility and being able to respond quickly to customer requirements. Modern banks have self-service areas, private areas where customized information can be provided to customers and provide customers with electronic tools, Internet and mobile access, electronic signature, and automated electronic processing of internal and external processes.

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STRATEGIC PRIORITIES IN PUBLIC INSTITUTIONS FOR MANAGING AND PREVENTING THE TERRORISM PHENOMENA

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Abstract. *Terrorism becomes an essential issue for the security of any state. The fight against terrorism is a national and international desideratum that involves a specific culture for every citizen. Thus, the fighting actions against terrorism aims both to implement preventive measures with a preventive and deterrent role, as well as to cooperate between civil and military structures with the role of managing the consequences of the terrorist attack, together with the effective fight against terrorism through response measures active. The present research is a step in identifying the main ways to act against terrorist attacks and the objective is to screen the manners of the strategies were designed. Based on the facts and the reports on the terrorist activity at the global level, some consideration about the strategic priorities and strategies for expressed.*

Keywords: *strategy; terrorism; strategic priorities; strategic objectives.*

Introduction

Although terrorism as a social phenomenon has been present in almost all stages of the development of human civilization, until now the simple man and the political or military politicians have not felt or may have been unaware of the magnitude of this phenomenon so acutely at international level. We are dealing with a phenomenon that, through its implications, directly threatens not just the lives of individuals or human collectives, not just state security, but overall global stability, with profound and long-term implications for the fundamental values and legitimate aspirations of mankind.

This phenomenon is part of the contemporary society' peak of violence pyramid, immediately after the war and the armed conflict and before organized crime, the unorganized crime and the domestic violence underlying the pyramid (Duta, 2010). Consequently, such a danger can only be met by a sustained effort of solidarity at national and international level (Atanasiu & Stancila, 2014). Thus, we consider it absolutely necessary to align our strategic national and international strategy for the adoption of concrete strategies for the prevention and combating of terrorism. Solving this situation involves multiple, direct, radical and categorical, even violent solutions, aimed at curbing evil from the root, others indirect, consisting of well-designed

strategies of reducing the gaps and the effect of fallacy, harmonizing social and international relations, and on this basis of improvement of the human condition.

The new dimension of terrorism has determined, both at national and international level, not only a rethinking of how to combat it, but also the realization of a conceptual and appropriate legal framework necessary to materialize the measures established at the level of the political and military decisions of the states.

Together with the concept of terrorism, its development and evolution, was born the concept of counter-terrorism and it evolved accordingly to answer to the challenges. Governments has to set up different institution at the national level to can deal with a set of dimensions of the social life related with the terrorism as: ethics of democracy, individual's human rights, transparency and access to public information, need of security and so on (Kaplan, 2017). A second concern is to initiate networks due to the global dimension of the terrorism phenomena and the need to address to it at a global level too. The limits of the EU in this mater, the differences between the lows enforced are making the information sharing and the intelligence acting as a whole difficult and hybrid (Boer, 2015). Alongside the terrorism the countering violent extremism (CVE) was consider by the EU, at the national and union levels, with a holistic and collaborative approach, considerations taken into account by non-European countries too (Korn, 2016; Harris-Hogan, Barrelle, & Zammit, 2016). The CVE seems to be a prerequisite for terrorism and the pillars that EU considers are: prevention of radicalization, assistance of the most vulnerable categories to radicalization, and de-radicalization, pillars that are showing that the prevention place a first and most important role. Since 2005 the EU are dealing with Counter-terrorism Strategy and Strategy of Combating Radicalization and Recruitment to terrorism, to diminish this phenomena (Bakker, 2015; Korn, 2016; Harris-Hogan, Barrelle, & Zammit, 2016).

The paper objective is to analyze the evolution and changes on the terrorism activity at a global level, the counter measures that were tacked by the UN, EU, USA, NATO etc. and the strategies against terrorism and countering violent extremism, to create a global picture needed for Romania to set up its strategy as a boarder country of EU and NATO member. Based on the analysis some conclusion for the Romanian security structures were drown for a better understanding of the terrorism phenomena and the complexity of the effects in the social-economic environment.

Methodology of scientific research

In order to accomplish the present scientific research, the main source of information consisted in the study of the specialized literature in the field of this research, namely the theoretical documentation of the national and international legislation applicable to this topic, followed by an empirical research based on quantitative methods, the data taken from the internationally presented statistical information on the situation of terrorist attacks and the content analysis of the annual reports and institutional strategic plans of the Romanian public entities active in the field of preventing and combating terrorist acts. Based on the strategies and reports of the international and European bodies involved in the fight against terrorism and analyzing the counter-terrorism measures used by others (best practice), could be adjust the Romanian Strategy to the local conditions.

The terrorism – a complex, multidimensional phenomena

a) Trends of attacks, injured and deaths

The concept “terrorism” is first attested in November 1794, when Cadroy refers to “*the doctrine of partisans of terror*” when intense and violent fighting against counter-revolutionaries took place in his Opinion de Cadroy. It is a way of exercising power, not a means of action against it. Terrorism is defined today as violent acts committed in a political-revolutionary context. Since 1937 the definition of terrorism has manifold variants all of them referring to the acts and tools used to generate losses or injuries to other groups or states (Gioia, 2016). A definition proposed by the UN Secretary-General in 2004 and endorsed by France, considers terrorism as “*any action [...] which is intended to cause death or serious bodily injury to civilians or non-combatants, where the purpose such an act is, by its nature or context, to intimidate a population or to force a government or an international organization to take any action*”. The United Nations General Assembly considers terrorism as follows: “*Criminal acts that are designed or calculated for political purposes in order to provoke terror in public*” (Council of Europe, 2018).

The terrorist attacks of September 11, 2001 were a major impetus for policy change in the fight against terrorism. Despite all this, news is often heard about terrorist attacks taking place around the world. Based on studies conducted by the US National Anti-Terrorism Center, the evolution of terrorist attacks over the period 2005-2016 is presented in the figure below.

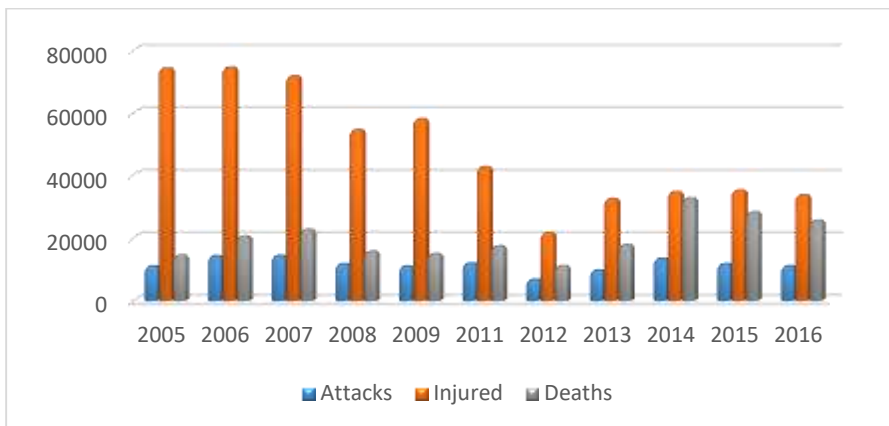


Figure 1. Evolution of global terrorist acts 2005-2016

(Source: authors processing based on the data presented on Country reports on terrorism, US Department of State)

We can appreciate a small decrease of the acts is shown from 2005 to 2012 flowed by an increase that place 2016 at the same level with 2005. **The first conclusion** could be that after ten years, if it was impossible to stop at least a part of the terrorist acts, we succeeded to keep them at a flat level.

Instead, the number of the injured persons knows a substantial decrease, knowing a minimal value on 2012 of 21,652 wounded, growing up on the next years to relatively flat amount of 33-34,000 wounded.

The number of deaths registered for the studied period has a waiving shape, it could be seen that the last year it goes to 20-30,000 compared with 2005-2012 when it says between 10-20,000 victims. **A second conclusion** is that the level of injured substantial was decrease, but the number of deaths was increase.

A third and sorrowful conclusion is that the decrease of the injured number was made due to the increase of deaths number. That means that the violence of the terrorist acts is much higher.

Year 2012 records the lowest level of all three studied indicators and represents a “*year of change*” in our opinion, should be connected with the death of Osama bin Laden in May 2011? There are several argues to sustain this starting with the fact that attacks from September 11, 2001 had a tremendous impact on the security, terrorism and counter-terrorism paradigms.

From 2001 to 2011 the US declares Osama bin Laden as the main target of the counter-terrorism fight and Perl (2007) in his report for the 110th Congress proposed three indicators to measure the progress against terrorism: Incidents, Attitudes and Trends. Argomaniz, Bures, & Kaunert (2015) are presenting the effects of 9/11 on the attitude of EU, approach of security, counter-terrorism and intelligence. All the measures that had been taken to create the “convergence” of the legislation and share information among the EU members. The main paradigm change was to place the security prior of the liberty. Not only the EU took measures, studied the terrorism phenomena and issued strategies that place an important role in addressing to this new challenges.

States from Asia and Africa also were shaken and reconsider their attitude against terrorism and there were changes in legislative framework, institutional structure, polices and strategies of counter-terrorism, reports and analysis were conducted to identify the vulnerabilities and the best way to address to the potential treats (Ewi & Aning, 2006; Allison, 2004).

There were opinions (Omelicheva, 2007) that the “*war on terrorism*” allowed the governments of Central Asian countries to exceed the justified response and to use excessive force in eradicate the Islamic militants.

b) Global terrorism index structural analysis

Using the Global Terrorism Reports issued by Institute of Economics and Peace in 2014-2017 (the 2014 report analysis period from 2000-2012, 2015 report refers to year 2014, 2016 report to year 2015 and 2017 report to year 2016) we are using the structure of the last report and organize the information, as much as possible to give a broad image of the terrorism activity and evolution in this period.

	2014 ¹²	2015	2016	2017
GTI Results	Terrorist activity significantly increased with about 44%; 85% of incidents were successful less than 2012	Terrorist activity increased with 80%	Deaths decrease with 10% 2015-2014	Deaths decrease with 13% 2016-2015 and 22% 2016-2014

	2014 ¹²	2015	2016	2017
	Iraq, Afghanistan, Pakistan, Nigeria, Syria – highest activity and impact 60% of incidents, 82% of deaths (54%↑ 2012)	Iraq, Nigeria, Afghanistan, Pakistan, Syria – highest activity and impact 78% of deaths	Iraq, Afghanistan, Nigeria, Pakistan, Syria - highest impact 72% deaths	Afghanistan, Nigeria, Syria, Pakistan and Iraq accounted 75% deaths; 4 of 5 countries recorded less
	26 countries had fewer deaths Highest increase in deaths Iraq 164%, largest reduction Cote d'Ivoire (-85%)	60% of studied countries do not experienced terrorist deaths	Iraq and Nigeria biggest decrease	Nigeria has the biggest reduction
	24 countries lost more than 50 lives; 60% ↑ 2012	11 countries (120%) have high level of terrorism (>500 deaths) compared with 5 in 2013	23 countries recorded highest number of deaths compared with 17 in 2014	Substantial decrease were in Yemen, Afghanistan and Syria
	GTI calculated for 162 countries	GTI calculated for 162 countries	GTI score ↓ 6% (76 country ↓ and 53 countries ↑)	GTI score ↓ 4% 163 countries
	60 countries experienced fatal terrorist incidents of 87 with incidents slightly up from 81 in 2012	93 countries experienced terrorist incident ↑ from 88 in 2013	274 known terrorist groups carried out attacks; 103 groups do not kill	77 countries recorded 1 death ↑18,5%
	Risk to be victim of homicide than to terrorist attack is 40 times higher	13 times more deaths from homicides than terrorism	ISIL attacks in 28 countries compared with 13 in 2014	Iraq ↑40% deaths
Trends	90% of suicide attacks placed in MENA and South Asia	Foreign fighters 50% from MENA, 21% from Europe and 4% from Turkey	2014 the worst of last 16 years, 93 countries attacked, 32,765 deaths	8 of 9 regions experienced an increase; North America a reduction
	13 countries with substantial risk of terrorist activity were identified	Nigeria has the largest increase in deaths – 300%; there are the houses of Boko Haram and Fulani groups	98% of deaths in US resulted from lone actor attacks	South Asia the most terrorist activity; Central and North America least
		Foreign fighters arrived in Iraq and Syria was high	ISIL foreign fighters have high education but low income; feeling exclusion	Egypt 9 times and Turkey 16 time increase in terrorism
	25% of attacks targeted citizens slightly increase	Attacks against citizens increased 172% (total number of deaths ↑ 80%)	Half plots with ISIL connection have been conducted by people without direct contact	Attacks against civilians ↑ 17%
	Weak political system, lack of legitimacy of government and group grievances are the main	Terrorist attacks on religious targets 11% ↓		Deaths from terrorism have risen in tandem with battle-related deaths

	2014 ¹²	2015	2016	2017
	reasons of terrorism than economic performance and level of violence			
	Terrorist incidents with extremely high number of deaths are rare (> 500)	ISIL causes more deaths in battlefield than terrorism attacks		Terrorist attacks are deadlier in conflict affected countries (2.4) versus non-conflict (1.3)
Terrorism in OECD Countries	Only 5% of the terrorist fatalities in OECD	Only 0.5% deaths occur in West except 9/11 (2.6%) ⁷	OECD countries dramatically increased; 21 of 34 recorded at least 1 death ¹	10,000 death between 1970-2016 (58% before 2000)
	Turkey and Mexico recorded the highest number of deaths and terrorist activity	Drivers of terrorism differs in wealthier countries than in poorer countries: a) OECD countries – youth unemployment, confidence I press, democracy, drug crime, immigration b) Non-OECD countries – armed conflict, corruption, weak business environment ¹¹	Terrorism is expected to occur in OECD countries with lower socio-economic performance ⁴	1% of global deaths; 10 times more than 2010
	PKK, ISIL, ITTS and DHKP/C groups were responsible for 75% deaths in OECD countries		In OECD and non-OECD countries attacks are related with the acceptance of rights, relations with neighbors, violence, terror ⁴	First semester recorded 3 time less deaths
	25% of deaths caused by lone actors			Unconventional tactics on soft victims are more effective than elaborate schemes
	There is significant correlation with: - Social hostility - Ongoing conflicts - Lack of intergroup cohesion - Political terror		ISIL affiliated attacks generates 313 deaths in 2015 compared with 18 in 2014 ²	ISIL attacks occurred in 18 of 33 countries and counted 75% of deaths

	2014 ¹²	2015	2016	2017
	- Security effectiveness - Group grievances...			
Characteristics of terrorism	Weapons: more than 60% explosives and 30% firearms	Terrorist activity is a significant driver of refugee activity and internal displacement ⁸	93% of terrorist attacks were in last 25 years in countries with high level of state terror ³	99% of terrorist deaths occurred in conflict or political terror countries
	40% with 1-5 fatalities, about 10% >5 fatalities	Terrorist activity is correlated with political violence - 92% of attacks in last 25 years in countries with political violence ¹⁰	90% of terrorist attacks occurred in countries engaged in violent conflicts ³	There are multiple paths of radicalization (education, income, religion, politics)
	72% of terrorist attacks occurred during a period of major conflict	Less than 0.6% occurred in countries without conflicts and political terror – country safety and security environment ¹⁰	0.5% of attacks are in countries without conflicts or terror ³	“us or them” mentality born from deprivation drive to terrorist recruitment
		Lone wolf attackers are the main perpetrators in West ⁸	Individual terrorist acts are unpredictable but with common statistical patterns ³	Lone actor attacks increased especially in US
	Peace pillars: - Free flow of information - Good relations with neighbors - Acceptance of other rights	Lack of respect for human rights and for international organizations are related with terrorism ¹⁰		
	Pareto principle 80% of deaths occurred in 17% of attacks			
Terrorist Groups	4 groups responsible for 66% deaths	Boko Haram and ISIL are responsible for 50% of deaths ⁶	4 groups responsible for 74% deaths	4 groups responsible for 59% deaths
	Deadliest groups Taliban and TTP, al-Qa’ida, Boko Haram and ISIL	Boko Haram overtakes ISIL and become the deadliest (317%↑) ⁵	ISIL deadliest in 2015 (surpassed Boko Haram)	ISIL deadliest in 2016 – 50% ↑
	Religion the main motive with a high increase, Political and separatism 3 times less and constant from 2000	Islamic fundamentalism was not the main cause of terrorism in West ⁹	Boko Haram 18% ↓ in number of people killed	ISIL in Iraq and Syria nearly defeated, 3 fold budged ↓
	ISIL and Boko Haram newly relevant		al-Qa’ida 17% ↓ in number of people killed	ISIL directed attacks in 15 countries; 30% ↑

	2014 ¹²	2015	2016	2017
	Shift between small nationalist/ethnic towards large broad religious or political goals		ISIL, Boko Haram, al-Qa'ida and Taliban – most active	Boko Haram, al-Qa'ida and Taliban groups had strong activity
	Ends: - 43% polarization - 40% policing - 10% achieving goals - 7% military force		Taliban in Afghanistan 29% [†] in number of people killed	Ways to end: attainment of political goals, splintering, or defeat – equal share
Economics of Terrorism		Economic cost – US\$ 52.9 billion, 61% ↑ 2000	Global economic impact – US\$ 89.6 billion, 15% ↓ 2014	Global economic impact – US\$ 84 billion, 7% ↓ 2015 and 19% ↓ 2014
	Indirect costs could be 10 to 20 times higher than the direct costs	Costs of terrorism are lower than other forms of violence	Iraq suffers the highest economic impact (17% of GDP)	Costs of counter-terrorism and CVP and indirect effects on business are not considered
	- GDP decrease - Changes in FDI - Insurance increase - Changes in customer behavior		Tourism contribution to GDP is twice larger in countries with no attacks	Largest terrorist groups are financially supported by transfers, donations, trafficking, taxation and extortion
	Increase government spending and affect other sectors as education, health, transport	Costs of counter-terrorism are significant and greater than the direct costs of terrorism	Peacekeeping and peacebuilding is 2% from the terrorism economic impact	Costs of an attack in Europe decrease significantly (less than 10,000 US\$) – kind of self-funded

Notes:

¹ Moved from GTI results to OECD section

² Moved from Trends to OECD section

³ Characteristics of terrorism in 2016 takes partially from "Correlates and Drivers of Terrorism"

⁴ Takes from "Correlates and Drivers of Terrorism"

⁵ Moved from GTI results to Terrorist Groups

⁶ Moved from Trends to Terrorist Groups

⁷ Taken from Terrorism in Western Countries

⁸ Moved from Terrorism in Western Countries to Characteristics of terrorism

⁹ Moved from Terrorism in Western Countries to Terrorist Groups

¹⁰ Characteristics of terrorism in 2015 takes partially from "Correlates and Drivers of Terrorism"

¹¹ Taken from Correlates and Drivers of Terrorism

¹² Totally different structure, organized by authors, report covers years 2000-2012

In 2016, more than 75% of terrorist attacks took place in countries such as Iraq, Afghanistan and India. Also smaller attacks took place in France, Florida and New York-USA

Premeditated terrorist attacks have changed relations between countries of the world and how they relate to security services at national and international level, generating a process of concentrating the efforts of the international community to adopt measures and deploy joint action to combat and prevent terrorism, which led to the adoption of

international strategies for the prevention and combating of acts of terrorism. International terrorism is a strategic threat not only for the US and EU countries, but also for Russia, China, India and many other countries, including Romania.

From the above comparison, we can highlight few lines:

- The terrorist activity increased in the last 5 years (2012 records the lowest level)
- The deaths resulted compared with the injuries highly grows
- Pareto principle applies 80% of the effects are produced by 20% of the attacks
- 5 countries record the highest activity Iraq, Nigeria, Afghanistan, Pakistan, Syria
- 4 terrorist groups are generating more than 50% of the deaths
- Deadliest groups Taliban, al-Qa'ida, Boko Haram and ISIL (they are disputing the first place, last 2 years ISIL)
- Countries in conflict are more exposes to terrorist acts
- Lone actors' acts are increased
- Reasons of radicalization are different in OECD countries (wealthier countries) than in non-OECD (poorer countries) and they are continuously changed
- The main targets are the individual citizens and their property
- Foreign fighter number increased
- The economic effects are decreasing
- Ways of terrorism financing is changing
- Costs of peacekeeping and peacebuilding
- Counter-terrorism measures and CVP should be considered together.

This consideration and the correlation calculated against GTI score argues and are the starting point for the prevention and counter-terrorism strategy.

The strongly correlated factors with GTI in 2016 (measured by INFORM index) are: conflicts, level of peace, political terror, group grievances, religious issues, humanitarian crisis, number of displaced people.

Hopefully in the mentioned reports Romania is recorded since 2000 up to 2016 with "zero" GTI score. This is not a reason for not having a prevention and counter-terrorism strategy or not being aware and preoccupied of the level of violence.

Institutional and legislative framework for preventing and combating terrorism

The vast majority of government strategies and programs developed in the democratic countries for the prevention and combating of terrorism primarily aim at achieving the following objectives: anticipation, prevention, discouragement and response. In this context, our country has also adopted legislative and administrative measures to protect the life, bodily integrity, freedom and dignity of its own citizens, representatives of foreign states and all individuals who are on the territory of our country, as shown in the following figure:

Agreements concluded by Romania on cooperation in preventing and combating terrorism confirm the determination to create a broad and unitary legal framework that meets the requirements of the global terrorist phenomenon. At our country level in 2001, the Romanian Intelligence Service becomes the ultimate authority to prevent acts of terrorism. In this context, the National Strategy for the Prevention and Combating of Terrorism is adopted.

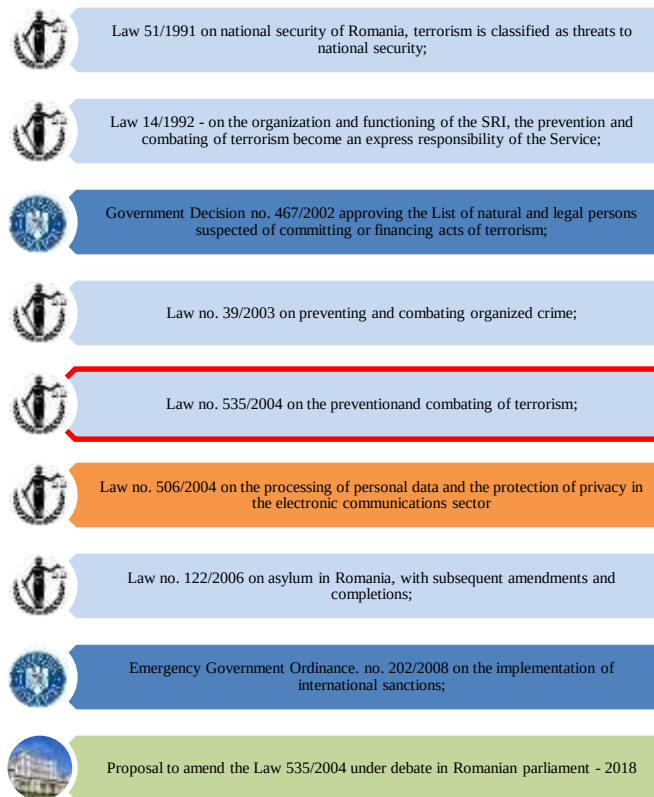


Figure 2. National Anti-Terrorism Regulations
(Source: authors processing)

Law no. 535/2004 on the prevention and combating of terrorism is the legal framework that establishes the attributions of the public authorities and institutions within the National System for Prevention and Combating of Terrorism.

A proposal to amend the Law 535/2004 and to update it to the nowadays requests is under debate on the Romanian parliament. Together with the government is preparing a package of laws for national security. This will strongly refer to the immigration, terrorist activity, radicalization, violence and the intervention measures.

Strategies and strategic priorities in place to prevent and combat terrorism

In order to combat terrorism, Romania has acted and will act within NATO, the European Union and other international organizations to promote and consolidate democracy, to support governments and security and defense institutions in the fight against terrorism, to participate in multinational operations, the process of prevention, counteraction and post-conflict reconstruction.



Figure 3. Actions to prevent terrorism

Source: author processing

As part of the global counter-terrorism strategy, the prevention of terrorist acts plays a very important role and is manifested through:

- Actions to reduce functional imbalances;
- Maintaining the balance of forces;
- Combating the proliferation of this phenomenon.

Many times the problem of preventing terrorism is also difficult because some states are not willing to allow foreign powers to act without restrictions on their national territory (Stancila, 2007).

a) United Nations global antiterrorist strategy

In 2006, the General Assembly member states agreed for the first time on a common strategic framework – The Global Counter-Terrorism Strategy that is reviewed every two years. This unique instrument should allow the international community to strengthen its efforts in the fight against terrorism based on four pillars, as they are presented in figure no. 4.

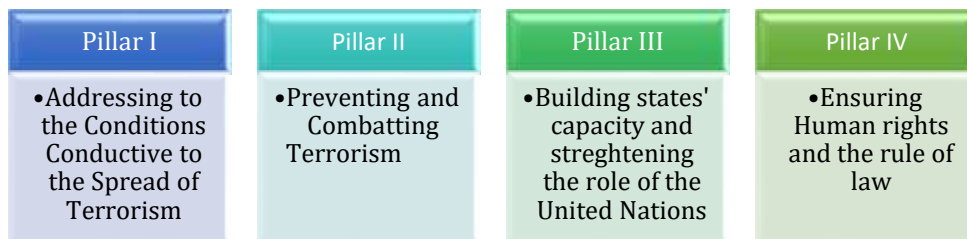


Figure 4. Pillars of the UN Global Counter-Terrorism Strategy

Source: reproduction UN (2005)



Figure 5. Priority Axes of the United Nations Global Antiterrorist Strategy
Source: authors' selection from Plan of Action (UNGTS, 2006, Frunzeti, 2005)

In the Plan of Action (Annex of the Resolution adopted by the General Assembly on 8 September 2006, 60/288. The United Nations Global Counter-Terrorism Strategy) are detailed the main ways of the enforcement of the strategy in four chapters (see figure 5).

It could be seen that both strategy adopted on 2006 and revised systematically up to now, are focused on the “**protection**” and “**prevention**” as one of the main pillars.

b) European Union strategies to fight against terrorism

In 2005, the European Council adopted the EU Counter-Terrorism Strategy for Combating Terrorism Globally and Enhancing Security in Europe. As terrorist attacks continue to affect citizens in Europe and beyond, fighting terrorism is a top priority for the EU, its Member States and its partners.

The strategy focuses on four pillars showed in figure no.5.

Through the four pillars, the strategy recognizes the importance of cooperation with third countries and international institutions. The strategies start from the facts that acting and reacting means to register a previous action of the terrorists' groups, usually

involving victims (dead and wounded). To avoid this, and remain a peace promoter the prevention become the most important weapon.



Figure 6. Intervention pillars of the E.U. fight against terrorism
 (Source: authors processing European Council, 2005)

The EU like the UN highlighted in their strategies the importance of the states' cooperation and the need of strong cooperation in sharing information, creating networks and implementing preventing actions and the role of human rights and judicial systems. Cooperation seems to be a step behind integration, this is offering a better capacity of a common response, but being under the national judicial system and parliaments' authority their legitimacy and affect could be weakened (Manar, 2007; Nesi, 2016).

The border control is one of the most important component of the counter-terrorist measures. The EU strategy pays attention to it and there were certain measures that the member states have to implement. Unfortunately, the terrorist attacks from the time shows that it is a strong limitation of the effects of this measures, this border control could not totally stop the mobility of the terrorist actors (Krasmann, 2007; Le'onard, 2015).

Also, there are opinions that the EU strategy and the action plan (Bossong, 2008) is more a result of a long and tempestuous political proses that generates some the neglecting of the strategic dimension.

As a conclusion, the terrorism and extremism acts and actors are evolving and there are substantial changes in techniques, strategies and "*modus operandi*". To address to this challenges, we assume that the counter-terrorism and extremism prevention should consider the new trends and to adjust their strategy accordingly (Frazer & Nünlist, 2015; BIgo & al., 2017; Atran & al., 2017; Karlsrud, 2017).

Romania's national strategy to prevent and combat terrorism

Romania as member of UN, EU and NATO has to be connected to the "*last minute*" theories, agreements, evolutions and stages of the terrorism and at the same time to be part of the international efforts of counter-terrorism system and counter violent extremism trends. The strategy has to consider the link with the citizens and their perception on the security issue to accept the public spending needed for counter the terrorism activity and to prevent it, considering that the level in very low at this moment (Grigorescu, 2006; Grogorescu, Bob & Dobrescu, 2007).

The National Security Strategy of Romania is a major landmark of the fight against terrorism at national level. Romania's national security strategy is based on the existing international regulations in the field of counter-terrorism. In this context, the National

Strategy sets out the following general objectives, specific objectives and related action directions as in figure 7.



Figure 7: Action strategic objectives for preventing and combating terrorism within the National Strategy for preventing and combating terrorism (Source: own processing according to information from the Romanian National Strategy for prevention and combating of terrorism)

Conclusions

“As terrorism is a complex multidimensional phenomenon, effective response to the terrorism may need to take into account, and to some degree to be individually configured to respond to, the evolving goals, strategies, tactics and operating environment of different terrorists’ groups.” (Perl, 2007).

Romania in the Global Terrorism Reports issued by Institute of Economics and Peace in 2014-2017, that are covering 163 states and calculate the GTI, is recorded with “0” for the mentioned period. This are making us to feel very secure if we are not analyzing the main factors that are converging to this achievement. There is a risk to consider this and a success of the counter-terrorist measures, not as a result of a convergence of geo-economic multiple factors.

This conjuncture can be easily change any time that is why Romania has to be an active player on the network of counter-terrorism systems. In an increasingly turbulent and regional context, in the midst of the most deadly conflicts and intra-community breaks, terrorism becomes part of mankind's everyday life, especially through the media, in a quasi- collective, drowned in a kind of fatalism, leading to a tacit tactic of normalization and giving up the phenomenon as if it were something natural in human societies.

The strategy that Romania should develop and enforce has to be based on the findings of the potential risks and evolution. The findings of our analysis on the Global Terrorism Reports issued by Institute of Economics and Peace in 2014-2017, could be a starting point of the Romanian counter-terrorism strategy. Nevertheless, as a part of EU we should refer and integrate in the union counter-terrorist force and to respect the main lines of the EU strategy. Similarly, we are bound to take into consideration the UN strategy as a member state and to be prepared to act accordingly.

Only when terrorism hits the gates of a state, there is a temporary mass mobilization to condemn it and take action to fight it. However, the fight against terrorism is a daily, long-term adventure that can be won on all fronts with the help of well-grounded international strategies and adopted at national level. It is recommended to be aware with all opinion of the practitioners and researchers and to consider their finding in the process of strategy design (Bunn, 2016; Gioia, 2016; Kaplan, 2017; Boer, 2015).

We believe that an important role in the fight for preventing and combating terrorism is the strategic planning at the level of the main public entities that are active in combating this phenomenon. Thus, we considered it necessary to present the main international strategies adopted to prevent and combat terrorism. At national level, Romania aligns itself with these provisions, thus adopting the National Strategy for Combating and Preventing Terrorism, a strategy which also guides the strategic planning of the main ministries, organizations and institutions in Romania involved in the prevention and counter terrorism.

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NEW MANAGEMENT AND E-MARKETING PRACTICES ANALYSIS, WITH APPLICATION TO HOLACRACY

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Abstract. *As the peer-to-peer innovation reshapes marketplaces and businesses, disruptive companies are also re-evaluating their internal processes and a part of them are tempted to abandon top-down hierarchy in lieu of decentralized business models. As the marketplace evolves to increasing decentralization, and a consumer-conducted through e-marketing universal market, business leaders and researchers are analyzing different manners that can comply these business trends in the way companies are structured and governed. With the aim of better understanding how to satisfy the internal and external client's needs, in order to produce value for the company, this work provides an analysis of the e-marketing most popular practices and a study on a new internal management system, Holacracy, with insight about what is the relationship between client and the company that has implemented it. Holacracy system is one of the most popular decentralized management approaches available at the moment which provides an organizational management model for making companies more adaptable, flexible and more responsive to change. In most of the companies, according to traditional management principles, each employee has an accurate definition of the job s/he has to perform through the job description. In Holacracy, employees can learn through training programs to perform new roles, giving up those that are no longer up to date through the company's evolution. Thus, the roles are being endowed with authority and not the people who perform those roles. This paper is presenting a study about Holacracy principles and the recommended "constitution" adopted by the companies that are implementing Holacracy by a comparative view with the classic management principles, considering the analysis on the digital e-marketing practices that are reshaping the relation between company and the internal and external clients. The benefits and the disadvantages presented by new management practice, Holacracy, will be pictured by a contextual analysis with today's business e-marketing conducted environment.*

Keywords: *holacracy; management practice; business structure; governance model.*

Introduction

As the peer-to-peer innovation reshapes marketplaces and businesses, disruptive companies are also re-evaluating their internal processes and a part of them are tempted to abandon top-down hierarchy in lieu of decentralized business models.

Modern companies like Airbnb, Uber, and Clever Taxi are conducting the so-called "peer-to-peer revolution", enforcing features like better flexibility and adaptability, greater efficiency, decentralized control. Peer-to-peer models seem destined to reshape more and more industries, as consumers seem more and more willing to streamline their lives and reduce the inefficiencies. As a consequence, the leaders of the companies are looking for business instruments and principles that are better shaping the increasingly decentralized marketplace. It is a real challenge for today's businesses to reach that flexibility and adaptability in reaction to the fast-changing business environment.

Also, today's people are keener to express their creativity, but very rarely today's organizations help their employees to use their passions and creativity at work. Also, in the traditional organization, since no voice can be taken into consideration unless it is associated with a hierarchical function, the extraordinary ability of people to feel the discordance of the present moment and to see the potential for change, it is actually unused.

In the book *What Matters Now*, G. Hamel (2012) states that even today, most organizations operate on a paradigm developed in the industrial age, predict & control based, where the CEO has the power over a hierarchically structured system. Success is achieved through planning, control, prevention of deviations. This type of organization focuses its attention on building a perfect system, preventing tensions. But the tensions arise anyway, forcing organizations to reorganize themselves to cope with the new reality. This type of organization management worked very well in the industrial age, leading to progress and developing new models of productivity and coordination. But in our era, named by some authors Conceptual Age, this management approach seems to no longer meet the new challenges in business: increased complexity, transparency, interconnectivity, economic and environmental instability, increased social responsibility.

In his book *Holacracy*, B. Robertson (2015) presents a new model of management, considered enough robust and comprehensive to be experimented as a promising approach to organize businesses, named holacracy. Holacracy means the organization's governance through people in order to accomplish its mission, as the author explains.

E-marketing importance in a consumer-conducted global market

In today's global market context, the change is necessary both in developing products and services, but also in the manner that they are offered to the market (Parr Rud, 2009). The extension of the digital transformation on a macroeconomic scale is marking a new digital transformation economy. The business environment has to facilitate this transformation by using new technologies for creating value and competitive advantage: considering a new type of offers, new kind of relationships, new business models, new management approach, etc. The modern business tools that companies are using today for managing the relationships with internal and external clients, with partners and

other stakeholders are empowered in particular through interaction (Eisenhauer, 2014).

Nowadays, any business, whether we are talking about a business whose activity is grounded in the physical environment, whether we are talking about one that is being developed in the online environment, they are all looking at the new methods of attracting clients through e-marketing. Also in Holacracy, e-marketing is an important component of the marketing strategy, considering that from the actions taken through e-marketing, essential information about the clients' behavior can be determined. This property to retain as many user data as possible is specific to the online environment, and if a person wants to use the services, it is possible for a cost. Much of the online business has its own integrated systems that aim to gather more detailed information about users to use them in promotion campaigns (Lazar, 2017; Taylor, 2018). Regardless of the management approach, whether we talk about a traditionally managed company or a Holacracy governed one, the e-marketing activities carried out for promotion are differentiated by personalized messages. It is taken into account the context in which the interaction between the user and the transmitted message takes place. For this, it looks at the consumer's profile, the interests that he or she has the whereabouts of the information, the device on which the information is sought, the physical location where it is when it comes in contact with the messages, the occupation occupied by the user.

E-marketing is an approach that promotes products and services through online tools and methods both in a traditionally managed company or in a holacracy governed one (Ward, 2017). E-business develops and implements business processes that intermediate it by doing the exchange of goods and services to get value added. E-marketing can be considered an e-business support action when digital methods are included in the marketing strategy of any online business, traditionally managed or holocratically governed. Google AdWords, SEO, Social Media, Email Marketing, Display Advertising, Affiliate Marketing, are part of the e-marketing mix, each of which has a contribution to be considered when designing e-marketing strategy.

Accelerated technological evolution of nowadays is allowing modern companies to combine and recombine new technologies, aiming at creating new values at a much faster tread than before. The purpose of it is continuously attracting and increasing the loyalty of the customers, partners, and employees.

Fast-changing business reality impact on traditional management and Holacracy

Given the increasing decentralization of the marketplace and a consumer-conducted through e-marketing universal market, the business environment is looking for different principles that can comply with these business trends, in the way companies are structured and governed (Gassmann, Frankenberger & Csik, 2015). It is more and more certain for today's business leaders the fact that the traditional organizational structures are not as adaptive as the extremely fast-changing reality of today's business environment requires. The work frames we know and we are following at work, are not as adaptable to change and as flexible as we need.

Holacracy is, in essence, a social technology for the governance and operation of an organization, defined by a set of rules different from those found in a traditionally governed organization (Aileron, 2017; Bernstein et al., 2016; Compagne, 2014).

In a traditional, lead-led organization, people do not have mechanisms to promote their diversity of ideas. There is only one way to promote a new idea, which is to convince the leader that the idea is valuable. If the leader does not share the new perspective brought by a colleague, he has no lever way in the hierarchical structure to promote his idea. In Holacracy, it is believed that any organization should harness the diversity of talents of the human resources available. As humans are so different, it is considered that each person is a sensor of the organization that leaches the reality through its own filter, adding a unique perspective to the organizational big picture.

In the traditional organization, because no voice will be taken into account unless it is associated with a hierarchical function, the extraordinary ability of people to feel the distances from the present moment and to see the potential for change is totally ignored. Right this window created between the actual reality and the predicted potential carries in Holacracy the name of tension. It is believed that that tension is an energy that is blocked but could be channeled into a beneficial change if they are processed timely. But these tensions usually remain on the ground and produce effects, sometimes leading to extremely negative outcomes for the organization. Organizations typically have more difficulties in processing than in acquiring problems, therefore this work is revealing that in any organization it is necessary a tension-processing approach.

In Holacracy, every tension an individual feels it is considered a sign of evolution if they are processed quickly and efficiently (Bernstein et al., 2016; Robertson, 2017). Most organizations operate on a paradigm developed in the industrial age - prediction & control - where the CEO has the power over a hierarchically structured system. Success is achieved through planning, control and preventing the deviations. The traditional organization focuses its attention on creating a perfect system and preventing tensions. This type of organization management worked very well in the industrial age, leading to progress and new models of productivity and coordination. But the tensions arise anyway, forcing organizations to reorganize themselves in order to be able to cope with the new reality and that is the reason why Holacracy takes a new approach to the business.

Holacracy principles

Aiming at a better understanding of the right manners to satisfy the internal and external client needs, this work is analyzing a new internal management system, Holacracy, with insight about what is the relationship between the client and the company that has implemented it. Holacracy is one of the most popular decentralized management system approaches available at the moment. Its popularity resides in the fact that it provides an organizational management model for helping organizations become more adaptable, flexible and more responsive to change.

The autocratic governance used to conduct today's organizations produces tensions that cannot be processed by empowering a group of people to the detriment of the majority, and it is called by B. Robertson (2015) a disempowering corporate structure.

Holacracy proposes a constitution that can be applied to any organization, defining authority as a legislative process to which we return whenever we need clarification, defining the rules of Holacracy, the generic roles to be assumed in the organization, the relationships between them, the main processes of governance and operational.

In the majority of the companies, governed through traditional management principles, the employees are working based on the definition of the job they have to perform through the job description. But usually, the job descriptions are imprecise, outdated and irrelevant to the employee's day-to-day work. And that is because the organization's charts are having usually a rigid structure that is not updated every time the activities of the companies are changing and evolving. In "Holacracy", people can have multiple roles, often in different teams (actually, teams are becoming circles), and role descriptions are constantly updated by the circle that actually perform the work. That generates dynamism of employees' roles which energize the work with clarity and awareness that most traditional workplaces do not reach. This allows people to feel more inspired to express their talents and creativity, an advantage that a company may not have learned through a traditional management (Aileron, 2017).

Holacracy is, in essence, a social technology for the governance and operation of an organization, defined by a set of rules different from those found in a traditionally governed organization.

The central characteristic elements of Holacracy are considered as presented below.

- *The Constitution* – it sets the rules of the game, distributing roles authority at the same time, defining authority as a legislative process to which we turn whenever we need clarification, the generic roles to be assumed in the organization, the relationships between them, the main processes of governance and operational.
- *A new way of structuring the organization and defining roles and authorities*, as presented in Figure 1. *The Governance Meeting Process* – is a separate process from the tactical meeting process where operational matters are discussed, specifically to give the best streamline to the problems regarding organizational structure; the governance process creates amends or removes policies, circle roles, sub-circles, or hosts the election process.
- *A unique and transparent decision-making process of updating roles activities* – Integrative Decision Making Process – a process design used in the governance meetings, in the tactical meetings as well as strategically meetings, for streaming the decision making process (collecting and processing opinions, proposals and objections by all the stakeholders and giving the best solution to implement in the most efficient timeframe).
- *A unique meeting process for team synchronization* – Tactical Meeting Process – with a unique design followed by everyone that is participating and guided through the meeting by a role entitled Facilitator.
- *The Election Process* – based on the Integrative Decision Making Process used by the circles to elect the generic roles in Holacracy: Facilitator, Secretary, Lead-link, for a specific amount of time defined by the Constitution;
- *The Strategic Meeting Process* – used in the strategic meetings for brainstorming and generating strategy, combined with the Integrative Decision Making Process.

Holacracy focuses on prioritizing and recording possible solutions when a crossroads appears rather than the predict-and-control approach used in the traditional governed organizations, where the strategy is governing. In Holacracy, the planning is achieved using the strategy meeting process, but it is not defined by the Constitution to be governing, because in Holacracy the reality is actually governing and is constantly reshaping the organization (Timmerman, 2015).

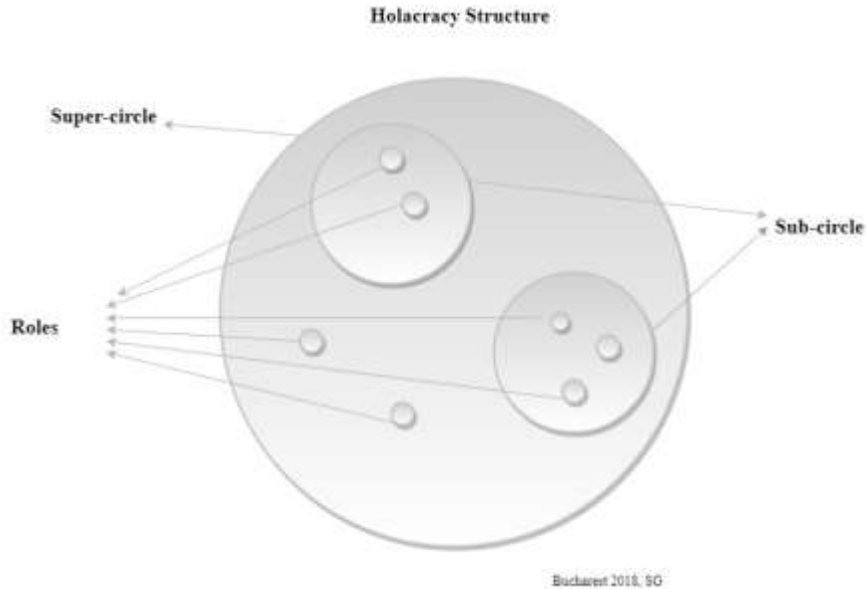


Figure 1. Holacracy Structure, adapted from www.Holacracy.org

Unlike an autocratic company that is managed over a strategy, Holacracy is based on the evolutionary algorithm. It is not designed by a certain person, but the governance process itself designs the design naturally, by solving all the tensions that appear, by the organizational sensors, the people.

Holacracy displaces the employees from the dependency relationships that we often see in a traditionally managed company, where managers decide and employees perform the tasks, in the sphere of autonomous relationships, where each one is responsible for their own role. And that is performed in the service of the organization's goals, such that no one feels victim because someone else decides for him (employees from a traditionally managed company) nor overwhelmed by responsibilities (managers of an autocratic company). This is an approach of how a whole new shift from personal leadership can transform in what is called by B. Robertson (2015, 2017), constitutionally derived power.

This passage from the autocratic management to holacracy is not easy and without challenges for any organization, as shown by the experiences of those who have implemented Holacracy. It is not an easy task to get people who have been leading the rest of the years to step back or to make people who have always been led by others to take the step forward and not only speak for themselves, but also fight for processing the tensions that they are feeling.

Employees in Holacracy realize that they no longer follow orders, they themselves have the power and authority of their own roles, but that comes in the bundle with increased responsibility. The power in holacracy transfers from the CEO – as in an autocratic company - to the organizational process that promotes a start-up mentality where everyone is challenged to think about solutions as for their own business.

Governance is the process by which authority is assigned to an organization, the power of a function being taken over by a process. This is a reason why this work is regarding the business process management and design as an important part for today's organizations that are looking for new instruments to challenge the new reality of business.

Benefits for organizations that are using Holacracy structure

The governance process defines clear roles with precise responsibilities, which makes the authority explicit, generating a change in organizational culture towards transparency and less influence. (Figure 2)

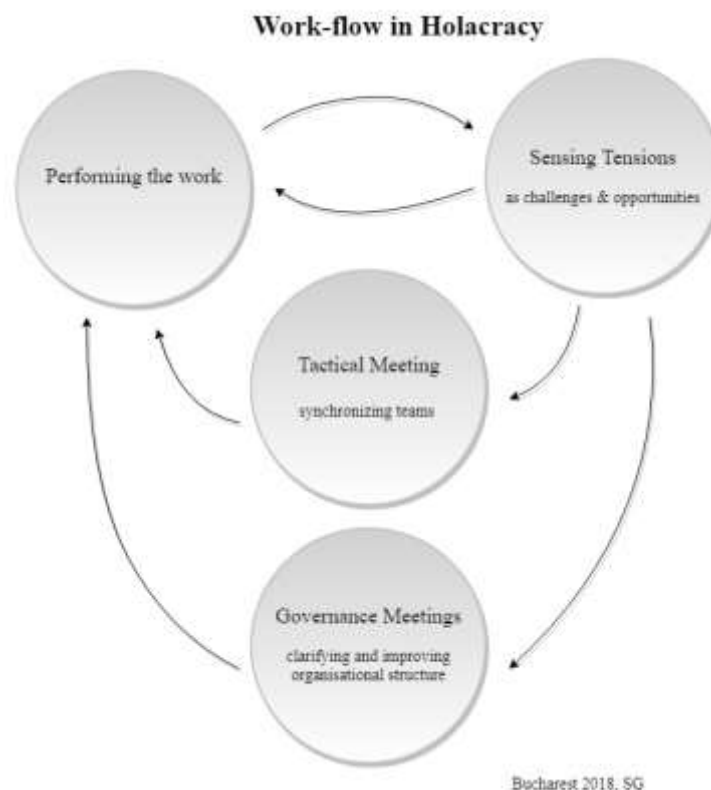


Figure 2. Workflow in Holacracy, adapted from www.Holacracy.org

In Holacracy, employees can learn through training programs to perform new roles, giving up those that are no longer up to date through the company's evolution. Thus, the roles are being endowed with authority and not the people who perform those roles. In Holacracy, it can be observed a shift from the power of the function and the person who owns it to the power residing in the organizational governance process.

Since Holacracy does not have a hierarchical structure, each role being autonomous and having individual authority, the roles are grouped into circles, the circles are integrated into larger circles, up to the Anchor Circle, that expresses the general purpose of the organization and controls all domains activity of the organization. Therefore, the people in Holacracy are having the power and the autonomy to perform their work without having to wait for approvals, with clear defined roles and responsibilities.

But the most interesting benefits a first analyze of Holacracy model is pointing at, are the governance instruments it has developed; the governance meeting process, the tactical meeting process, the strategically meeting process, the strategic meeting process, the integrative decision-making process. Moreover, Holacracy is based on the evolutionary algorithm; the governance process itself designs the design naturally through the governance meeting process, where all the tensions are processed.

Holacracy points out an interesting focus on prioritizing and recording possible solutions when a crossroads appears rather than using the predict-and-control approach like in the traditional governed organizations, where the strategy is governing. In Holacracy, the strategy is not defined by the Constitution to be governing the work, because in Holacracy the reality is actually governing and is constantly reshaping the organization. In Holacracy, every tension that an individual feel is a sign of evolution if those tensions are processed quickly and efficiently, giving to the Holacracy structures an evolutionary design.

Holacracy is regarded as a social technology for the governance and operation of an organization, defined by a Constitution that sets the rules different from those found in a traditionally governed organization but followed by everyone. They are no favoritism for specific groups of people in the favor of the majority or other unprofessional behaviors like influence or arrogance that the traditional structures are sometimes generating. The rules are the same for everyone and the process of governance gives the power of expressing a tension to everyone, not just to the leaders as we see in the traditional governed organizations.

Conclusions

This paper is presenting a primary study about Holacracy principles by a comparative view with the classic management policies, considering the analysis on the digital e-marketing practices that are reshaping the relationship between the company and the internal and external clients.

In an ongoing peer-to-peer revolution, enforcing features like better flexibility and adaptability, greater efficiency, decentralized control, where the people are keen on to expressing their creativity, the organizations needs nowadays to bust their soft skills like creativity and inspiration in order to cope with the new reality. The work frames we are used to implementing and follow in the business global environment, are not as adaptable to change and as flexible as we need.

Holacracy is a new management method that states principles serving organizational goals by shifting the power from personal leadership that is too often in organizations disempowering the majority in the favor of a small leading group, to what is called "constitutionally derived power". The rules are the same for everyone in Holacracy and

the process of governance gives the power to sense and a voice to express a tension to everyone, not just to the leaders as we see in the traditional governed organizations. The structure of Holacracy releases the dependency relationships of the employees with the managers, that are deciding and employees are performing the work in a new sphere of autonomous relationships, where each person is responsible for their own role. The specific unprofessional behaviors that the traditional organization is often generating through an autocratic management style, like influence or arrogance, are disappearing in a holocratic structure, where each individual is empowered for the role assigned.

Also, we can learn a model of an evolutionary structure, because in Holacracy the reality is governing, continuously reshaping the organization through the process of sensing and processing the tensions efficiently by the organization's sensors, the people.

The benefits presented by new management practice, Holacracy, are pictured by a contextual analysis with today's business e-marketing conducted environment, underlying the peer-to-peer models that seem destined to reshape today's business environment.

This paper is noticing that the creator of Holacracy, B. Robertson (2015) is not recommending tasting Holacracy by its attractive component parts and implementing just specific tools of it, just because it is difficult to assess such a big change in any kind of organization. However, this study is revealing new management tools used in Holacracy that are independent and can be tested in a traditional structured organization for attaining more efficient processes. This work is underlying instruments that are actually business processes, like Tactical Meeting Process, where operational matters are discussed, Governance Meeting Process streamlining the problems regarding organizational structure, the Strategic Meeting Process for generating the strategies, the Integrative Decision Making Process, a great design process that is processing opinions, proposals and objections by all the stakeholders and is giving the best decisions in the most efficient timeframe.

And also the Governance is the process by which authority is assigned, the power of the functions being taken over by a process. Therefore, this work is regarding the business process design and management as an important part to develop in organizations that are looking for new instruments to challenge the new reality of business.

Aiming at discovering new management instruments that can help businesses to feat the reality of the present moment and place, further work will research the possibility to test one by one the new challenging business instruments and processes that Holacracy has developed, in organizations based in Romania, governed by traditional management.

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LABOR MOBILITY AND CONFLICT MANAGEMENT IN THE CONTEMPORARY ECONOMY MARKET

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Abstract. *From any perspective, inherent conflict is an organizational process and an important part of organizational life. Motivations for conflict associated with human resources are endless. Conflict management has two major meanings: the generic term for all management actions on conflict (prevention/resolution, treatment consequences) and the strategies for control or regulation of conflicts which are lasting and resistant to positive solutions. Labor mobility is a form of movement in relation to the ever-changing needs of these productive factors. Hence, the labor movement is the workforce all the spaces in their profession and industry. The present paper aims to address, from a managerial perspective, the process of managing conflicts within organizations, starting from the analysis of the two dimensions, namely the processes and relationships specific to a public or private institution, and the second dimension, typical causes of conflicts and associated ways to manage them from the perspective of labor mobility. Management processes and relationships established within an organization have a direct reflection of how communication is made within an organization and, consequently, play a decisive role in the organizational conflict management mechanism.*

Keywords: conflict management, labor mobility, organization, contemporary economy market.

Introduction

Regarding globalization, one of the most important aspects of migration flows is gained relevance in the international landscape. In an increasingly difficult society, with business ideas, with goods and services crossing international borders, people are looking for targets refused in their own countries. Migration also entails costs for countries of origin due to the breakdown of family structures or the loss of human capital, but also to beneficiary countries in terms of rising social policy costs and reducing social cohesion. There are many situations when emigration becomes a

widespread and intensive phenomenon, thus fueling a vicious circle that promotes a regressive dynamic of abandoning productive activities in migrant communities.

In this context, a theoretical approach to the processes and managing relationships within an organization in general, as well as the particularities identified in the public institutions in Romania is achieved. Starting from these peculiarities, the elements specific to the intra-institutional communication process are identified, which has direct repercussions on the causes of the conflicts that arise within the public institutions.

The phenomenon of migration is often associated with painful experiences: people risk your life in a sea crossing with fragile boats, fraudulent border crossings using empirical methods (hidden in car-bound chassis, airplane fuselages, and truckloads). The European Union, which has substantially abolished migratory restrictions among members, is increasingly experiencing migration waves.

Labor mobility refers to the ease with which workers are able to move around in an economy and between different economies. It is an important factor in the study of the economy as it analyzes how labor, one of the most important factors of production, affects growth and development. International labor mobility has emerged as a major global problem and occupies an extremely important place on international, regional and national policy agendas. The phenomenon of labor migration is evolving rapidly (Riso, Secher & Andersen, 2014). This phenomenon, which can respond to labor market needs and changes, stimulates innovation and development, as well as the transfer and improvement of skills. However, migration is still very often associated with unacceptable workplace abuses. The conflict phenomenon is highlighted by the high social and economic costs of migration, inequality, and discrimination in the workplace in the destination countries, as well as difficulties in the integration process (Bercovitch, 1983).

The actual situation of labor mobility

The Maastricht Treaty introduced for the first time the term European citizen and the freedom of movement of people. In addition, labor mobility plays an important role in meeting the EU objectives, both internally and globally. EU Cohesion Policy invests in employment and long-term growth in Europe. It supports the European 2020 Strategy, which aims to have 75% of people aged 20-64 years in employment by 2020.

Labor mobility in the European Union has been increasing in recent years (Figure 1), but it is still not enough in the face of diverging labor market developments.

Despite the economic crisis, more and more the EU citizens have been living in another EU Member State since 2009 and the number of the EU-28 movers further grew in 2016. In 2016, there were roughly 12 million EU and EFTA (European Free Trade Association -Switzerland, Iceland, Liechtenstein, and Norway) movers in total. The number of movers was 5% more than 2015, which is a similar increase to the one in previous years. The population of movers is made up of 11.8 million EU-28 citizens and 170,000 EFTA citizens of working age (20-64) who were resident in an EU-28 country other than their country of citizenship (Fries-Tersch et al., 2017).

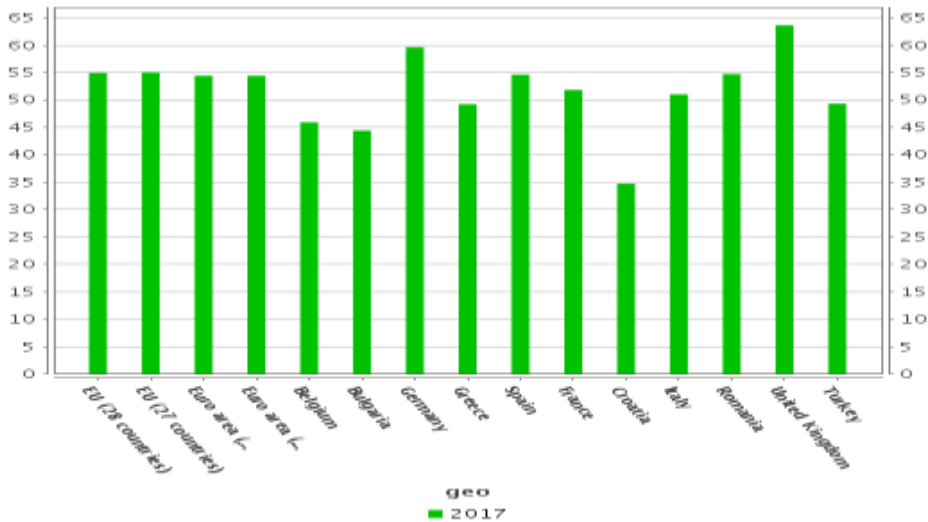


Figure 1. Employment rate by educational attainment level in the EU (Eurostat)

Labor mobility refers to the ease with which workers are able to move within an economy and between different countries. It is an important factor in the study of the economy as it analyzes how the labor force, one of the major factors of production, affects economic growth (Morokvasic-Muller, 2002). We meet two main types of labor mobility, see Table 1.

Table 1. Types of labor mobility

Geographic mobility	Occupational mobility
➤ Increase in labor supply. As more workers enter the economy, the general labor supply increases. An increase in labor supply accompanied by a static job demand can reduce wage rates.	➤ Increase in labor supply in certain industries. Smaller restrictions mean more time for the workers to enter another industry, which may mean that the job demand is easier to meet.
➤ Increase in unemployment. Unless employers require more than one worker, an increase in labor supply could lead to a hindrance to work.	➤ Smaller wage rates. If it is easier for workers to enter a particular industry, the labor supply will increase for a particular demand, which leads to a lowering of the wage rate until the balance is reached.
➤ Increases in productivity. Not all workers admitted to the job offer will be unqualified. An influx of workers can increase productivity if it brings specialist skills to the workplace and can push existing employees who are less productive.	➤ Allow emerging industries to grow. If an economy is heading for new industries, employees need to be available to lead the industry. A lack of employees means that overall productivity can be negatively affected because there are not enough employees to provide the service or to work with the machines used to make the product.

It is considered that greater labor mobility, both between jobs (occupational mobility) and between countries (geographical mobility), contributes to social and economic progress, to a higher level of employment and sustainable, balanced development. This mobility makes it easier and more efficient to adapt to the European economy, employment and labor to changing conditions and it represents a stimulant for change

in a globally competitive economy. A higher rate of mobility between the Member States will also encourage closer political integration within the EU (European Job Mobility Portal).

Mobility at work can be seen as the ability of people to go to another region or to another country to work. Labor mobility makes it possible to find more favorable working conditions as well as increasing professional experience.

The mobility of labor force in Romania

The totalitarian Romanian regime before 1989 considerably limited the travel possibilities of Romanian citizens. Thus, once with the fall of the communist regime, Romania recorded an exceptional emigration wave (Figure 2), in 1990 almost 100,000 Romanians have emigrated (Vasilcu & Sechet, 2011, p.215).

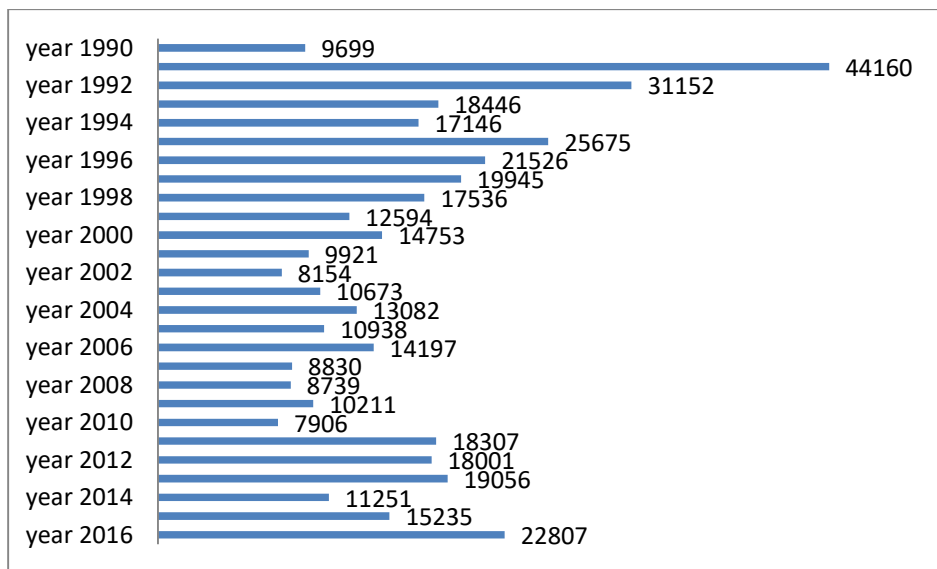


Figure 2. Number of Romanians who immigrated definitively to other countries between 1990-2016 (<http://statistici.insse.ro>)

We note that after the great upswing in 1990, in the following years, the number of migratory people considerably diminished; however, Romania continues to be a country of emigration so in 2016 the balance of international migration was negative; the number of permanent and temporary emigrants being 67,067 persons higher than the number of immigrants (www.insse.ro).

Immigrants are people who settle in Romania. Immigration is the action by which a person renounces his or her domicile from the territory of another state and establishes his domicile in Romania. Based on the statistical information, we can see that in recent years most people who immigrate to Romania are from Moldova so in 2016 the number represented 64% of the total number of foreign emigrants settled in Romania.

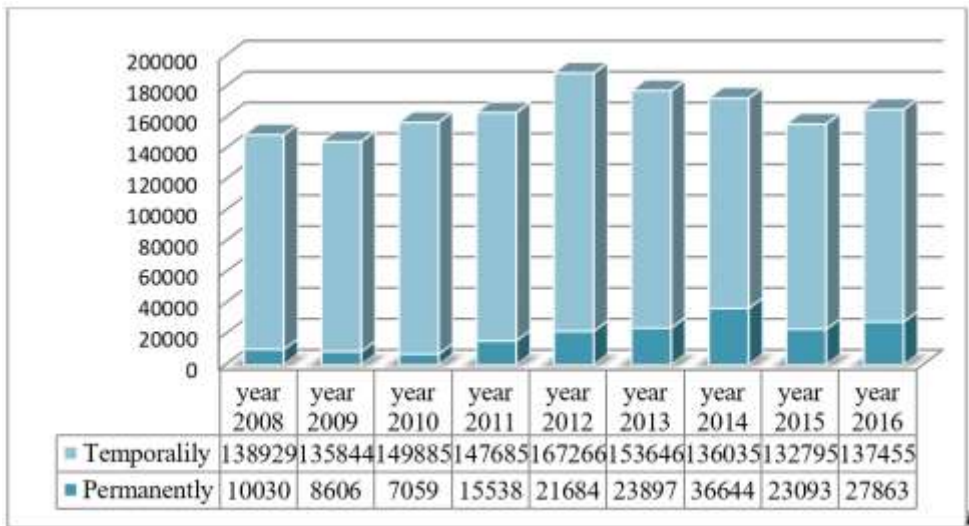


Figure 3. Number of people who immigrated to Romania between 2008 and 2016 (<http://statistici.insse.ro>)

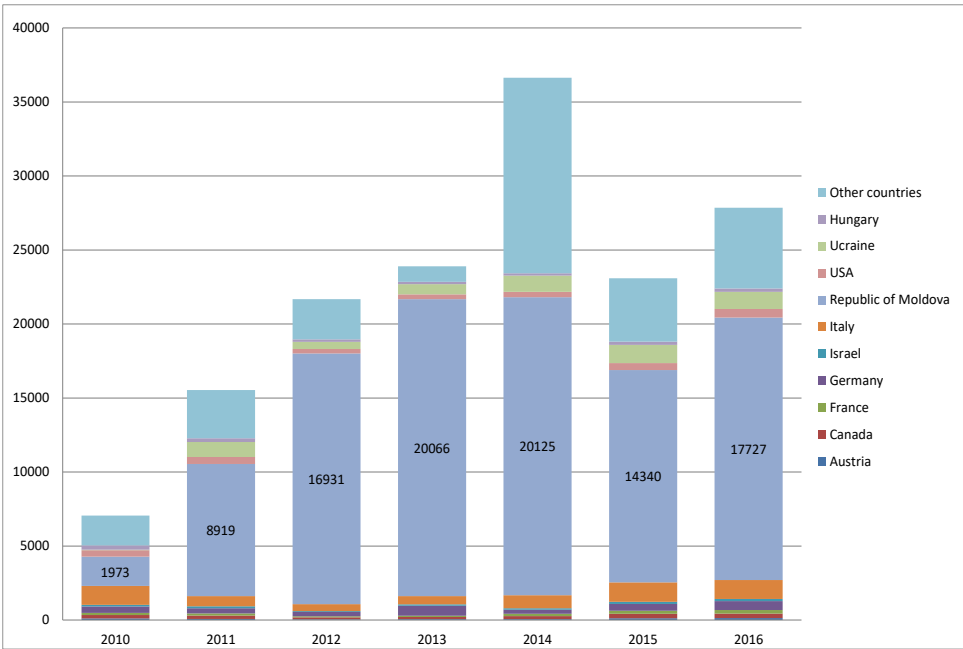


Figure 4. Number of immigrants from the country of origin who immigrated to Romania between 2010-2016 (<http://statistici.insse.ro>)

Conflicts of work

Conflicts of work may arise as a result of a simple disagreement. Labor conflicts can occur between employees and the company, or just between two or more employees of the same company. If these conflicts are not given a solution, there is almost always a latent or declared tension between the protagonists that has negative effects on the company's internal climate. Labor conflicts often arise due to the negligence or passivity

of the actors. In an organization conflicts mostly occur because of gaps that arise between the formal structures of the organization (status, position, function) and informal structures describing the relationship between the actors (information exchange, work rhythm, competitiveness).

Conflicts of work are of several categories; Figure 5 presents their typology.

Conflict of work can be defined as the result of behavioral confrontations, motivations, needs, interests, opinions or values of individuals. As we can observe, labor conflicts can be collective, that is, it brings together more individuals gathered in a collective system or individual, which signals an individual struggle of an individual with one or more individuals within the same organization or even the entire organization.

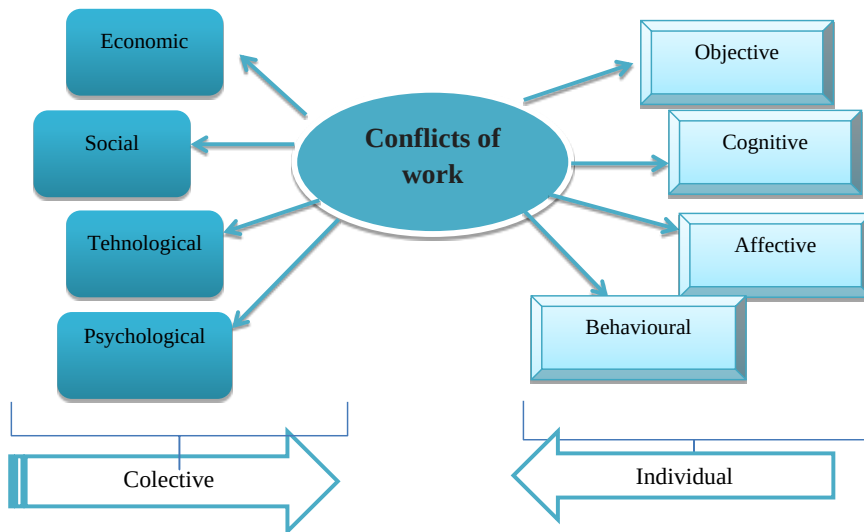


Figure 5. Typology of labor conflicts

At national level, labor conflicts are governed by the Labor Code and the Law 168/1999, these being the main legal regulations dealing with issues related to labor conflicts and how to resolve them. According to these regulations, labor conflicts are defined as conflicts between the employees and the companies in which they work, which concern professional, economic or social interests. According to the information publicly declared at the national level (Figure 6), we notice that the number of labor conflicts is decreasing in the last years, thus in 2016, the number of labor conflicts decreased by about 80% compared to 2000.

Not finding a solution to labor conflicts can lead to confusion or refusal to cooperate, in the case when some problems appear, lack of deadlines or delays, increased stress among employees, reduction of creative collaboration and teamwork, interruption of the workflow (Belghiti-Mahut, 2003; Burloiu, 2004; Chiciudean & David, 2011; Iacob & Ccismaru, 2009; Lefter & Manolescu, 1995). Not solving work conflicts on time can have more negative effects, such as loss of time and energy, delays, unproductiveness, inefficiency, anger, sabotage, personal abuse.

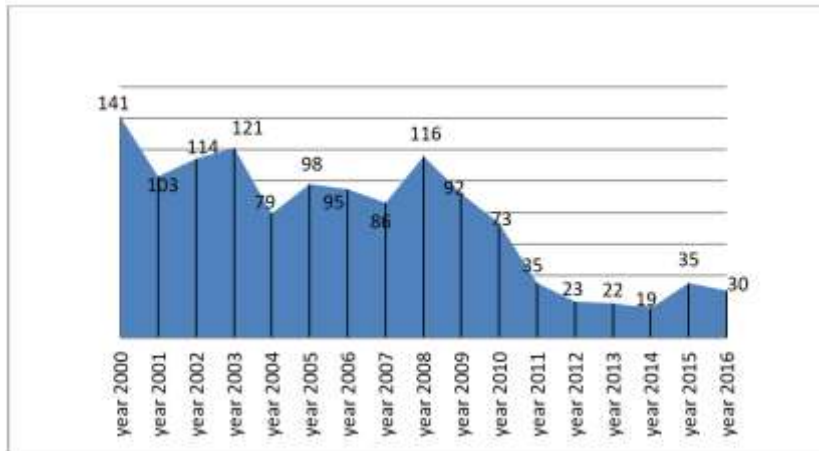


Figure 6. Number of conflicts of work recorded nationwide between 2000-2016
(www.insse.ro)

Solving labor conflicts through labor mobility

Perhaps we have asked ourselves what the connection between labor conflicts and labor mobility is, as a viable answer we think we can solve or at least ameliorate the conflictual situation by posting/delegating or even moving one of the individuals involved in the conflict into another section, area or even another company. Vocational mobility can have many benefits for the employee; it can be a promotion, advancement, better working conditions, a more relaxing work environment. But at the same time, it can also have some disadvantages, such as time spent with getting used to the new job, additional expenses with moving, transport, and drop in professional performance. Conflicts are not always destructive, however, when a conflict gets bigger, managers need to understand and look for solutions to solve them (Afzalur Rahim, 2001, 2002). There must always be a rational program or process to resolve conflicts. Such a process must include a planned action response from the manager or organization.

Conclusions

Labor mobility is primarily intended to improve the lives of workers around the world. In this research I have shown that labor mobility has both positive effects, especially on the development of host countries, as well as negative effects on countries of origin, it is mainly about the impact of development, the loss of human capital, the deepening of demographic problems on a long term. Labor mobility has gained a bigger impact especially after Romania's accession to the European Union, immediately after the restrictions on the labor market had been abolished. Labor mobility must be seen as an opportunity that employees have to change their workplace. When we talk about labor mobility across borders, we encounter the so-called migration phenomenon of labor. This phenomenon has grown quite a lot in our country especially after 1990 and still remains at quite high rates. Thus, based on the public information presented by the National Institute of Statistics, we note that our country is still a country of migration, the number of people leaving the country especially for work in European countries, is increasing. Labor mobility is stimulated by destination countries, so more and more

Romanian specialists go abroad for higher salaries, better living, and better working conditions.

Addressing labor conflicts and the phenomenon of labor mobility can be achieved through a close link of dependence between these two existing issues within the national organizations. Thus, in this research we propose, as a key to solving labor conflicts, the labor mobility, of course, based on managerial programs and laborious strategies as well as involving the authorities by promoting national investment projects in human resource development.

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THE USE OF THE CONCEPT OF *EMPLOYER BRANDING* AS A STRATEGIC TOOL FOR CREATING THE EMPLOYER'S IMAGE

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Abstract. *The strategic task of the management of each organization is to provide the right amount of qualifications to ensure the continuity of its proper functioning. The changes that have been occurring in the labor market over the past dozen or so years make finding and maintaining a valuable employee an extremely difficult task for the employer. Therefore, companies intensify their efforts to attract potential employees with their offer. Building an image of an attractive employer is now an extremely desirable competence in the labor market. One of the support tools in this field is employer branding (EB). Especially over the last dozen or so years, we have been observing an increase in the importance of this concept, both on the level of theory and practice. It is worth emphasizing that making efforts to build a brand is not a manifestation of current fashion, but has a much deeper cause. Some of them are in the organization itself, the others are penetrating from the changes taking place in the near or distant surroundings of the organization. The strongest impact on the increase in the interest of the employer branding organization are the changes taking place in the demographic sphere, i.e. the low birth rate, which results in the "contraction" of employees' potential on the labor market. This is both a quantitative and a qualitative aspect, for example, specialists are more and more desirable, being able to participate and implement several different projects in parallel. The need to implement tools in the field of employer brand building is confirmed by numerous studies. D. Brain, President & CEO of Edelman Europe, in the Edelman Trust Barometer report⁸ emphasizes that the importance of reputation is systematically growing as a decisive factor in the interest of potential employees (especially desirable specialists), attracting them to the organization and building trust that strengthens loyalty and allows the retention of employees. Bearing in mind that this is a relatively new concept and is still under development, the authors, based on the available literature, case study analysis and research carried out by research institutions, aim to systematize the knowledge in this area, identify the tools used in employer branding along with the characteristics of different generational groups of employees to whom these tools are addressed. This paper is an attempt to answer the following questions:*

1. What are the conditions for the growth of interest in employer branding in today's organizations?

⁸ This is a project that has been repetitive for 15 years, examining the views of opinion leaders from around the world regarding trust in institutions, companies and the media. The study takes place at the end of each year. For example, in 2007, it was made in 18 countries on a sample of 3,100 respondents (including 150 from Poland).

2. *What characterizes and what are the differences in the system of values, attitudes, behaviors, and needs of employees in the generation cross-section - internal recipients of employer branding activities?*
3. *How to consistently and long-term to build the image of the enterprise as an attractive employer and what benefits can entrepreneurs bring to the implementation of the discussed concept?*
4. *What tools are the most effective for implementing this concept?*

Keywords: *employer branding; new economy; labor market; brand strategy; employer's image.*

Introduction

The functioning of contemporary organizations requires constant activity in the area of permanent monitoring of changes, looking for ways of active respond to them and creating new methods and tools that give an advantage over the competition. In the conditions of the new economy, of which we are participants, the fundamental importance is becoming the competition based on non-material resources, which the central components are employees (Wereda & Kornec, 2017, p.45). Acquiring a valuable employee in the labor market becomes more and more difficult. One of the ways of attracting candidates to work in a contemporary organization is the implementation of the concept of employer branding. In its essence, this term describes all activities that are undertaken by the organization aimed at building the image as an attractive employer targeted at current and potential employees, business partners, clients and other stakeholders (Wereda et al., 2016, pp.27-31). This tool has recently been very popular with organizations that are increasingly interested in building a positive image as an employer. The employer's brand strength determines the institution's ability to attract candidates and retain current employees for a long time.

Employer branding – the essence and premises of the concept development

The concept of *employer branding* was first used in 1990 at a scientific conference organized by the Chartered Institute of Personnel and Development. The precursor of this concept is considered to be Simon Barrow - the author of the book entitled *The employer brand: bringing the best of brand management to people at work* (Barrow & Mosley, 2006). Since then, the topic has been undertaken by many researchers (Backhaus & Tikoo, 2004; Meier, 2006; Rosethorn, Mosley & Schmidt, 2017). In essence, the term "*employer branding*" means all activities that are undertaken by the organization aimed at building the image of an attractive employer targeted at current and potential employees, business partners, clients and other stakeholders. At the same time, the image of the employer (*employer image*) is understood as an image formed in the awareness of current and potential employees based on their personal experience or information reaching potential members of the organization from people already employed (Baruk, 2009). Another research adds that "employer brand is an intangible asset that allows companies to look for motivated and capable employees" (Hillebrandt, 2013). The presented approach shows that the organization's efforts to build a positive image should be carried out in two ways. First of all, they should be directed to currently employed employees (*internal employer branding*) and to people who are outside the formal framework of the organization, creating its external labor market (*external*

employer branding). At this point, a question may arise about the desirability of undertaking actions to build a positive image of the employer, their weight and business justification. Not without significance are such determinants as: a decrease in fertility of families, a higher percentage of people living alone, an increase in the professional activity of women or accompanying integration processes - migration of people (Clarke, 1997, pp.5-7).

This issue has been taken up in the past, including in 1997 by the consulting firm McKinsey's and such researchers as the mentioned ones: Ambler and Barrow (1996), Ewing and Pitt (2002) and Michaels, Jones and Axelrod (2001), who together with their co-workers summarized the picture of changes, distinguishing the characteristics of "old reality" and the current state, focusing on aspects, which increase the role of particularly talented people in organizations (Table 1). As Tanwar and Prasad said, "as in the marketing field, consumers are considered to be "kings", similarly, in HR, employees are considered to be the most crucial asset of an organization" (Tanwar & Prasad, 2017, p. 390).

Table 1. Old and new reality in the era of struggle for talents
(Source: Michaels, Handfield-Jones & Axelrod, 2001, p.6)

Old reality	New reality
1. People need companies.	1. Companies need people.
2. Machines, capital and location are competitive advantages.	2. Talented people are competitive advantages.
3. Possessing better talents stands out.	3. Possessing better talents stands out enormously.
4. Positions are a rare good.	4. Talents are a rare good.
5. The employees are loyal and the positions are safe	5. People are mobile and their involvement is short-term.
6. People accept the standard package that is offered to them.	6. People demand a lot more.

The changes taking place in the demographic profile of the developed world economies we are witnessing mean the aging of societies and, at the same time, a significant reduction in the number of people entering the labor markets, and thus a shortage of employees, especially those with high qualifications and development potential, often referred to as talents. In 2017, the population in Europe was 743,551,000, which means a steady increase, since 1960 (since surveys are carried out) the number was just over 605,000,000. However, since the beginning of the 1970s, the average age of inhabitants increased from 32.6 years to 41.9 today, which from the point of view of the labor market means shortening the period of professional activity. At the same time, the number of urban residents increased from 515,416,422 (71.0%) in 2000 to 553,271,500 (74.4%) in the previous year. The future, however, does not fill such optimism because, according to forecasts, the number of inhabitants will drop systematically (Table 2).

Table 2. Expected population in Europe in 2020-2050
(Source: *populationof.net*, 2018)

Year	Population	Y2Y	Migration	Age mean	Urban population
2020	743,595,000	-88,000 (-0,0%)	855,789	42,3	556,402,500 (74,8%)
2025	741,990,000	-486,000 (-0,1%)	909,864	43,2	563,579,800 (76,0%)
2030	737,814,000	-1,078,000 (-0,2%)	910,865	44	569,319,200 (77,2%)
2035	731,160,000	-1,449,000 (-0,2%)	910,865	44,8	573,456,700 (78,4%)
2040	723,735,000	-1,487,000 (-0,2%)	910,865	45,3	576,880,300 (79,7%)
2045	716,277,000	-1,509,000 (-0,2%)	910,864	45,7	579,701,800 (80,9%)
2050	708,423,000	-1,672,000 (-0,2%)	910,864	45,9	581,592,400 (82,1%)

The research periodically carried out by Manpower Group (in 2010, on a group of 35,000 employers in 36 countries, and in 2018 on a group of 39,195 employers from 42 countries) shows the global staff deficit. Looking from the perspective of today it can be seen that this is a deepening trend (Figure 1).

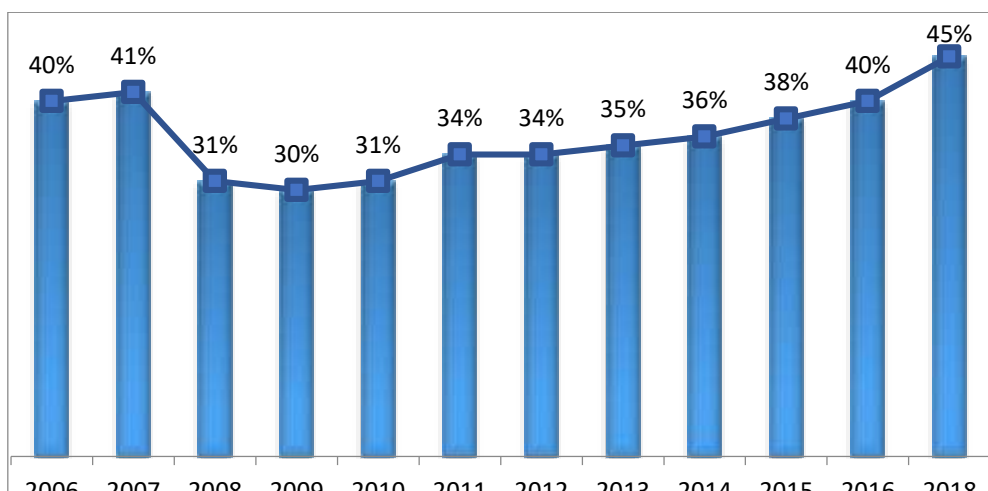


Figure 1. Global talent shortages reach 12-years high
(Source: *Manpower Group*, 2018)

Global results of the "Manpower Talent Shortage" survey from the first quarter of 2018 show that the largest problems with finding the right employees are experienced by companies from Japan (89%), Romania (81%), Taiwan (78%), Hong Kong (76%), Bulgaria (68%) and Turkey (66%) (Table 3). Countries, where employers have the least difficulty finding suitable employees, are China (13%), Ireland (18%), and the United Kingdom (19%) (Manpower Group, 2018). The practice of developed countries (USA, Great Britain or even China) indicates that the problem of gifted people, organization leaders, becomes a great challenge.

Table 3. Countries and Territories Facing Difficulty Hiring
(Source: Manpower Group, 2018)

Least Difficulty		Below Average Difficulty		Above Average Difficulty		Most Difficulty	
China	13%	Australia	34%	Finland	45%	Argentina ↓	52%
Ireland	18%	Brazil ↓	34%	Austria ↑	46%	Slovakia ↑	54%
UK	19%	Belgium	34%	USA	46%	India	56%
Netherlands	24%	Costa Rica	35%	Portugal ↑	46%	Singapore	56%
Spain	24%	Panama	35%	Israel ↓	49%	Greece	61%
Norway	25%	Czech	35%	Mexico ↑	50%	Turkey	66%
France	29%	Republic	37%	Germany	51%	Bulgaria	68%
South Africa	32%	Italy	38%	Hungary ↓	51%	Hong Kong	76%
Switzerland	33%	Guatemala	40%	Poland	51%	Taiwan	78%
		Slovenia	41%			Romania	81%
		Canada	42%			Japan	89%
		Colombia ↓	42%				
		Sweden	43%				
		Peru	44%				
		New Zealand					
↑ Greatest INCREASE since 2016 ↓ Greatest DECREASE since 2016							

According to the conclusions of this study, the "talent mismatch", i.e. the inability to find an employee with the right competence at the right place and time, is a threat to all employers. And today people, more often than finances, and especially the lack of talented staff, become a limitation of development. The facts confirm this thesis. Today, over 60 countries in the world have a negative natural increase (*Lista państw świata według przyrostu naturalnego*, 2018). In addition, the negative tendency deepens the possibility of early retirement. For example, in the United States, every second employee will be able to use this opportunity within the next ten years.

Another type of challenge facing organizations is the retention of already employed people; it is as important as getting a new employee. Most researchers argue that building a brand should start just from the inside of the company due to the fact that it is employees who occupy a very important place in the hierarchy of groups of the subjective environment in the process of creating the company's image (Budzyński, 2002, p.118). Activity in this area consists in ensuring positive feelings of current employees by creating friendly working conditions. The employer should perceive the employees as a subject - addressee of various initiatives undertaken and targeted at them. Only this approach creates circumstances for building bilateral relations between the organization and the employed (Baruk, 2006, pp.31-34). Employees are "company brand ambassadors" and the first recruiters. Surveys conducted in Poland show that in the situation of the strengthening employee market, the level of voluntary rotation in 2016 was 10.8%, which means that every 10th of employees left the company at own request (Antal, 2016). As Work Service points out, if employers fought for employees, it would be less probable they leave (Work Service, 2017). Meanwhile, apart from large companies, most do nothing or almost nothing. What's more, 8 out of 10 employers do not take rotation-limiting measures at all. Only 15% of companies are prepared for it.

Programs preventing employee departures can be found mainly in large companies (41.6%), employing over 250 people, and only sporadically they exist in small enterprises (10%). And the companies losing experienced employees who worked great results and had a big impact on productivity, suffer large measurable losses. Even the loss of a short-term employee (less than 12 months) is associated with costs because such a person has never been able to achieve full efficiency and "pay the costs" incurred by the employer in the course of recruitment and training. Proper perception of it by participants of the external and internal labor market, can be treated as a marketing tool, which skillful use may have direct consequences in optimizing external, but also internal relations and affect the results of market activity (Kiriakidou & Millward, 2000, p.50) Another area on which the demographic factor should be considered concerns is the generational change in the labor market is a fundamental change in the system of values, mode of operation and expectations of different generations of employees can be observed, as presented below.

Generations of employees - addressees of employer branding activities

When planning activities in the field of employer branding, one should be aware of the need to match them to a specific target group. Undertaking efforts in this area determines the accuracy of choosing the right communication instrument and the effectiveness of its impact on the employee. The best known in the literature is the division into four groups of generations of employees functioning in contemporary organizations (Marston, 2007):

- *mature*;
- *baby boomers*;
- *generation X*
- *generation Y*.

As the researchers point out (Kozłowski, 2012, p.21]), technological progress means that representatives of the generation named Z and Alfa appear on the labor market, representing new reality, including that in the virtual dimension (Figure 2).

The *mature* generation presented in the picture (people born before the end of World War II) is, in principle, still present on the labor market not larger than 5% of the total employed (Zych, 2011). These employees, who are still active, are characterized by organization, patience, loyalty to the organization, and the work rendered by them is a value for them and at the same time a motivating stimulus. The *baby boomer* generation - that is, the demographic boom which is a consequence of births in 1945-1969, is the most represented group on the modern labor market (in Poland it is about 1/3 of the total employed) - these are people characterized by loyalty and diligence, are considered to be individuals, for whom work is at the center of accepted value systems, even above its own passions, social relations or family. It is the approach to work that is the element that distinguishes this generation of employees from that which followed it, i.e. *generation X*. The term itself has come into common use for literature in the field of psychology and sociology.

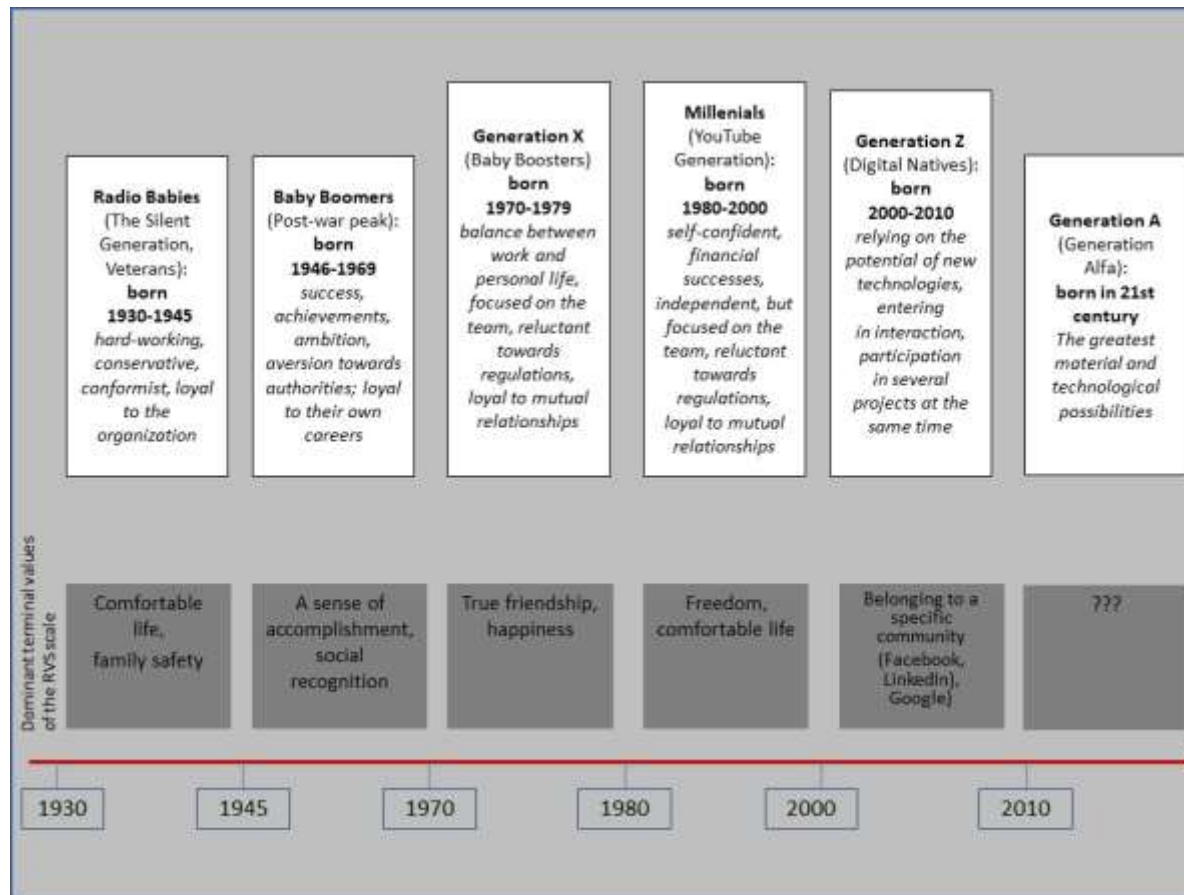


Figure 2. The evolution of generations of employees and their values

Source: own study based on Robbins (2004, p.44), Kozłowski (2012, pp. 22-29), Wereda and Domanska-Szaruga (2015, pp.89-90)

Representatives of the X generation grew during the period of major political, social and economic transformations. They were accompanied, among others the destruction of the Berlin Wall, the collapse of communism in Central and Eastern Europe, the collapse of the USSR, the transformation of a centrally controlled economy into a free market economy. The last mentioned element is important from the point of view of employees because it determined new conditions in the labor market. As researchers note, it was typical for this group to struggle with the problems of finding a place for themselves in new circumstances, including the workplace, fears of loneliness and asking questions about the meaning of existence (Coupland, 2015). Another aspect is the fact that the time of growth of these people has become intertwined with the unprecedented rate of technical and technological development, especially the media (first television, then the Internet), which quite strongly create an attitude of consumption and promote certain patterns of life from western countries.

The turn of the 70s and 80s of the last century is the time when the next generation, called *generation Y*, is born. Because its representatives started to enter the labor market at the turn of the century, they are often referred to as *millennials* (*YouTube generation*). However, as Kozłowski argues, no date of birth determines the belonging to this generation, and the possibilities and conditions of the environment in which the process of their preparation to enter the labor market progressed (Kozłowski, 2012). It is worth emphasizing that this is the first generation, whose representatives are very similar to each other in many countries in the world; this is the effect of the opening of national borders, the consequence of which is the liberalization of the movement of employees and the development of communication technology. This generation is sometimes referred to as "*digital natives*" because they value the possibility of choice and flexibility both in the professional and private life. Millennials are constantly looking for ways to improve the impracticality of *baby boomers* and the lack of discipline in the generation of *baby boosters* (Grudzewski et al., 2010, pp.23-24).

The element distinguishing the *generation Y* from the subsequent *generation Z* is, above all, the incomparable ease of access to sources of information provided by the development of the ICT network, on the one hand, and the diversity of tools for transmitting and receiving information. Internet access is possible thanks to such resources as notebook, tablet, smartphone or iPad, not just a computer. The consequence of these possibilities is to significantly shorten access time or interact with others. Therefore, the *Z generation* is able to drink tea with friends, watch television in parallel, write text messages, chat and participate in online betting. This way of functioning in the environment determines particular preferences in the way work is provided. The need to enter into continuous interaction means that participation in several projects at the same time will be a challenging task for them.

The last of the generations presented - *generation A (or alpha)*, that is born in the 21st century, will function in an environment that will probably provide the greatest technological opportunities. Today, it is difficult to precisely indicate the values that *alpha* will follow, because the conditions in which they grow are constantly shaped by the influence of many factors, both predictable and unpredictable.

According to Deloitte's research, in the next 10 years, the *Y generation* will be 75% of the world's workforce, i.e. the majority. But employers will struggle not only with employing the young generation but also will have to find themselves in the

management of employees representing the *X generation* or people 50+. It is important that the EB tools used are appropriately tailored to a specific group of employees in such a way that they reflect the values, attitudes, behaviors, and expectations that they share. This determines the effectiveness of the efforts undertaken and the effectiveness of activities in this field (Deloitte, 2014).

Strategic building of the employer's brand with the use of selected employer branding tools

In recent years, the organization has been systematically growing in the awareness of the need to manage its brand. At the same time, operating entities are no longer about accidental, one-off or short-term actions. They are increasingly interested in programs that are carefully thought out and developed as part of the employer branding strategy, entered and resulting from personnel and marketing strategies. Activities in this field cannot be increased when searching for a candidate and reduced when it is found. Nor can it mean increased activity only for the advancement of the recruitment process. It must mean a series of consistent and long-term activities including:

- external and internal analysis of the employer's brand;
- analysis of the company's development trends;
- definition of the most important target groups;
- analysis of competition image activities;
- working out Employer Value Proposition (EVP) of the employer's brand, i.e. the declaration of why being an employee of this organization is better than employment in other companies;
- preparation of communication strategy based on the EVP brand of the employer;
- selection of strategic tools and communication channels;
- selection of performance measures;
- evaluation and improvement of the strategy (Macnar, 2016).

When it comes to the market for tools that can be used as part of the employer branding strategy, it should be noted that it is quite rich. Various forms of company presentations are available, which currently include both the virtual environment (online activity) and off-line environment. The employer should perceive employees as a subject - addressee of various initiatives undertaken and targeted at them. Only this approach creates circumstances for building bilateral relations between the organization and the employed (Baruk, 2006, pp.31-34).

From the point of view of image, it is important that an organization that declares itself as one that bases its competitiveness on human capital, which determines the ability to multiply knowledge capital and gives an opportunity to use the possibilities of the environment, systematically invests in it (Cielemęcki & Bombiak, 2016, p.142). According to the researchers, this is a frequent argument deciding about the employee's stay in the organization, and its lack is a frequent reason for rotation (Kozłowski, 2012, p.69). At present, the practice often used by employers is to integrate the career planning system with the image campaign. By offering consulting, mentoring, coaching, conducting assessment interviews, keeping records of successors and various types of training, they are perceived better than those who do not have a career management system developed and this is also one of the elements of the strategy of building a good opinion about the employer, remaining in the strict connection with other tools, e.g.

motivating. The best emphasize the self-development of employees, e.g. Google uses so-called model 70/20/10, in which each employee devotes 10% of one's time to training, 20% to develop own ideas, and 70% for the rest of the tasks outsourced by the company, which means that employees can feel an important part of the company and to follow its progress (bRenewal, 2017).

Transformations on the labor market, where it is increasingly difficult to find specialists, opening national borders, causing employee outflow, and a change in the approach to managing people - exert an increasingly stronger influence on the transformation of remuneration instruments. The review of the allowances used for the basic benefit shows that the most frequently used are: training, additional medical care, subsidies for holidays, free childcare, pension plans, life insurance (bRenewal, 2017). Companies are also increasingly implementing the so-called retention programs. These are extensive financial, social and professional benefits that an employee can receive if they stay in the company for a certain period of time. Such activities were once called "golden handcuffs", because their main goal is to design a package of benefits of work so that the employee would not be profitable to leave the company (*Wyzwania dla firm: jak zatrzymać cennego pracownika*, 2018).

It is also worth mentioning the so-called hygienic motivators in the work environment, i.e. those whose implementation does not significantly affect the increase of motivation, but their lack may contribute to a significant extent to its decline, i.e. a designated place where employees can eat, showers, air conditioning, and workplace ergonomics. According to CBRE's "How do we want to work?" A survey conducted in 2015 among corporate employees in Poland, the most important is the ability to influence the work and the company, but also the environment: temperature, noise, and amount of light, surroundings, choice of colleagues, and adaptation to the task, mood or time (CBRE, 2017). More and more companies, for these reasons, opt for smart offices, where employees choose their own place and way of work. The global Google tycoon (currently the highest rated brand) assumes that if employees spend most of their day at work, they should feel at home. The standard at company headquarters is, for example, slides between floors, a free canteen, swimming pools, and relaxation tubs. At first glance, these issues may seem secondary; it is worth quoting Polnord's research results here. It turns out that the average employee spends 73,920 hours at work, which is the equivalent of 40 years of age. It is hardly surprising that for 84.7% of surveyed office workers the immediate working environment is of great importance (*O czym marzą pracownicy polskich biurowców – sonda*, 2012). In turn, from the research of the social networking service StackOverflow, it appears that there is a positive correlation between job satisfaction and performance in an attractive office building (*Employer Branding – budowanie wizerunku firmy*, 2013).

As for the activities carried out within the framework of external branding, all activities in this field can be divided into two categories: image and recruitment. Initiatives mentioned in the first area are to serve primarily to raise the awareness of potential recipients about the organization itself and the profits associated with its functioning. In the process of building the brand, employers play an important role today in modern technologies and on-line tools. They include (*Sprawdzone narzędzia Employer Branding*, 2018):

- The professional career page has an attractive and trustworthy look as well as updated, interestingly presented information.

- Recruitment announcement;
- Internet search engines and SEO - as part of SEM (Search Engine Marketing) and SEO (Search Engine Optimization);
- Social Media - both those related to professionals (Goldenline, LinkedIn) and mass media (Facebook, Twitter) are an excellent form for EB activities.
- Professional recruitment films, company blogs, interactive games, newsletters, chats as well as online (virtual) job fairs.

In addition to the contemporary tools presented, there are several traditional (outside the network) forms of image building. They should not be deprecated and treated as ineffective because they have an asset that distinguishes them from on-line instruments, namely they offer the possibility of building direct interactions on the candidate-employer line. They include:

- A stationary job fair - a perfect form of building relationships with candidates is a stationary job fair, usually organized by Academic Career Bureaus (ABK) or student associations. The candidate can directly talk to the recruiter or employees of a given company, what is more, the direct form of contact raises more confidence in the company.
- Open Doors / Open Days in companies - events of this type allow you to familiarize with the specificity of the company live, directly at its headquarters/branch, you can learn about its structure, employees, and recruitment needs. All this will allow verifying your knowledge and ideas about the company in which one would like to work.

Shares at universities - the company's active presence at universities usually brings very good results. However, it requires systematic and long-term actions. The standard promotion tools at universities are all types of leaflets, brochures, posters and so on (Siwka, 2012).

Building a positive image of the employer on the example of ING Bank Śląski in Poland - a case study⁹

ING Bank Śląski belongs to the international ING Group. As part of the ING Bank Śląski group, it undertakes a number of activities aimed at shaping a positive image of the company as an employer. In 2017, ING won the Top Employer title for the eighth time¹⁰. In the seventh edition of the survey in 2017, "The most desirable employer in the opinion of specialists and managers" implemented in Poland by Antal in the banking industry took first place (23% of responses from respondents) distancing competition. The second in the ranking PKO BP bank was indicated only by 9% of respondents (PulshR, 2017). In 2016, it won the 4th place in the Employer of the Year 2016 ranking organized by AIESEC.

2016 marked the beginning of a new philosophy of image building. Until then, each of the Group's companies had separate employer branding activities. In 2016, the ING Group came out with the initiative of selecting a global Employer Value Proposition (EVP) based on shared organizational values and culture. As it results from the adopted

⁹ Own study based on *ING Bank Śląski Report* (2017).

¹⁰ The award is granted by the Top Employers Institute - an independent international organization.

sustainable development strategy, initiatives aimed at two target groups: professionals and students have been undertaken within the framework of the external branding of the employer. These for people with extensive professional experience included: participation in job fairs, development of a new employer profile on job offer portals, communication with candidates via social media platforms, such as LinkedIn, Facebook, Twitter, Instagram, YouTube and ING Community. Noteworthy is the WWW website, which allows applicants to apply. This process is preceded by a short psychological test that checks the characteristics of a potential employee.

The company undertakes activities dedicated to people entering the labor market (students and graduates); is present at universities, where career zones are organized, a series of workshops and substantive trainings for students, cooperates with scientific circles, student organizations and local governments of selected universities. It regularly organizes the Ambassador Program, which is a form of cooperation between ING Bank Śląski S.A. and university environments across Poland. ING student ambassadors cooperate with the bank in building the bank's image as an attractive employer at selected universities. Ambassadors operate under the mentoring of bank employees, offering support for learning ING and shaping career paths.

It is worth noting that activities aimed at creating such working conditions take into account the changing needs of employees. For example, since 2012, the bank has been running a program that allows employees to accumulate additional capital for retirement. Over 60 percent of employed have already joined it. The company constantly improves the tools and ways to provide information within the organization. The starting points are always regular meetings. Key information is also sent to employees via e-mails, in the form of news on the Intranet's main page and on the pages of the internal newspaper. Once a year, employees at all levels use the Annual Conversation - a tool that allows you to manage your own career, build a development path, increase your own effectiveness and gain motivation. Employees have the opportunity to regularly express their opinion on their work in an anonymous study of organizational culture. In 2016, 85 percent of employees took part in it.

ING Bank Śląski operates in accordance with the principle of "matching office", which consists of the division of space into zones for work, concentration, meetings, conceptual tasks and rest. Such an organization of space favors the exchange of ideas as well as informal and formal conversations. Available to the teams are design tables, meeting rooms and chill out. They are arranged in a new way, allowing easy formation into teams without changing the arrangement of the rooms. The surface is equipped with walls for writing and magnetic boards. Complementary for teams working in various places (Warsaw-Katowice) are videoconferences, enabling constant contact.

One of the clear trends in banking is co-creating new products and services together with customers. To realize this, the so-called LAB surface - open space with separate work areas for smaller teams. These areas were arranged in such a way that, depending on the intensity of work, there was a free opportunity to divide and separate from other users. Available to the teams are design tables, open meeting places and lockable rooms for loud work. Supplementing the basic function is a training space, equipped with multimedia equipment and a dedicated kitchen zone. The hybrid work model is conducive to both mobility and direct contact. Employees spend part of the day in different, sometimes away from the company places. This model is supported by

modern telecommunications and IT technology. For this reason, standard desks take up less space in a modern space arrangement. In the space created thanks to this, we can arrange, for example, additional meeting rooms.

Conclusions

Shaping the image of an attractive employer in a conscious manner has become a priority activity of the organization over the past years, wishing to attract and then maintain the best specialists on the market. As researchers note "(...) nowadays, the employer brand is a valuable intangible source of sustainable competitive advantages for the firm not only to recruit the best applicants from the external market but also to engage and retain talents inside" (Kuchеров & Samokish 2016, p.29). However, this cannot be an ad hoc effort, once in a way that is not coordinated with other activities. As the research results show, companies that operate in the manner described above and, for example, use only a few selected tools, do not achieve the expected benefits, which is manifested by high internal rotation or low brand assessment by the external environment. A case study of ING Bank Śląski, winner of many competitions for the best employers in Poland, confirms that building a coherent and positive image of the employer both inside and outside the organization requires that these efforts are considered important enough not to be left only on a declarative level. It should take a formal framework and be included in the organization's strategy. Such an approach testifies to the maturity of thinking and awareness of the importance of employer branding among the company's managers. It increases the chances of success in building a strong organization brand. The presented case study showing the actions taken by ING Bank Śląski, one of the leaders in the rankings of the best employers in Poland, allows the development of a set of potential tools for creating the employer's image, applicable to various organizational conditions.

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COMMUNICATION STYLE - MIRROR OF AN INDIVIDUAL'S BEHAVIOR**Norina POPOVICI**

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Abstract. *In order to build our own future, we need to know ourselves better. In order to get rid of stress and feelings of helplessness, it is important to realize that the problems are not from the outside, not the others are to blame. Things we strongly believe have a significant impact on us. Our beliefs about our own person, about the world, about others, about our life perspectives - all our thoughts have an enormous impact on the man we become. The image we have of ourselves, of the others and of the surrounding world influences our behavior. There is a direct link between the style of communication and the effects we have on the sometimes positive, sometimes negative ones. Transactional Analysis is both a theory of communication and human personality. It is the analysis of the verbal and nonverbal messages exchanged on the communication process. It has evolved over the past decades, providing support in psychotherapy, personal development, education, management, marketing, sales, negotiation and communication in organizations. The "way of being" of individuals is observed in their behavior and in their style of communication. We analyzed the communication style predominant among the students at the Faculty of Economic Sciences at the "Ovidius" University of Constanta, a style of communication that reflects their dominant behavior. For this purpose, we used the questionnaire written by Julie Hay. Based on the questionnaires we analyzed, we selected 5 groups of 5 questions to see what motivates students in our university about their habits and self-confidence: the firmness with which they deal with those around them; the rationality they demonstrate in critical moments; obedience to others; the compassion it manifests; the attitude of giving orders. As a result of the analysis of these questionnaires, we noticed that the media of communication styles is attributed to an individual who has the predominant style of communication and behavior - the state of the Free Child, followed at very small differences by Adult and Careful Parent states. This means that predominantly university students predominate in their amiable and unstable attitude, the students being very relaxed, but also spontaneous and uninhibited, energetic and unguarded, predominantly predominant behavior in the first year of college. Likewise, this student also has the attitude of "here and now", but always carefully and caring about those around him.*

Keywords: *communication style; behavior; confidence; habits; transactional.*

Introduction

In order to build our own future, we need to know ourselves better. In order to get rid of stress and feelings of helplessness, it is important to acknowledge that problems do not come from the outside and that the others are not to blame.

The things we strongly believe in have a significant impact on us. Our beliefs about our own person, about the world, about the others, about our life perspectives – all our thoughts have an enormous impact on the person we become. The image we have of ourselves, of the others and of the surrounding world influences our behavior. There is a direct connection between the communication style and the effects we have on the people around us, which are sometimes positive and sometimes negative (Agabrian, 2008).

Each of us should propose, in the morning, in front of the mirror, to be the best version of ourselves every day. We need to be aware that every unfavorable situation we are going through has an equivalent or even a greater benefit.

The individuals' "way of being" is noticed in their behavior and in their communication style. We have analyzed the communication style that predominates among the students of the Faculty of Economic Sciences at the "Ovidius" University of Constanta, a communication style that reflects their dominant behavior.

Communication is the most valuable tool of today's leaders. The difference between a good and an excellent leader is given by the attitude wherewith s/he faces possible obstacles. An excellent leader is the one who creates leaders, while a weak leader creates executives (Ziglar, 2008).

Positive and realistic self-esteem develops the ability to make responsible decisions and the ability to cope with day-to-day pressures (Canfield & Hansen, 2012).

Transactional Analysis and the Ego States

In the last decades, transactional analysis has evolved, providing dedicated support in psychotherapy, personal development, education, management, marketing, sales, negotiation and communication across organizations (Popescu, 2001).

Transactional Analysis is both a theory of communication and human personality. Knowing and, above all, understanding the concepts and tools of transactional analysis means better self-knowledge, but also a better knowledge of others, as well as an effective tool for improving inter- and intra-personal communication.

Transactional analysis is, in fact, the analysis of verbal and non-verbal messages that underlie the communication process. From the point of view of transactional analysis, communication can be two-fold: explicit - it is carried out at a single personality level; complex - explicit and implicit, carried out at multiple personality levels (Navarro, 2014).

We are born with a "clean hardware" and in childhood, we begin to register, without discernment, most of the information we come into contact with. Through our senses, we experience life, but above all, we record what our parents tell us, then what the teachers tell us at school, and what all those labeled by our mind as "authorities" tell us. Later, with the aging process, although our mind filter develops, we remain with the same "habit" of taking "for granted" a lot of information provided by so-called "experts" in different areas. Being presented as "experts", we rarely question the information they hold. At some point, they no longer devote time to update the information they have. Over time, the information we receive turns into beliefs, convictions and/ or prejudices. The older we get, they get roots in our mind and turn it into a prison. This is how we become prisoners of our own mind, and the "escape" is far more complicated than we think at the first glance, because, according to Einstein, "It is easier to disintegrate an atom than a prejudice".

Human beings are not born with prejudices; there is no chromosome or gene that determines a person's bias level. People acquire prejudices from their parents at a very early age, and ultimately they incorporate them into their psychic structure and script, through frequent modeling, assignment, and guidelines (Shimoff & Kline, 2013).

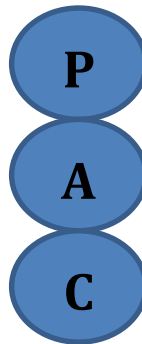


Figure 1. Ego states: Parent, Adult, Child

(Source: author's personal processing after de Graaf & Kunst, 2010, p.56)

The "ego state" is the fundamental concept of transactional analysis. It is defined as "a certain" way of being, "a coherent system of thoughts and feelings manifested by an appropriate pattern of behavior (and thus the way it communicates)" (RTAA, 2006). An individual's behavior is reflected by the way s/he communicates. Each ego state has a negative and a positive component. Somebody's personality, his/ her psychic structure is "compressed into the ego state" or into the three "ways of being", i.e. Parent, Adult, Child.

Child

The Child ego state responds exactly as the person responded when s/he was a child, at a certain age. It is characterized by the expression of emotions, thoughts, and behavior similar to childhood: spontaneity, bursting into laughter/ crying, curiosity, wailing, enthusiasm, pain, frustration.

This ego state is divided into the following components:

Adaptive Child:

- when s/he complies with the limits imposed by the society, s/he is "good" (+)

- lacks courage; s/he accepts unfavorable situations, only not to upset the others (-)
- Free (natural) Child:
- spontaneous and creative (+)
 - s/he does what s/he wants, without worrying about the others (-)

Adult

The ego state wherewith the person objectively appreciates/ assesses the environment and calculates possibilities and probabilities based on his/her previous experience is called the Adult ego state. It manifests itself when we make real decisions and it is characterized by thoughts, feelings, concrete behaviors such as "here and now". When we are in this state, we do not have value judgments, nor do we relive past feelings, but we are just logical and rational in order to solve present problems.

Parent

When this ego state is active, the person responds exactly as one of his/her parents did, and even when the person does not openly manifest this ego state, it acts as a Parental influence, fulfilling the functions of consciousness. Our conception of everything that surrounds us is strongly influenced by childhood experiences, which we later associate with our Parent state. We are in this state when we feel, think, and act as the important people around us (parents, educators). The comparisons we make are based on the standards and values, rules and norms used by them. It "expresses the internalization of the behavior of those who took care of us" (de Graaf & Kunst, 2010, pg. 57) during the period when we were most easily influenced.

The Critical Parent:

- Fixes boundaries and provides a structure, a safe framework (+)
- Excessively critical and domineering, imposes restrictions and always manifests dissatisfaction (-)

The Nurturing Parent:

- Make us protectors, able to give people compliments and attention (+)
- Makes us too concerned with people or too indulgent, more than the other needs (-)

In a healthy communication process, all ego states are used flexibly and interchangeably, in order to communicate effectively with the other persons (goal-oriented, with the Adult on demand).

When communicating, at least two persons are present. The communication process seen through transactional analysis is, in fact, an exchange (a stimulus and a response) between the ego state of two interlocutors. An individual's action and the other's response constitute a transaction. There are three types of transactions, accompanied by rules:

The communication process is continuous when transactions are complementary. This means that one interlocutor addresses a certain state of the other, and the second responds from that exact state. This communication type generates satisfaction. For example, a student asks his/her teacher: "When can we discuss the concerns about my work?" In this case, s/he uses his/her adult state and addresses the teacher's Adult state.

The teacher also responds to the Adult state: "I cannot tell you the exact time. I do not have my agenda". The two can then set their appointment based on both agendas.

The communication process is disrupted when one of the interlocutors responds from a different ego state than the one to whom the stimulus was addressed, with a cross-transaction. In such communication, exchanges are shorter. For example, the student who used the Adult state in order to get an appointment with the teacher may receive another answer: "This is the fourth time you get stuck in this work!" These words, the tone and even the expression of the teacher's face reveal that s/he spoke from the Critical Parent state. In response, the student's Adaptive Child will react, and s/he will say in a toneless and apologetic voice, "I'm sorry, but I really do not understand how to do it". This type of transaction interrupts the conversation or leads it to another level; thus, these elements are used in order to guide the conversation.

Hidden transactions have psychological (non-verbal) effects. These transactions take place differently at each of the three levels, i.e. social, verbal and the psychological. For example: When the course begins, the teacher asks, "Have you read all the materials that I sent you, Ana?" Apparently, the teacher wants a piece of information, but whoever is careful is clearly hearing the Critical Parent from his/her question. Without stating it clearly, the teacher actually says: "I guess you're as unprepared as the last time". Ana answers both the expression in the teacher's eyes and the tone of his/her words, as an Adaptive Child: "Eh, what do you mean? Of course, I will present my work properly, you know that!" The teacher can then clarify: "No, wait, I just wanted to make sure you got your training right!" However, this is not totally true. A hidden transaction can cause many misunderstandings during the communication process, which may be conscious or unconscious. This transaction is used, most often, in psychological games or in manipulating the interlocutor. Non-verbal messages, transmitted at the psychological level, are predominant in the communication process.

The Egogram at Ovidius University of Constanta

Using the questionnaire drawn up by Julie Hay, attached in Appendix 1, we wanted to see and analyze the predominant communication style among the students from the Faculty of Economic Sciences, the Ovidius University of Constanta, which reflects their dominant behavior. This questionnaire was filled in by 150 students, from different years of study and from different specializations.

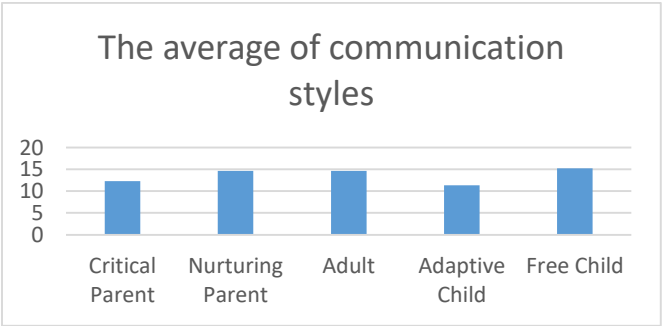


Figure 2. Average of the communication styles
(Source: personal questionnaire processing - Excel EGOGRAM)

After analyzing these questionnaires, we noticed that the average of the communication styles is attributed to an individual whose predominant communication and behavior style is represented by the Free Child state, closely followed by the Adult state and by the Nurturing Parent state. This means that, as far as university students are concerned, their amused and unstable attitude predominates, the students being very relaxed, but also spontaneous and uninhibited, energetic and uncontrollable; this behavior predominates especially in the first year of study. Likewise, these students exhibit the attitude of "here and now", but are always careful and caring about those around them (Keller, 2012).

By analyzing the 150 questionnaires individually, we noticed that only 2% of the analyzed students display the Adaptive Child state, as the dominant ego state. This means that 3 out of the 150 students display an obedient, shameful and sad attitude; sometimes they have a defiant tone because their motto is "I cannot do it". This result seems encouraging.

12 students, i.e. 8% of the total number of students, display the dominant communication style of the Critical Parent. These are students who criticize, who display an authoritative attitude, point their finger at "the guilty" and use a firm tone. They believe that "must" is a lifestyle and orientate their lives according to "what they should do".

16% of the 150 students are characterized by the Nurturing Parent's approach. These 24 students are generous, understanding, caring. They have an indulgent, gentle tone, being always those who provide moral support. They are always nice and kind to those around them, smiling at all times.

35 of the 150 students are predominantly in the Adult state, which means that they often make decisions based on present reasoning, without considering previous experiences. They are always very attentive and have a precise tone, indicating the interest in present and correct actions.

24% of the analyzed students display the communicative style of the Free Child, which has been discussed earlier. This means that almost a quarter of the total number of students manifest their genuine emotions, have an open attitude, are energetic, relaxed, and curious. 47 students make the noise that teachers complain about and show interest in what they are passionate about.

The remaining 29 students did not describe a single dominant behavior style, adopting different ego states in different situations.

Correlations between the elements of the questionnaire

Based on the questionnaires analyzed in the previous chapter, we selected 5 groups of 5 questions each, in order to reveal what motivates the students in our university in terms of their habits and self-confidence:

- The firmness wherewith they deal with those around them.
- The rationality they demonstrate in critical moments.
- Obedience to others.
- The compassion they manifest.

- The attitude of giving orders.

Table 1 reveals some correlations between the statements "I firmly tell people how to behave" and "People do what I say", which means that the 150 students display this attitude towards the others because the environment in which they carry out their activity accepts this. "I firmly tell people how to behave because they do what I say". Instead, the calm attitude in crisis situations, the systematic and logical working style does not make students firm in the attitude they adopt.

Table 1. Group correlations 1 (Source: personal questionnaire processing)

	I firmly tell people how to behave.	I can keep calm in a crisis situation.	My working style is systematic and logical.	People complain that I behave like a boss.	People do what I say.
I firmly tell people how to behave.	1				
I can keep calm in a crisis situation.	0.013448	1			
My working style is systematic and logical.	0.129364	0.29855	1		
People complain that I behave like a boss.	0.238888	-0.07111	-0.03846	1	
People do what I say.	0.341471	0.089513	0.097471	0.299891	1

Table 2. Group Correlations 2 (Source: personal questionnaire processing)

	I have the tendency to weigh things rationally before acting.	I like to solve problems systematically and logically.	I am not afraid to tell people what I feel.	I ask many questions, so I am curious.	I am appreciated for my calm attitude and my observations are judicious.
I have the tendency to weigh things rationally before acting.	1				
I like to solve problems systematically and logically.	0.394265	1			
I am not afraid to tell people what I feel.	0.102851	0.223247	1		
I ask many questions, so I am curious.	0.01619	0.085885	0.321691	1	
I am appreciated for my calm attitude and my observations are judicious.	0.147586	0.20356	0.059066	0.051128	1

Table 2 shows that the students who weigh things rationally before acting do so because they are happy to solve problems systematically and logically. Curiosity does not cause them to act rationally; on the contrary, there is no correlation between these two statements. The appreciation of those around them for their calm attitude and judicious reasoning motivates them very little to think rationally before acting.

Table 3 shows that the students in our university do not accept the others' "orders" because they want to be with other people; because they are too emotional or because they always wait for directions, they accept too easily what they are told.

Table 3. Group correlations 3 (Source: personal questionnaire processing)

	I do what I am told.	I like to be with other people.	Compared to others, I am too emotional.	I expect my boss to tell me what I have to do and how to do it.	I accept too easily what others want.
I do what I am told.	1				
I like to be with other people.	0.005402	1			
Compared to others, I am too emotional.	0.227093	0.106505	1		
I expect my boss to tell me what I have to do and how to do it.	0.234262	0.042289	0.332558	1	
I accept too easily what others want.	0.31607	0.142317	0.341564	0.20843	1

Table 4. Group correlations 4 (Source: personal questionnaire processing)

	I sympathize with people who have problems.	When we have a new colleague, I try as much as I can to show him/her all she needs to know.	I worry too much about people.	I stimulate people to test their own capacities.	I took care even of people who could manage by themselves.
I sympathize with people who have problems.	1				
When we have a new colleague, I try as much as I can to show him/her all she needs to know.	0.114102	1			
I worry too much about people.	0.43949	0.23161	1		
I stimulate people to test their own capacities.	0.137693	0.310805	0.075029	1	

	I sympathize with people who have problems.	When we have a new colleague, I try as much as I can to show him/her all she needs to know.	I worry too much about people.	I stimulate people to test their own capacities.	I took care even of people who could manage by themselves.
I took care even of people who could manage by themselves.	0.243341	0.093854	0.219866	0.122298	1

Because they care for others, students are compassionate with those around them, and there is a direct correlation between these two statements, as shown in Table 4. However, when they have a new colleague and they should help him/her, they do not strive to do this, for fear that someone knows more or that someone can take their place.

Table 5. Group correlations 5 (Source: personal questionnaire processing)

	I tell people what to do.	When I know that I am right, I insist that the others listen to me.	I am very passionate about my work.	People say that I am creative and inventive.	I rather take the control than being led by others.
I tell people what to do.	1				
When I know that I am right, I insist that the others listen to me.	0.185351	1			
I am very passionate about my work.	-0.14301	0.100468	1		
People say that I am creative and inventive.	0.229581	0.113722	0.02248	1	
I rather take the control than being led by others.	0.209232	0.197852	-0.04392	0.190217	1

Table 5 shows that students prefer to be decision-makers and not be led by others; that is why they often tell people what to do. When the enthusiasm for their activity grows, the desire to give orders decreases, and when they receive praise for their creativity and inventiveness, they feel justified to show people the "correct way."

Conclusions

"To be nobody but yourself in a world which is doing its best, night and day, to make you everybody else - means to fight the hardest battle which any human being can fight; and never stop fighting".

People hear 1% of what you say and 99% of what they are interested in. Many people have the impression that they communicate, but, in fact, they do not. Real communication can only exist between two or more authentic people who leave the masks aside and let the message be transmitted from the essence of their own being and receive the others' message in the depths of their being.

Communication is not just about what we are saying; it is far from it. What we say comes from what we are. Authentic communication is all we need. We only need to express ourselves, and what we say is a flimsy part of this self-expression.

"We become what we think we will become". When we are convinced that we can reach a goal, we begin to work towards it.

Perception is the process through which we understand the environment and respond to it by extracting the information that corresponds to our reference system, filtering what does not fit. The opinions built without facts or before knowing the facts are nothing but prejudices. Deductions and assumptions occur throughout the perception process and overcome gross information; they guide us and influence our behavior, rely on previous (cognitive) perceptions and information and sometimes lead to deformations and imprecision (Mucchielli, 2014).

Praise and criticism are two ways of giving feedback in teaching. It is very important for a teacher to be an example for his/her students and help them develop and find their own way. A brief remark from a professor, whom s/he respects, can convince a student of the skills s/he has (Pease & Pease, 2013).

In everyday life, people listen to less than 25% of the spoken messages that they receive. Immediately after receiving the message, a normal listener remembers only 50% of the received information, and 48 hours later s/he retains only 25% of the incoming messages in the active memory.

A person's life consists of 18-year cycles. In each cycle, certain characteristic needs are met. If at the respective time the need that had to be met was not met, this need will be fulfilled in the next training cycle, during the same period (current age - 18 years = the training stage period).

The students' average communication style (i.e. the students' predominant communication style) is represented by the Free Child state, followed closely by the Adult and the Nurturing Parent state. This means that among our university students, an amused and unstable attitude predominates, the students being very relaxed, but also spontaneous and disinhibited, energetic and uncontrollable; this predominant behavior is manifested especially in the first year of study. Likewise, these students also display the attitude of "here and now", but they are always careful and caring about those around them.

Only 2% of the analyzed students display as dominant ego state, the Adaptive Child state. This means that 3 out of the 150 students display a submissive and shameful attitude; they are sad and sometimes they have a defiant tone because their motto is "I cannot do it" – which is an encouraging result.

We think that there should be more creative and inventive students, more Free Children, with a positive attitude towards everything that surrounds us. We believe that 47 students display a predominantly communicative style – the Free Child; however, these are too few for a balanced university system. In most cases, the educational system restricts, limits the students' ability to manifest themselves as they wish. This situation teaches students to observe some rules, to be rewarded with grades for their intelligence, not for their creativity. We believe that emotional intelligence is poorly developed in the current educational system, and this situation cannot entail the formation and training of excellent leaders.

The students in our university do not accept the others' "orders" because they want to be with other people, but because they are too emotional. They accept too easily what they are told, and they always wait for directions.

According to Aristotle "We are what we do repeatedly. Excellency is therefore not an act but a habit."

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UNDERSTANDING THE RELATIONSHIP BETWEEN TECHNOSTRESS, JOB DESIGN AND EMPLOYEE ENGAGEMENT FROM THE NIGERIAN BANKING EMPLOYEES PERSPECTIVE

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Abstract. No doubt, information technology has provided the banking sectors with the capability to provide speedy and reliable banking services. However, ICT is believed to be a two-edged sword which offers tremendous benefits to the organization and also responsible for inducing stress amongst employees. This type of stress is referred to as technostress. Technology has created a knowledge gap for employees because of task reengineering, increased workload, multi-tasking, work-family conflict. Researches have demonstrated that technostress can affect an employee's performances, job satisfaction, and organizational commitment. However, the relationship between technostress job design and employee engagement has not been examined. Using the job characteristic model and social exchange theory this present study has examined the relationship between technostress, job design, and employee engagement. Data was collected from 319 individuals working in the Nigerian commercial banks and data was analyzed using smart PLS. The result indicated that job design has a significant influence on technostress, and technostress has a significant influence on employee engagement. Contrary to our proposed negative relationship based on job design, employee engagement and stress literature in which negative relationship is expected between job design and stress, stress and engagement, the result of this study revealed a positive relationship between job design and technostress is an indication that job design alone may not be able to moderate the effect of technostress if technological elements of job design is not addressed. While technostress does not necessarily reduce employee engagement but a moderate level of stress can serve as a motivator while extreme stress can demotivate employee. Additionally, the result of the study shows a positive relationship between job design and employee engagement and technostress mediates the relationship between job design and employee engagement.

Keywords: *Technostress; Job Design; Employee Engagement; Information Technology; Banks.*

Introduction

Today's business atmosphere is incredibly dynamic and has undergone fast changes as a result of technological innovation. Particularly the banking industry of the twenty-first century operates in an exceedingly complicated and competitive atmosphere characterized by these ever-changing conditions and extremely unpredictable financial climate. The application of technological innovation in the services and operations of banks has become an issue of fundamental importance and prerequisite for global competitiveness (Oluwagbemi, Abah & Achimugu, 2011). Despite the advantages of using technology, scholars believed that technology is a double-edged sword because it is responsible for inducing stress in the lives of its users (Tarafdar, Bolman Pullins & Ragu-Nathan, 2014). This kind of stress is referred to as technostress a kind of stress that is caused as a result of the inability of employees to cope with the use of technology in a healthy manner (Ayyagari, Grover & Purvis, 2011). A growing body of organizational researches has been concerned about identifying precursors and effects of technostress on employees and organizations. Already published studies have shown that technostress can affect employees job satisfaction, performance, organizational commitment and employee intention to extend the use of ICTs. (Ayyagari, Grover & Purvis, 2011; Tarafdar et al., 2014; Ahmad, Amin & Ismail, 2009).

Nevertheless, numerous researches have investigated technostress in several contexts, some studies (Tarafdar et al., 2014; Fieseler et al., 2014; Weiner Maier, Laumer & Weitzel, 2014; Kumar et al., 2013; Rajput et al., 2011;) have examined the impact of technostress on professionals (supply chain managers, IT professionals, sales, etc.) Telemedicine (Yan, Lee & Vogel, 2013) and on Smartphones. there is a limited study on technostress in Nigeria, particularly in the commercial banking sector. Likewise, previous researches have mainly focused on a few causes and effect of technostress, nevertheless, they have neglected the effect of job design on the perception of technostress. The nature of Job design and characteristic can determine employees' stress level (Jacobs et al., 2014), thus, it is vital to examine how job design can collectively influence technostress amongst banking employees in Nigeria. Giving the competitive nature of the banking industry in Nigeria, new technology-based products and services are constantly created. Furthermore, the effect of technostress on employees' engagement has not been examined, past researches have shown that stress can affect an employee's engagement. This gap limited our understanding of the causes and effect of technostress on employees and organizations. Understanding the relationship between job design employee engagement and technostress would provide a more practical intervention and strategies to alleviate the impact of technostress on employee engagement. To fill these gaps this study has integrated job design and employee engagement into the technostress research model. Job design represents organizational-based factors that influence technostress and employee engagement. Next we present our literature review, structural model and hypothesis, sample, methods and results, and lastly, conclude with theoretical and practical implications of our findings.

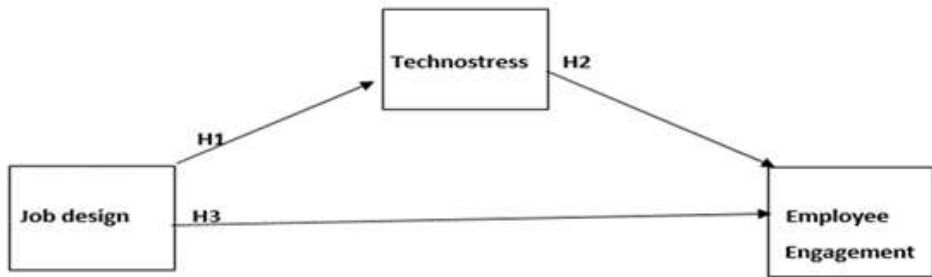


Figure 1. Research model

Literature review

Technostress

The terminology technostress was first used by Brod, (1984, p.16). He defined technostress "a modern disease of adaptation caused by an inability to cope with the new computer technologies in a healthy manner". Accordingly, Arnetz and Wiholm (1997) referred to technostress as "a state of arousal" prominent in employees who depend on computers for their routine task. Although prior researches on stress concentrated on the physical consequences technostress in organizations, such as fatigue, irritability headache, and restlessness (Arnett & Wiholm, 1997). While the current research has concentrated on the psychological states that create technostress by differentiating between the causes of stress (stressors) and the outcome of stress (strain) (Suh & Lee, 2017). The technostress model is composed of the five technostress creating conditions. Foremost, is "Techno-overload" "that portrays circumstances whereby utilization of ICTs increases employee's workload and compel them to work faster (Suh & Lee, 2017). Attempting to accomplish additional in less time, and encountering pressure and nervousness. Techno-overload can be seen in multi-tasking, especially in the banking job, were employees utilizes a variety of banking application simultaneously.

Second is "Techno-invasion" that depicts circumstances in which employees can presumably be reached anywhere and no matter the time and feel they must be continually connected (Tarafdar et al 2015) especially in baking were employees email official are connected to employees' mobile phones. It also connotes a situation in which working hours spills into an individual personal time because of persistent availableness, which results in work-family conflict (Tarafdar, Tu, Ragu-Nathan & Ragu-Nathan, 2011).

The third is "Techno-complexity", a complex system is a system with high functionalities, and the higher the functionalities, the higher the level of technostress. Techno-complexity portrays circumstances whereby ICT sophistication compels banking employees to invest time and energy in learning and re-learning how to utilize new banking applications. Employees may perceive the assortment of functions and application complex and be exhausting to grasp, and therefore feel stressed (Tarafdar et al., 2011). The fourth is "Techno-insecurity" that rises in circumstances wherever workers feel destabilized by the fear of losing their jobs to people who have a superior comprehension of latest Technology. Techno-insecurity is (Tarafdar et al., 2011). Last of

all is "Techno-uncertainty" that alludes to settings whereby constant changes and upgrades of Information technology and applications do not permit employees or users to accumulate knowledge and expertise for a particular system or application. They consider this unsettling because their skills and knowledge will become obsolete because of the technological pace of change result in frustration and perceived inability to cope thereby resulting in fear of been replaced (Tarafdar et al., 2011).

Job design and technostress

Job design in the context of this study is based on the Job Characteristics Model (JCM) by Hackman and Oldham (1980) which propounded the five essential job characteristics that motivate employees. These characteristics include; firstly, task variety, which is described as the degree to which a task involves a variety of skills to be accomplished or the extent expected an individual perform multiple functions. For instance, a bank teller job requires varieties of skills, because they provide banking services such as receipt and payment of cash, selling bank drafts, traveler's checks, attending customers inquires, booking of investments and loans. The second is task identity, is the extent to which an individual can start and complete a task individually, for example resolving a customer's complaint. Third is task significance, it the level of impact a job has on the lives of people. Employees may find fulfillment from their jobs when it changes or improves the wellbeing of others e.g. when a bank offer approves loans for small business and the recipients are able to grow their businesses and improve their living standard. Fourth is task autonomy, is the degree to which an employee can make decisions on how they want to perform their task. Task autonomy is often very low in banking jobs because various transactions need to go through oversights to prevent fraud and financial losses. Lastly is task feedback, it is the extent to extent to which an employee receives accurate and timely information regarding their task performance.

Furthering the thought on the relationship between job design and technostress, these five basic components of job design are expected to elevate positive attitudinal and behavioral outcomes. An employee with a low level of any of the above-mentioned job design characteristic is more likely to experience misfit between them and their job which can lead to technostress, thus affecting employee job satisfaction vice versa. For instance, the Humphrey et al. (2007) meta-investigation demonstrated that job characteristics (e.g., autonomy, working conditions, feedback, task identity,) were associated negatively and in a direct manner to the results of stress and fatigue. These outcomes propose that working under poor conditions and on job low on the motivational attributes can antagonistically affect worker psychological well-being. (Alam Sageer, 2012). In other words, lack of autonomy, skill variety, task significance, task identity, task feedback can amplify the perception of technostress. Giving the nature and structure of banking task, there is limited, task identity, task autonomy, were a single employee is not allowed to initiate and complete without going through the process of verification by various line officers through technology interdependency. thus, the sense of task identity is not present. This situation may amplify the perception of technostress amongst employees. Therefore, we proposed that following hypothesis:

H1 Job design is negatively associated with technostress

Technostress and employee engagement

The variable employee engagement was at first defined by Kahn (1990) "the harnessing of organizational members 'selves to their work roles" (p.694). What is central in Kahn's (1990) viewpoint is the measure of vitality and sense of commitment that employees have for work, and the manner in which they are heterogeneously actuated, amid such a setting, employee who is engaged is vigorously and viably associated with their work, as they are physical, psychologically and sincerely involved (Tims, Bakker & Derks, 2013). On the other hand, disengaged employees are emotionally separated with work and associates and even physically less involved" (Truss et al., 2013). In this present study employee engagement is based on Saks (2006) components of employee engagement. Accordingly, Saks (2006) divided employee engagement into job engagement and organizations engagement. Furthering the thought on the relationship between technostress and employee engagement Researches Kahn (1990) proposed emotional, physical and psychological resources are an essential precondition for engaging at work. This implies that is those physical and emotional resources can be depleted due to technostress, that means employees may become disengaged. Contrarily, disengaged employees detach themselves from work physically and withdraw emotionally and cognitively and resulting weak role performance and effortless, robotic task performance behaviors (Ongori & Agolla, 2008). Therefore, we argue that technostress is theoretically related to employee engagement. Stress literature commonly proposed a negative relationship between work-related stress and employee engagement (Velnampy & Aravinthan, 2013) which imply an excessive level of technostress decreases employee engagement. Therefore, we hypothesized as follows:

H2 Technostress is negatively related to employee engagement

Job design and employee engagement

According to Michael Armstrong (2003), "Job Design is the process of deciding on the contents of a job in terms of its duties and responsibilities, on the methods to be used in carrying out the job, in terms of techniques, systems and procedures, and on the relationships, that should exist between the job holder and his superior subordinates and colleagues. Job design in this present study is conceptualized based on the Job Characteristics Model (JCM) proposed by Hackman and Oldham (1980). JCM Posit that a job should contain the five job characteristics which include task feedback, job autonomy, skill variety, task identity, task significance and skill variety. Supporting the thought on the relationship between job design and employee engagement Prominent scholars of employee engagement literature has emphasized the role of job design in promoting employee engagement. For instance, Kahn's theory of engagement (1990) is derived from Hackman and Oldham's theory (1980) that characteristics of jobs affect an employee's attitudes and behaviors. Kahn (1990) argued that the nature of job design precondition for the extent to which employees would engage with their work. In associate anthropology study, he found that once individuals were doing work that was difficult and varied, they were a lot of probably to be engaged (Shantz, Alfes, Truss & Soane, 2013). Similarly, Bakker and Demerouti's (2007) job-demands-resources (JDR) model additionally highlights the importance of job design in creating engagement. Predominantly, the model argued that organizational, physical and social facets of a job may be associated with engagement. This because jobs design can result of the

availability of job resources that can buffer excessive work demands, thereby enhancing the achievement of organizational goals, and encouraging personal development and learning (Bakker & Demerouti 2007). The relationship between job design and employee engagement is supported by the social exchange theory. According to the social exchange theory, the relationship between an organization is based on the exchange rules (Shantz et al., 2013). An organization can only get what it gives, that is to say, when a job is enriched with job autonomy, task feedback skill variety, task significance and task identity, employees will reciprocate in form of job and organizational engagement. Therefore, our third hypothesis is as follows;

H3 Job design is positively related to employee engagement

The mediating effect of Technostress on Job design and employee engagement

In other, for scholars to test for mediating the relationship between independent and dependent variables, it requires three criteria (Alias, Noor & Hassan, 2014). Firstly, there ought to be a direct association between the independent variable and the dependent variable, secondly a directed association between the independent variable and the mediating variable and thirdly a direct association between the mediating variable and the dependent variables (Alias, Noor and Hassan, 2014). Drawing from the first criteria, it has been established that job design is positively related to employee engagement, the meta-analysis by Humphrey et al. (2007) and a study by Saks (2006) both found a positive relationship between the five facet of job design, Job autonomy, task feedback, task significance, skill variety and task identity and employee engagement. More recently, the study by Shantz, Alfes, Truss and Soane (2013) revealed that employees whose jobs offer high levels of task variety, autonomy, task feedback significance are more likely to be highly engaged. Also considering the second criteria, on the relationship between technostress and employee engagement, a study by Alarcon and Edwards (2011) engaged employees generally gain sufficient job resources. Abundant resources can reduce stress brought by job demands, which is negatively related to job satisfaction. Lastly based on the third criteria, on the relationship between job design and technostress, recent studies by Suh and Lee (2017) revealed that job characteristic jointly induces technostress. Thus, the fourth hypothesis is formulated as follows:

H4. The relationship between job design and employee engagement is mediated by technostress

Methods

Measures

This study adopted existing validated scales. All items were measured on a five-point Likert scales, that ranges from "strongly disagree to strongly agree". The independent variable in this study is job design (skill variety, task identity, task significance, task feedback and job autonomy) was measured by 15 items adapted from Pee and Lee (2015) as unidimensional. To measure the mediating variable technostress, three out of the five dimensions was selected (techno-overload, techno-complexity and techno-invasion) and was measured by 14 items adapted from Tarafdar, Pullins and Ragu-Nathan (2014) as unidimensional. Lastly, the dependent variable employee engagement

was measured by 11 items adapted from Saks (2006) measuring job engagement and organizational engagement. All dimension was combined and measured as unidimensional to provide the greatest basis for theory and construct validation test. (Smith, McCarthy & Zapolski, 2009) Likewise, it increases the precision of the understanding of the phenomenon of technostress and its relationship with Job design and employee engagement. Smart PLS 3 was utilized for data analysis because of its ability to measure complex model.

Data collection

The data for this study was collected from 319 front desk employees working in Nigerian commercial banks. A self-administered questionnaire was used and data was collected within the space of 5 months. A total of 400 questionnaires was distributed only 338 questionnaires was retrieved and 19 questionnaires were removed because of the error of omission.

Result and analysis

Data were analyzed using the partial least square (PLS) technique of analysis (Hair et al., 2016) to test the research Model. PLS is a second-generation SEM technique that can be used to estimate loadings of indicators on the constructs and the casual connections between constructs in a complex model. Accordingly, in comparison with the SEM techniques, PLS can be used to measure small samples (Hair et al., 2016) which is the case in this study that is why PLS was considered.

Measures reliability and validity

Confirmatory Factor analysis (CFA) was used to examine the reliability and validity of the measures adopted from the literature. The result's given in Table 1. To examine the reliability of the measure, we utilized the inter-item consistency reliability of the Cronbach's alpha. the worth ranges from 0.847 to 0.872 which is above the specified threshold 0.7 suggested by Nunnally and Bernstein (1994). Furthermore, convergent validity that demonstrates the extent to which the multiple efforts to measure a related concept ought to be connected was conjointly examined. Hair et al. (2012), suggested that composite reliability, factor loading and average variance extracted should be utilized to examine the convergent validity. Composite reliability ranges between 899 to 918 that is on top of the counsellor price of zero.7 by Hair et al. (2010). The loading for all the indicator exceeded the suggested value of 0.6 (Chin et al., 1997). the average variance extracted, that the overall quantity of variance among the indications ranges from 506 to 528 which within the specified threshold value of 0.5 by Hair et al. (2010). to boot, discriminant validity is examined by comparison the squared correlations between constructs and variance extracted constructs (Fornell & Larcker, 1981). As given in Table two, the square correlation for individual construct is smaller than the average variance extracted by the indicators measuring the construct, that indicates adequate discriminant validity.

Table 1. The Result of CFA for measure model

Construct	Item	Internal reliability Cronbach's alpha	Factor loading	Convergent validity composite reliability	Average Variance extracted
Employee engagement	EE-JOB_5	0.860	0.714	0.891	0.506
	EE-ORG_6		0.643		
	EE-ORG_7		0.763		
	EE-ORG_9		0.798		
	EE-OR_10		0.699		
	EE-OR_11		0.715		
	EE=ORG_8		0.694		
	EE_JOB_3		0.654		
Job Design	JD-JA_1	0.872	0.711	0.899	0.528
	JD-JA_2		0.750		
	JD-JA_3		0.687		
	JD-SV_2		0.742		
	JD-SV_3		0.710		
	JD-TI_1		0.788		
	JD-TI_2		0.663		
	JD-TI_3		0.752		
Technostress	TS_1	0.847	0.791	0.884	0.522
	TS_3		0.794		
	TS_4		0.659		
	TS_5		0.732		
	TS_6		0.639		
	TS_7		0.754		
	TS_9		0.673		

Note: A Composite reliability = (square of the summation of the factor loadings) / {(square of the summation of the factor loadings) + (square of the summation of the error variances)}
 b Composite reliability = (summation of the square of the factor loadings) / {(summation of the square of the factor loadings) + (summation of the error variances)}

Table 2. Discriminant validity of constructs

	Employee engagement	Job design	Technostress
Employee Engagement	0.712		
Job Design	0.725	0.726	
Technostress	0.542	0.516	0.723

Note: the figures highlighted represents the average variance extracted while the other entries represent the squared correlations.

Table 2 presents the result of the discriminant validity. We utilized the two test for discriminate validity. Firstly, the contrast of the item loadings with items Crosses loading and the comparison of average variance extract. Each item should load higher on its intended construct than on the lower construct (Hair et al., 2015). We found that all our items satisfied this conditions (see table 2 and 1) Secondly, constructs variance extracted or shared variance between the constructs and the items should be greater than the shared variance amongst the construct and other constructs. This was measured by equating the square root of the construct's average variance extracted (AVE) to its connection with other constructs. For each construct, result established that the square root of the AVE is significantly larger than its correlation with other constructs (see table 1). Thus discriminate validity is established.

PLS structural model

Model fit

Having established the discriminant and convergent validity of the constructs, we verified the overall structural model. Generally, our proposed model has a good fit for the data. The result is presented in Table 3.

Table 3. Model Fit indices

Fit Index	Study	Recommended value	Source
SRMR	0.9	≥ 0.10 or of 0.08	Hu and Bentler, 1999)
d_ULS	2.5	≥ 0.05	Dijkstra and Henseler (2016)
d_G1	0.1	> 0.05	Dijkstra and Henseler (2016)
d_G2	0.1	> 0.05	Dijkstra and Henseler (2016)
Chi-Square	2.294		
NFI	0.6	≥ 0.9	Dijkstra and Henseler (2016)

Table 3 showcases the model fit index. There are numerous tests of model fit. When conducting a model fits test, it is important to define the approximate model. The only approximate model fits measure by PLS path modelling is that the standard root of mean square residual (SRMR) and NFI The SRMR is represented the dissimilarities between the experiential correlation and the model inferred matrix. SRMR price of under zero.10 or of 0.08 is considered as a good fit (Hu & Bentler, 1999). In this present study, the SRMR value is 0.09 and NFI 0.5. Thus, the model fit has been established.

Structural Model Result

The overall structural model of the was measured by calculating the extent of variance explained by the independent variable and the altitudes of the strength of its paths and the extent of correspondence of each of our hypothesis to a specific structural model path. We used the R^2 to measure the model exploratory ability. Synonymous with the description of the regression analysis, the variation is anticipated to exceed 10% to qualify for an experimental study. The result confirmed that the independent variable explained above 20% variance. Has specified in table 5, employee engagement $R^2 = 0.564$ and Technostress $R^2 = 0.265$ demonstrate that Job design explains a substantial sum of the variance in technostress and employee engagement. Thus, this result offers a support for H1, H2 and H3 (See table 4).

Table 4. Path coefficient Result

	Mean	STDEV	T-Value	P-Value
Job design-> Employee engagement	0.608	044	13,950	0.000
Job design -> Technostress	0.517	046	11,137	0.000
Technostress -> Employee engagement	233	049	4,700	0.000

Table 4 presents the synopsis of the path relationship in the model. The relationship between job design and employee engagement is highly significant, the mean value = 0.608 and t-value =13,950. Thus hypothesis 1 is supported. Additionally, there is a significant relationship between job design and technostress, the mean value is = 0.517 and t-value =11,137, therefore, providing support for hypothesis 2. Lastly, the relationship between technostress and employee engagement is significant, the mean score =233 and t-value= 4,700, hence hypothesis 3 is supported.

Table 5. Indirect effect

	Mean	STDEV	T-value	P-value
Job design-> technostress -> employee engagement	0.120	0.028	4,196	0.000

Table 5 present the result of the indirect effect. The mean score = 120 and the t-value = 4,196, thus mediating effect of technostress on job design and employee engagement is established.

Discussion

The major objective of the study is to examine the how job design (job autonomy, skill variety, task identity, task significance and task feedback) jointly influence banking employees' technostress and engagement and the influence of job design on employee engagement. Researches have shown that Poorly designed job can serve as a source of stress in itself and can influence employee engagement. Additionally, technostress can influence the level of employee engagement, while job design can also influence the level of employee engagement. The findings of the study are as follows.

Firstly, Job design (job autonomy, skill variety, task identity, task significance and task feedback) conjointly explained techno- stressors (sources of strain). Job design had positive significant by increasing technostress instead of reducing the effect of technostress as suggested by job design and stress literature. This result shows curvilinear relationship or inverted "U" between job design and technostress contrary to the dominant trend in the job design and job stress literature and posits a one-way directional relationship in which job design is negatively related to job stress. No doubt, job design is significantly related to technostress and can reduce the impact of technostress on employees. However, job design alone may not be able to mitigate the effect of technostress if the job context or hygiene factors (e.g. banking policies, pay salary, working hours, supervision, and interpersonal relationship) and technological aspect of a job are not addressed. Therefore, management needs to consider sociotechnical elements of job design when redesign task.

Secondly, the result shows that technostress has a strong influence on employee engagement. According to work stress and employee engagement literature, work stress is negatively related to employee engagement. The result of this study is contrary to the theorized relationship. The result reflected a positive relationship between technostress and employee engagement. This means the outcome of technostress or stress most not necessarily be negative. The presence of stress could serve as a motivating factor. This is supported by Yerkes-Dodson law proposes that the height of performance is attained when people experience a moderate level of work pressure. Similarly, Schmitt et al.

(2016), based on the activation theory, submit that time pressure and work engagement have a curvilinear relationship. This is also an indication that banking employees in Nigeria are exceedingly engaged or they are stressed-engaged employees. On the other hand, it can be said that because banking employees are exceedingly engaged they find it easy to cope technostress. The engaged employee often gains more job resources, which help them to overcome stress on the (Schaufeli & Bakker, 2004).

Thirdly, hypothesis 3 which proposes a positive relationship between job design and employee engagement is highly significant and supported, the mean value = 0.608 and t-value = 13.950. This finding is consistent with the findings of previous studies on job design and employee. Past researches on engagement have shown that employees whose possess high task autonomy, task significance, task identity, task feedback and skill variety are more engaged (Shantz et al., 2013).

Practical implication

The first practical implication of this study is that organizations and management should note that despite all the advantages associated to the use of technology in workplaces, technology could induce stress in the lives of employees, which can affect performance. The first practical implication of the present study is the importance of Job design (task feedback, job autonomy task identity, skill variety and task significance in alleviating the impact of technostress on employees, however, the present findings may be of particular interest to practitioners given that we found a positive relationship between job design and technostress. The result shows that job design alone may not be able to mitigate the effect of technostress if the job context is or hygiene factors (e.g. banking policies, pay salary, working hours, supervision, interpersonal relationship) and socio-technological aspects (Task-technological interdependency, system failure and poor IT infrastructure) is not addressed. Thus, management and practitioners should always consider the socio-technical (social and technical) aspect of job design.

The second practical implications of this study are that management should make employee engagement one of its top priorities because employee engagement is related to various organizational outcomes. Employee engagement can assist employees to deal with stress brought about by excessive job demand. Even though we proposed a negative relationship between technostress and employee engagement in line with the proposition by stress and engagement literature, our result revealed a positive relationship between technostress and employee engagement contrary to the negative relationship posit by stress and engagement. It shows that the outcomes of technostress may not always be negative if employees are highly engaged. According to the Yerkes-Dodson law state that the height of performance is attained when people experience a moderate level of work pressure Nevertheless, a low and very high level of time pressure de-motivates workers from work (Schmitt et al., 2015). Likewise, job design is an essential element of ensuring employee engagement. Therefore, management should ensure that jobs are designed based on the five core job characteristics.

Implications for research

Our studies contribute to technostress studies in two essential ways, first we examine for the first time the job design as an antecedent of technostress combining the five job characteristics proposed by Hackman and Oldham into a single model, shows that autonomy, skill variety, task identity, task significance and task feedback are positively

related to technostress, unlike Suh and Lee (2017) who utilized selected job characteristic and measure with selected technology characteristics instead of technostress. Second, our study examined for the first time the relationship between technostress and employee engagement and we adopted the unidimensional approach to measuring employee engagement importantly to provide the greatest basis for theory and construct validation test. (Smith, McCarthy & Zapolski, 2009) Likewise, it increases the precision of the understanding of the phenomenon of employee engagement and its relationship with technostress.

Limitations and future research

Despite the intriguing finding of our study, parallel to other studies in this area (Suh & Lee, 2017; Tarafdar et al., 2015; Jena, 2015; Fuglseth & Sørenbø, 2014; Yan et al., 2013; Ayyagari et al., 2011; She et al., 2011). This study used a cross-sectional and self-reported data. This limits the conclusions that we can make about causality and raises concern for common bias. Additionally, there may be sample biases because survey respondents are from Nigerian commercial banks, therefore results may not be generalized across different countries and industries, hence future research can replicate this study in another country and industry using longitudinal study. Future research may also expand the technostress-job design and employee engagement model, by including the social and job context characteristic of job design (e.g. banking policies, career development, working hours, supervision, interpersonal relationship).

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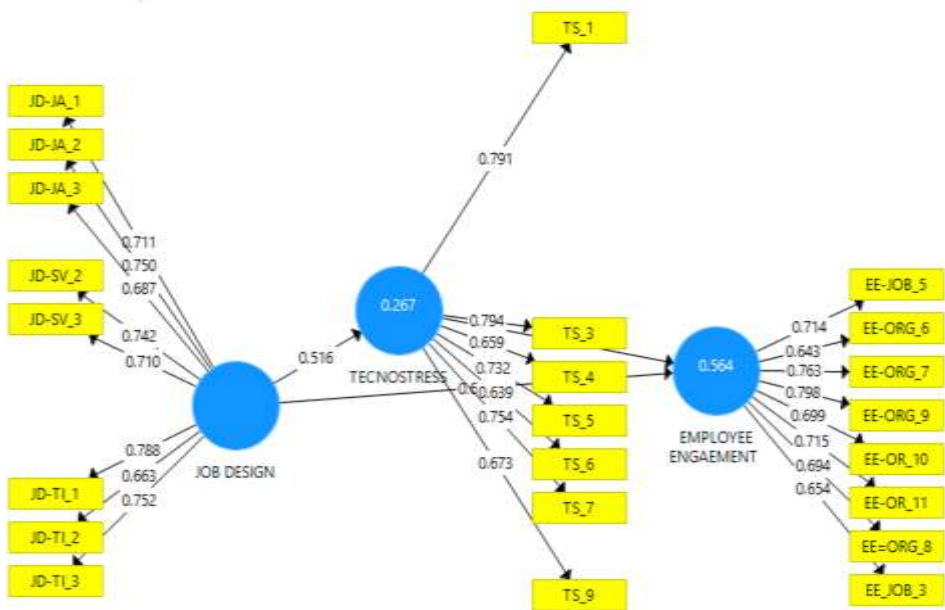
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Appendixes



Path Coefficients

Mean, STDEV, T-Values, P-Values		Confidence Intervals		Confidence Intervals Bias Corrected	
	Original Sampl...	Sample Mean (	Standard Devia...	T Statistics (O...	P Values
JOB DESIGN -> ...	0.607	0.608	0.044	13.950	0.000
JOB DESIGN -> ...	0.516	0.517	0.046	11.137	0.000
TECNOSTRESS ...	0.229	0.233	0.049	4.700	0.000

ALIGNING STRATEGIC HUMAN RESOURCE MANAGEMENT AND ORGANIZATIONAL CULTURE TO ENHANCE ORGANIZATIONAL EXCELLENCE

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Abstract. *This article reveals a conceptual framework about the importance of aligning Strategic Human Resource Management (SHRM) and its impact on organizational learning, as well as organizations culture that proposes some perceptions on how knowledge might occur at the organizational level to improve organizational excellence, i.e. Knowledge Skills and Abilities (KSAs). Research indicates that there are a number of studies that advocate the impact of SHRM and its influence on an organization that enhances an organization's capability and enables them to improve their organizational competency, i.e. excellence. Yet, on that point are some rare linkage between SHRM and sustainable organizational cultural practices that can provide a unique perspective to develop organizations effectiveness and spread out its excellence through prerequisite academic condition, suitable working condition, and potential motivation. Thus, the main aim of this article is to put emphasis on several approaches of organizational culture and strategic HRM, by integrating knowledge from diverse areas of organizational studies including organizational learning, and the distinctive design of human resource practices. In view of literature, this article confers that the best practices for accomplishing and sustaining organizational excellence could be enriched through the organizational culture and academic work experienced in recent years. Finally, this article highlighted on some propositions that nowadays organizations are not only fulfilling the facility and linking functions but also rationalizing academic work in order to sustain their reputation and competitiveness of the organization as a whole that accelerates organizational performance and competitive ability.*

Keywords: *competitiveness; human resources (HR); strategic human resource management (SHRM); organizational culture (OC); organizational excellence.*

Introduction

In order to survive and achieve competitive advantages, nowadays, it is crucial to all organizations to be in a position to innovate and integrate the new knowledge that enables them to ensure sustainability of organizational learning through aligning organizational culture and performance development. Today, the strategic part of HRM practices, perceptions as well as organizational work culture which was integrated within the organization stated that the success of the organizational performance lied in developing positive attitudes of individuals, groups, and organizations that mainly enhanced individual competence as well organizational competence through organizational learning. Moreover, currently, organizations realize the significance of strategic HRM to build strong technical infrastructures along with strong organizational culture (which could be bureaucratic, competitive and supportive). As it facilitates the retrieval and dissemination of knowledge especially where human resources are responsible for empowering the effect of recent trends in organizations and protecting against the unwanted effects of globalization. Hence, both the approaches of organizational capacity development strategy, i.e. Strategic Human Resource Management (SHRM) and organizational culture have been viewed as a new perspective of enhancing organizational performance to sustain in long-run as well as to meet some of the global challenges.

The contemporary issue on strategic human resource management and organizational culture's positive effect of organizations excellence presents the general framework of the aforementioned research work. It begins with the theoretical basis for the development of a strategic HRM and strategic culture. Consequently, to address the debated issue, it is mandatory to highlight that since the beginning of 1980's, it has been observed that Human Resource (HR) experts (both the academic and professional) have been always under stress to augment on how to increase the competitive capacity of their organizations. In this circumstance, it also emphasizes the importance of increasing a strong culture within the organization which enables to enhance the organization's competitive strategy. Similarly, research also shows that during this transition period in the development of knowledge, the way by which those who possess this knowledge, i.e. employees are achieved can be considered as an important source of competitive advantage. Alternative, it can be said that strategic human resource management and organizational culture plays a vital role to heighten and maintain the level of performance and excellence of an organization. As, in today's competitive environment, organizational competency is continuously reflected on organization's culture and its HR practices, both of which influence the behavior of organizational members (Cabrera & Bonache, 1999, p.52). Relating to this issue, Chowa and Liu (2009) stated that organizational culture is one of the most vital aspects of the internal organizational environment that has a great influence on human resource management practices and its strategic activities. Similarly, several researchers (Yeung, Brockbank & Ulrich, 1991; Cabrera & Bonache, 1999) also emphasized that organizational culture is concerned with the symbols, rituals, social patterns and shared understanding of the employees that govern employee's individual as well as group behavior within the organization, which reflects on organizations competitiveness.

Consequently, to discourse the interdisciplinary discussions and considerations on the varied suitable ways for enhancing businesses, organizations competitive advantages, the European Commission (EC) took the initiative on investing in people and modernizing labor markets, as well as investing in knowledge and innovation and considered them as the most priority areas for the renewed Lisbon Strategy for Growth and Jobs in the EU market (European Commission, 2008). Where, significant efforts have been made to transform the global economy towards more knowledge intensive activities, in order to strengthen the single market, increase job mobility, reinforce education and training, and incentivize more private, investment in research and innovation Accordingly, in 2005 the Commission adopted the European Charter for Researchers and a Code of Conduct for the Recruitment of Researchers (European Communities, 2005) setting out the roles and responsibilities of employees (researchers) and their employers and investors, and ways to make recruitment fairer and more transparent. Being conscious of this new perspective of enhancing the European charter and Code (C&C), many organizations realize the relevance of strategic HRM to build technological infrastructures and organizational culture that allow them to reposition and attract talented researchers for the dissemination of knowledge. Where HR is responsible for empowering the effect of recent trends in organizations and shielding them against the unwanted effects. Hence, SHRM is viewed as an eminent approach to meet the global challenges.

Therefore, aligning the importance of SHRM in relation to organizational culture and organizational performance development is noteworthy in this growing research interest in the field of organizational capacity development, i.e. organizational excellence. Its growth is being inhibited by rapid contextualization of HRM, its diverse inherent values, assumptions, devotions, and philosophies which are taken to ensure granted as an essential aspect of an organization to boost the level of its performance. Research shows, that in spite of, growing research interest in the crucial arena of strategic human resource management (SHRM), the understanding of the relationship between HR, appropriate organizational culture and business strategy is still very limited and not much effective in reality. For example, it can be stated that how organizational culture and HR practices strategic activities can be aligned? How do they combine to strengthen an organization's competitive advantage? In this paper, this study reveals two aspects to organize the philosophy and concept of SHRM, i.e. underlying the significance of implementing C&C's principle and enhancing the organizational performance as well as accomplishing the organizational excellence through organizational learning. It introduces the notion of the organizational learning process and offers some insights into how learning might occur at the organizational level in order to enhance organizational competency. On the other hand, it includes all the aspects of people management and process which can provide organizations effectiveness and enhance organization's performance through the right people, culture and leadership, i.e. (changes in academic work, changes in recruitment, employment and working conditions, and academics' perceptions of their professional), the right organization design, concept to adopt change management and appropriate working conditions, i.e. (Performance-driven organization) and the right people processes for capability development, i.e. (employees' are potentially motivate).

Theoretical perspective of strategic human resource management (SHRM) approach

To address the consequence of SHRM in a research organization, it is obligatory to emphasize that currently organizations' have to face always competitive challenges and turn them into organizations opportunities. Henceforth, the human resource management function is expected to design, tailor, and implement efficient systems to help internal employees' positive operational strategic actions. In this perspective, the function of human resource management acts as a service provider having an effective toolbox to support other managers and help them to attain their objectives in line with the organizational strategic goals and orientation (Moustaghfir, 2014). According to Dermol and Rakowska, (2014) the concept of SHRM fits well with the conception of HR strategy due to its ability to create long-term value for the research organizations performance development. It tries to highlight that SHRM in an organization facilitates performance development as Storey (2001), identified that HRM is a distinctive approach to employment management which seeks to achieve competitive advantage through the strategic development of a highly committed and capable workforce. Where, they are using an array of cultural, structural and personnel techniques.

Similarly, it is necessary to refer that 'Human resource management' covers a vast array of activities and shows a huge range of variations across occupations, organizational levels, business units, firms, industries and societies' (Boxall, Purcell & Wright, 2007). Boxall discusses that the main characteristics of HRM can be: diverse (hard or soft); strategic; business-oriented; focus on mutuality – a state that exists when management and employees are interdependent and both benefit from this interdependency; take a unitary view – the belief that management and employees share the same concerns and it is therefore in both their interests to work together; treat people as assets or human capital. Furthermore, Su, Wright and Ulrich (2018), emphasized that over the past 20 years, the importance of strategic HRM generating higher organizational performance through better employee management which, has sparked great interest for researchers and managers. From the theoretical perspective of strategic HRM, Walton (1985) and Whitener (2001) represent the activities of human resource management (HRM) approaches can be categorized into two challenging sectors such as commitment and control. Concerning this matter, various scholars have a different opinion. Among them, Lepak et al. (2006), highlighted that the main aims of commitment approaches are to improve organizational performance by influencing employees' knowledge, skills, and abilities (KSAs); motivation; and opportunities to contribute. Whereas, the primary goal of the control approach is to escalate employees' competence as well as their level of performance through their compliance and conformity without alleviating company rules, regulations, and standard operating procedures.

The notion of organizational culture

The concept of organizational culture is not a new approach, it has a long tradition and it has come of age. While speaking about organizational culture, at first we need to know what is meant by culture from the academic perspective point? Precisely, culture can be considered as a "lens" through which we view the world. It depends on individual's observation, i.e. what we see, how we make sense of what we see, how we express ourselves. Moreover, the concept of culture is a long and varied history. Mainly, it has been used by the layman as a word to indicate sophistication. More precisely, can be said

that earlier culture has been used by anthropologists to designate the customs and rituals that societies develop over the course of their history (Schein, 2004, p.7). In the management literature, the existence of culture within the organization has often created some inferences, which shows that having a culture within the organization is necessary for effective organizational performance and that the stronger the culture, the more effective the organization.

The synergetic effect of strategic HRM, organizational culture and organizational excellence

The background of this study draws upon various approaches and concepts concerning the strategic HRM that integrating the significance of Human Resource Strategy for business strategy – a gateway to achieving organizational excellence. Consequently, it is necessary to mention that this concept of enhancing organizational competitive advantage, is one of the most noteworthy initiative of European Commission (EC), under the European Research Area (ERA) in order to make researchers' careers more attractive, i.e.(smart), and increase the job facility, as well as support the mobility of researchers by standardizing the researchers' careers in the EU under one umbrella. Hence research organizations performance development approach includes a strategy and active development attitude to effectively respond to the changes in its external environment. Cascio (2015, p.423) considers that actually strategic human resource management' (SHRM) is the replication of excellent, orientation, and integration of a research organization's HRM system. Where human capital resources can most effectively contribute to its strategic research objectives.

Fumasoli, Goastellec & Kehm (2015) noted that recently a growing diversity has been observed within the academic profession and new professional roles dwelling a space, which is neither positioned in the core business of teaching and research nor at the top level management and leadership. It explores the perceptions of academic staff and representatives of institutional leadership about the variations in academic careers and academic work experienced. Where, they emphasize the importance of standardization and differentiation of academic career paths, impacts of new forms of quality management on academic work, changes in recruitment, employment and working conditions, and academics' perceptions of their professional contexts. Bryson (2004), states that during the 1990's, especially the changes in the Higher Education (HE) organization have been observed profoundly particularly in the UK. The impact of these changes was mainly on the working environment and the employment of academic staff within the organization.

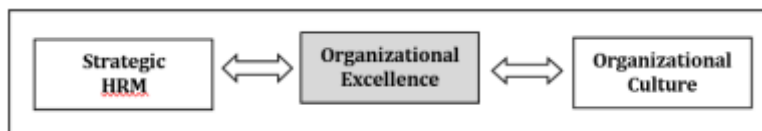


Figure 1. Aligning Strategic HRM and Organizational Culture on Organizational Excellence

To understand the synergetic effect of strategic HRM, organizational culture and organizational excellence, the above-mentioned Figure.1 illustrates the combined effort of organizational culture (OC) and organizational excellence (OE). Concerning this correlation, Qawasmeh, Darqal and Qawasmeh (2013) expressed that organizational culture is one of the most delicate means through which organizations can enhance and

achieve their excellence. In addition, they also emphasized that culture, have a strong influence on organizations overall performance. It doesn't matter whether the culture is strong or weak. Alternatively, organizational excellence is viewed as a continuing effort that all employees within an organization to make efforts to achieve. Therefore, organizational culture plays an important role in promoting organizational performance as well as enhancing organizational competitive capability in order to boost and sustain a long-lasting competitive advantage.

Understanding organizational culture and its relation to strategic HRM

In this changeover condition, the notion of 'human resource management' has become a key aspect of enhancing research organizations competitiveness through aligning organizational culture, which should be an integral factor when considering SHRM. Research shows that the significance of the association of HR along with the organizational culture both act as a source of competitive advantage that enables research organizations to enhance and influence on an organization's development strategy (Harrison & Bazzi, 2017). Moreover, from the scientific perspective point, organizational culture is perceived and considered as a principle that maintaining the connections with the mission, vision and a strategy, of an organization's structure and size, the management's activities, or functions within an organization (Kosiorek & Szczepańska, 2016). Similarly, Gupta (2011), also mentioned that organizational culture has a great influence in creating and maintaining a high performance oriented research organization effectiveness within the same culture and cross cultures.

Consequently, human resource management professionals use the term "strategic human resource management" to convey their thinking that effective strategic HRM contributes to organizations effectiveness. It also indicates the significance of their interrelationships with other elements comprising an organizational system, including elements in the organization's internal and external environment as well as the multiple stakeholders who evaluate the organization's effectiveness and determine its long-term survival (Jackson, Randall & Kaifeng, 2014). Several studies (Schein, 1990; Morris, Davis, & Allen, 1993; Zahra, Hayton & Salvato, 2004) recognized that organization's culture exemplifies the coherent pattern of values and beliefs that has evolved as successful solutions to past challenges. Furthermore, culture represents a significant relative aspect that can foster flexible knowledge-sharing behaviors of the employees within the organization, which is influenced by the strategic aspects of HRM (as cited in Hayton & Macchitella, 2013).

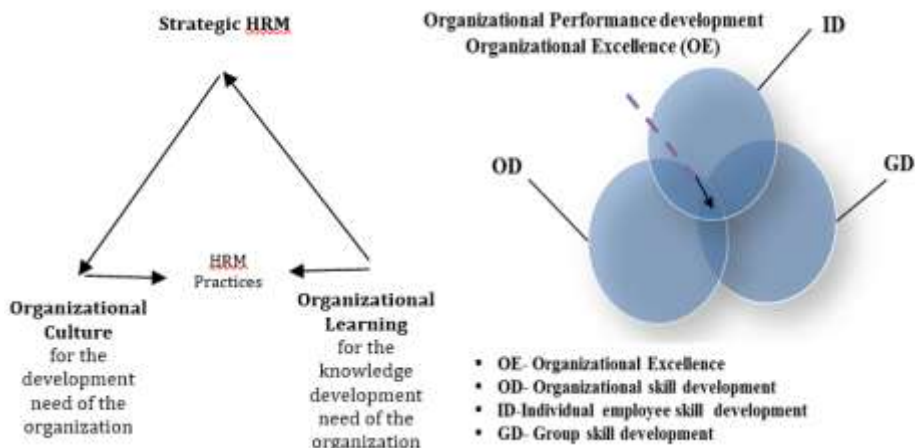


Figure 2. Strategic HRM and Organizational Culture's influence on Organizational Excellence

Figure 2 represents the inter-related effect of strategic HRM, organizational culture and organizational leanings collective strength that enables an organization to strengthen its organizational excellence (OE). It demonstrates that the way an organization can improve its level of performance through organizational skill development (Know-how), individual employee's skill development (human resources development) and group skill development (organizational competence) Concerning this co-relation, Saha et al. (2016) described that organizational performance development in relation with strategic HRM and organizational learning objectives which is the inter-related effect of both individual employee competency (performance) and organizational competency (top and middle management involvement) that leads to develop organizational success and performance indicators for sustainable development of competitive advantage. In spite of these references to a broader understanding about organizational performance in association with the dynamics of the top and middle management, Floyd and Wooldridge (1992) argue that middle management involvement in strategy improves performance by refining the quality of strategic decisions. Where these decisions in combination result in a superior organizational strategy development that empowers organizational performance.

Methodology

This study principally addressed the amalgamation of both empirical evidence and inductive reasoning of strategic HRM and organizational culture. The empirical argument represents the methods of gaining knowledge. Generally, inductive reasoning shows the level of sustenance in the form of probabilistic reasoning and the source of most scientific theories founded on the contemporary approaches of strategic HRM.

Definition of strategic human resource management used in this study

The definition of 'Strategic HRM' has been used in this research based on the impact of human resource management and human resource (HR) practices and its strategic activities, strategic planning, and skills on organizational capacity development. The primary aim of this study is not an examination of different scholar's opinion and disagreeing with the basis of organizational capacity development that has been moved

and examining the comparative relationship from organizational culture and its influence on organizational competitiveness. Where, HR strategies has become the major driving forces of business performance and the process that take into consideration such valuable assets which are managed, developed, and motivate a key core capability. The significances of this study marked the key dimensions and distinctive features of Strategic HRM and Organizational culture approach, its benefits and objectives of organizational learning, strategic HR practices among motivated performance-oriented organizations' different priorities, and characteristics that simplify the sustainable organizational learning and organizational effectiveness.

Results and discussion

This study was steered to describe the potential contribution of strategic HRM and its distinctive features that enable organizations to enhance their competitive capability (individual, group and organizational) and level of performance in relation to the implementation of organizational culture and organizational learning strategies, i.e. (know-what, know-why, know-how, and know-who). Conferring with the findings of evolutionary economics, organizational behavior and HRM literature have generally given a relative perspective to us about the theoretical aspects of SHRM and the key components of organizational culture which have a positive impact on organizational performance development and enhance competitive advantage. The below-mentioned Figure 3 exemplifies that HRM approach as a vital strategic driving force that raises sustainable organizational learning and improves the organizational performance. In addition, the presence of organizational culture components and attributes also enables organizations to meet the recent trends of business, which complement and facilitate the organizational capacity development strategy through active participation or involvement within the organization. Alternatively, strategic human resource management reinforces managerial skills such as individual, group, and organizational competence in an organization through improving organizational learning including individual, group, and organizational learning and human resources development which leads to promoting competitive capability and business growth due to their inherent competences.

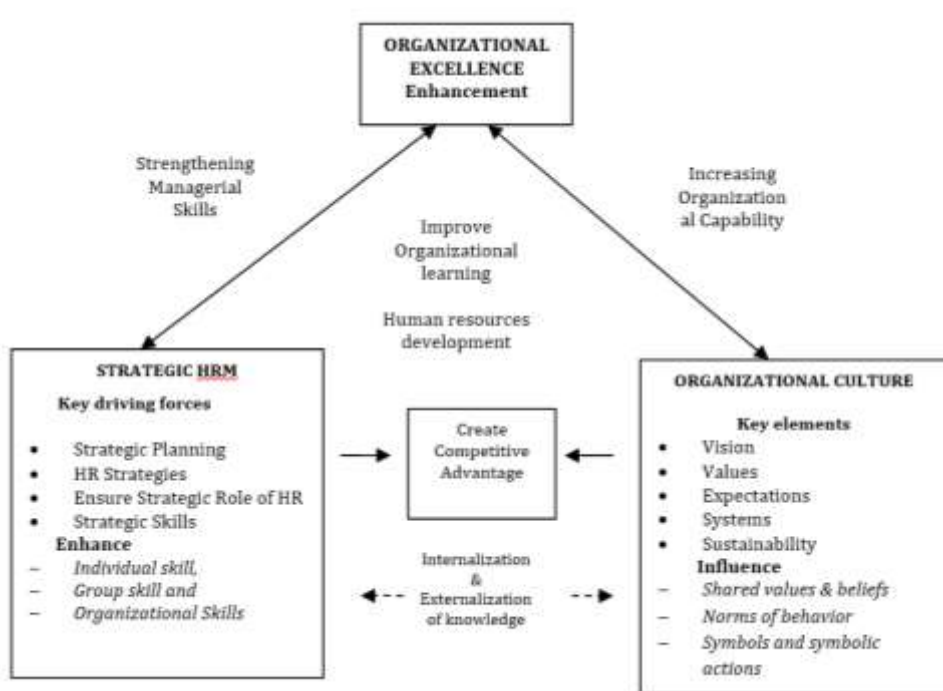


Figure 3. Thematic Model of Organizational Excellence Enhancement in relation with Strategic HRM and Organizational Culture

To justify, the key elements of organizational culture's influences on organizations capacity development, it is also necessary to identify whether the strategic quality of HRM can really enhance the organizational excellence or not that encourage organizational performance augmentation (competence). It is essential to differentiate, whether organizational competence can be regarded as an important component for achieving the competitive advantage or not; whether organizational culture, its distinctive components as well as the strategic activities of human resources can really shield and strengthen the organizational coordination and consolidation (i.e. operational activities and managerial skills) or not; whether the initiatives provided by the HR system in the organizations are effective or not.

Regarding this issue, researcher (Schuler, 1992; Bowen & Ostroff, 2004; Chow & Liu, 2009) have observed that the value of strategic HRM and its impact on organizational effectiveness with the presence of organizational culture become more magnified as it enables organization's ability to create and maintain a link between the internal and external demands of an organization. In addition, the perspective of SHRM emphasizes the necessity to achieve coordination and integration between organizational culture, HR systems, a business strategy that influences on organizational performance.

Based on the issue of organizational culture and its impact on human resource management (HRM) leads to the recognition of two important research assumptions or RAs.

- RP1, emphasizes that organizational culture and strategic HRM practices are one of the most significant factors in organizational performance development, i.e.(excellence). Conferring, in this argument several scholars have numerous opinions. Among them, Chow, Teo & Chew (2013), Darwish, Singh & Mohamed (2013), Su et al. (2018) pointed out that there is a significant relationship between strategic HRM and organizational performance development. Concurrently, Colakoglu, Lepak and Hong (2006) also explained that to review the presentation of an organizational performance, there is no stable system that is existing. Actually, it depends on the inherent capabilities of prevailing human resources practices as well as organizational work culture within the organization in order to gain the competitive advantage.
- RA2 indicates that organizational performance in terms of individual, group and organizational competitive capability is achievable through organization's activities, especially, from the organizational cultural impact that based on shared values, belief, norms, and action-based perspective. This RA, mainly emphasized that individual employee's proficiency (KSAs) creates value through their individual creativity as well as the existence of a quality working environment (work culture). Saha et al (2016), highlighted that human resources management enables organizations or firms to understand the value of internal and external customers, competitors' knowledge, products, technology, and sources of competitive advantage. It is essential to ensure that the success of any organization which is based on the belief that an organization gains a competitive advantage by using its people effectively and efficiently.

Conclusions and implications

To conclude, it is essential to accentuate the fact that at the present time, the manifestation of strategic human resource management concept, as well as the significance of organizational culture, has been aligned with the perception of organizational performance development strategy. It is aimed at improving the efficiency and effectiveness of HR systems, organizational behavior and constitutes a standardized working environment, i.e. effective organizational culture according to C&C, which acts as a vital stimulant for attaining organizational excellence.

Finally, this study recommended that organizational capability development enhances internal commutations strategy in a relationship with the organizational culture and sustainable organizational learning. Therefore, to accomplish organizations effectiveness that enhances sustainable organizational learning; this study suggested some propositions which, shows that it is important for the HR strategy of the organization to be taken on a comparable alignment to ensure not only the organization's success but also its sustainability.

Therefore, there is a critical need for business leaders to assess their expertise (innovative skills and abilities) constantly to determine whether the appropriate expertise required to accomplish the business strategies exist within the organization or not; if not, then how is it possible to identify the skills for developing the current employees within the organization to perform better according to the level required for the organization to be competitive. To solve this problem about how organizations can successfully deal with an unpredictable and constantly changing environment, as the current study tries to provide some valuable insights.

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THE INFLUENCE OF DIGITALIZATION IN THE RECRUITMENT AND SELECTION PROCESS. PRESENT CHALLENGES AND FUTURE PERSPECTIVES

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Abstract. *The aim of this research paper is to identify and analyze the current trends and challenges within human resources management, especially in the recruitment and selection processes by using online social networks. The research is specifically focused on identifying the perceptions of human resources specialists regarding the use of popular online social networks in searching for talent, to investigate whether the use of special job recruitment platforms and human resources management platforms are useful for these endeavors. Within this research both perceived advantages and disadvantages of using online social networks as tools towards reaching the desired job are presented. From a methodological perspective, the research uses qualitative methods. The semi-structured interview was used for human resources professionals with more than 7 years of experience within the field, and with less experienced specialists. The research sample consisted of 12 participants between 23 and 45 years old. Considering the digitalization of human resources processes and the expansion of online social networks use within the recruitment and selection processes, the herein paper proceeds in exploring the nuances that appear in a competing environment. The interview analysis revealed that human resources professionals start developing a PR (public relations) and marketing mind-set considering the challenges that they are faced with in attracting a relevant pool of candidates on social media, but are also constrained by the limits imposed by the HR (human resources) norms within the organization. The HR professionals from our sample suggested that they are also getting involved in researching the online platforms where candidates spend most of their time and their efforts combined with the marketing objectives should reach desired results, when possible. The research findings are relevant for human resources activities and management considering the challenges these professionals face in understanding and grasping the new digital technologies.*

Keywords: *online social networks; human resources; recruitment.*

Introduction

Recruitment and selection processes have gained a lot of attention in the context of rising new information and communication technologies (ICT). The digitized and globalized society has allowed recruiters to extend their candidate resource pools, to simplify and improve the selection process of these candidates and to obtain high efficiency in the recruitment activity when considering both costs and time (Novac, 2009).

According to Eurostat (2017), almost half of EU-28 enterprises use social media for various activities, with online social networks being the most popular. Social media do not represent only social networks, as they refer mainly to every Web 2.0 platform that allows UGC (User Generated Content), collaborative sharing and connectedness, including: online forums, blogs, wiki projects, podcasts etc. (Kaplan & Haenlein, 2010). Various applications and uses of social media on behalf of organizations have been researched, especially focusing on how they help organizations from a marketing perspective (Kaplan & Haenlein, 2012), but there is still need for research as far as the human resources management (HRM) is concerned. Recruitment through LinkedIn and Facebook, or even through Amazon Mechanical Turk (Dworkin et al., 2016) allows organizations to identify potential candidates, but also to evaluate them (Sivertzen, Nilsen & Olafsen, 2013), even though this evaluation does not necessarily lead to decision making as far as the candidates' relevancy for the position is concerned (Ciochină, 2012). As Khullar and Pandey (2014) pointed, the human resources department demonstrates a dynamic role „of designing strategies for attracting talent digitally” (p. 216) and also safeguards the organization from potentially harming digital actions taken by socially active employees. Considering that human resources activities and management have been digitized, human resources professionals gain an even more important role in leveraging the relationship between the organization and its employees and between the organization and other external entities. Therefore, this research proposes the following research questions:

RQ1. How do human resources professionals use online recruitment and selection through social media?

RQ2. What are the future strategies for online recruitment and selection?

Theoretical background

Information and communication technologies and online recruitment

The evolution of social media usage has brought changes in both recruitment campaigns, as well as in the way employers choose to approach future candidates for a job role. New information and communication technologies have allowed human resources professionals to improve their activities specifically when concerning recruitment and selection (Gregory et al., 2013), this process being defined as “e-recruitment”, used for explaining the ways employers use internet technologies for facilitating the recruitment process (Smith & Rupp, 2004). Aggerholm and Andersen (2018) suggest that “a social media 3.0 recruitment strategy thus breaks with fundamental notions of employees (as the notion of employees as individuals are rearticulated into networked and social human being), of work life (as the distinction between work hours and social life is dissolved) and of the employing organization (as the boundaries between the organization and its surroundings are broken down)” (p.133). The authors stress, therefore, how the employing organization is facing challenges from both an internal and an external perspective, requiring agility in redefining and adapting to the way employees and future employees are influenced and managed.

Within the past ten years, online social networks and content sharing websites have been gaining great popularity, especially among younger audiences. Even though internet job boards are amongst the most preferred means for e-recruitment and

screening processes, studies have shown that social networking websites are useful in attracting more passive candidates (Nikolau, 2014) and, more specifically, in attracting users to increase interactions with businesses (Sanchez, Saura & Debas, 2018). Online users use social media for obtaining information fast and, more importantly, from other users that form a community depending on the interests they manifest (Mahrous, 2016). Moreover, prospective employees can build their professional or personal persona on social networking sites, “search for information on a company to see organizational structures and cultures and exchange information not only with employers, but also potentially with existing employees” (Ladkin & Buhalis, 2016, p.328). In this context, Ladkin and Buhalis emphasize that online users have access to informal information from current or past employees. For instance, Glassdoor (www.glassdoor.com) is a recruiting website collecting company reviews from the organization’s most important resource – its employees. The website allows past and current employees to evaluate the organization on various dimensions: salary reports, impressions on the CEO, pros and cons, benefits and so on. As such, Glassdoor employee satisfaction ratings have been used to link employees’ satisfaction to organizational performance or attractiveness (Massmino et al., 2015; Smith, 2014).

Studies have shown that students and young publics, in general, prefer interacting online with potential employers, as they opt for LinkedIn and Facebook for doing this (Potentialpark, 2011). Human resources professionals have recognized these behaviors as opportunities, especially as social media translate into efficient targeting and in attracting specific segments in the recruitment process. For instance, by giving the example of online interactive job interviews, McCarthy et al. (2017) emphasized the importance to contextualize real-time feedback for applicants so that they understand the reasons they failed an interview. However, targeting specific candidate profiles on social media can be considered an ethical issue, considering the excluded candidates (Broughton et al., 2013). Social media targeting implies adding specific target characteristics that make ads efficient enough to attract the desired profiles. However, users who do not have the intended characteristics do not have the opportunity to apply because the add will be less visible for them on social media, compared to the ones that are specifically targeted. In this sense, recruiters also require training for properly using social media tools as they can become overwhelming without strategically applying the tools for the intended objectives (Koch, Gerber & DeKlerk, 2018).

Potential candidates can form more or less favorable representations of the organization based on the information they find on social media. In this context, future employees are able to make their own selection process, which can include other factors than the ones referring to the job role, benefits or salary expectations. Organizations face the challenge to become attractive to potential candidates, especially by delivering the message that corresponds with the reality of the employees (Stanciu et al., 2008). The employer brand should be visible to the potential candidates that are looking for job opportunities, relevant, catchy and unique (Moroko & Uncles, 2009) to attract new employees, but also for brand engagement, or for enhancing the willingness of employees to believe and strive for the brand (Stanciu et al., 2008).

Employer branding and online users

The concept of *employer brand* was used at the beginning of the 90s, Ambler and Barrow (1996) being the ones who introduced this concept when connecting marketing and

employment situations: “the package of functional, economic and psychological benefits provided by employment, and identified with the employing company” (p.187). The authors underlined the importance of employer branding especially from a management perspective, as the business priorities and values can be delivered through the employment process, but their research also highlights the importance of collaborating with other departments in achieving the overall business objectives. The Chartered Institute of Personnel and Development defines the employer brand as the sets of attributes that differentiate the organization and make it attractive for specific public segments that want to work within the organization (2017), emphasizing the need to invest in achieving higher employer attractiveness, or a favorable image on a market that is full of competing forces.

On online social networks potential candidates have the possibility of contacting current employees directly and ask them details about the jobs they will fill in (Broughton et al., 2013). This can become problematic for organizations who are delivering a message to future employees that does not correspond to the internal positioning. Moreover, Carrillat et al. (2014) found that employers engaged in social media for attracting job candidates should develop online messages with entertainment value as this leads to more favorable responses toward the employer. Looking to identify the factors that should be used in employer branding strategies, Sivertzen et al. (2013) found that innovation, psychological value, application value and the use of social media all relate positively to corporate reputation which influences favorably the willingness of candidates to apply for a position within the organization.

Regarding the perceptions of future employees, Brusch, Brusch and Kozlowski (2018) investigated which company characteristics are most valuable for students between 25 and 40 years old, the most commonly cited being trust, environmental and social awareness and progressiveness. Building trust is challenging considering the consistent volume of information online users are dealing with on a continuous basis. As Brusch et al. (2018) emphasizes, “the biggest challenge is to create a uniform, harmonious employer brand and to communicate this effectively” (p. 150).

Online social networks represent a space of constant interactions and opinion formation that could affect the decision making of individuals looking for a job. Human resources professionals have started to adapt to these online social spaces that represent an additional source of evaluation as far as new candidates are concerned, and a fast and efficient way to allow candidates to submit their intention to join a company (see also Mihalcea. 2017).

Methodology

This research paper is focused on identifying the tactics used by human resources professionals in the recruitment and selection process through social media, specifically to understand the platforms they use in attracting the most appropriate candidates for their organizational needs, the social media channels they use to advertise the job ads and the conversion rate for this medium. The research method we used was the semi-structured interview, applied between 12 and 16 May 2018. We sent out online invitations to 20 subjects two weeks before holding the interview, however only 12 human resources professionals replied positively. Each interview lasted between 30 and 45 minutes and they were all conducted face to face.

The sample contains participants with various expertise levels: 2 of them have a management position, 2 are juniors (between 1 and 3 years of experience), 3 are specialists (between 3 and 7 years of experience), and 3 are seniors (over 7 years of experience). The participants work in both multinational organizations, as well as in independent human resources consulting agencies, they all have a master's degree and live in the urban area, in Bucharest, and their ages vary between 23 and 45 years old.

The research instrument

The first research question was conceived in order to identify the general attitude towards social media from a human resources perspective: "How would you characterize social media recruitment? Can it become the main recruitment method?". Then, the participants are asked to enumerate the specific advantages of using social media in recruitment, and whether there are any characteristics that are present locally, compared to the practices that are adapted from western societies. The forth question seeks to find the specific approaches to online social networks, the tactics that are being used with the best results. Considering the fact that HR professionals need to adapt to the information seeking behaviors of candidates, we asked them what they know about their candidates in terms of their user journey: "Where are candidates looking for jobs? On what types of websites or social platforms?" The last question intended to identify the tendencies in future e-recruitment strategies and the differences between online recruitment and social media recruitment, if there are any.

Results

Regarding the answers related to the first question from the interview, the participants mentioned that social media has become a trend offering the possibility to initiate a professional discussion with potential candidates, although the final employment discussion is led in a safer context in order to build a relationship with the candidate. One of the HR professionals suggested that social media should not be the only method for recruitment, however: "At the time being, social media is part of the organizational communication strategy. I don't think it benefits the employer to become the only recruitment method."

The following question referred to the advantages and challenges of using social media as a recruitment tool. The HR professionals mostly mentioned the benefits and the advantages these tools have. Some suggested that social media offers the possibility to reach a large audience and to send out authentic messages, all with low costs. As challenges, one of the interviewees mentioned the importance of moving the discussion in another setting where the human factor will be more relevant "There are many advantages! But it is very important that the discussion is moved in another setting where the human factor will be more important, and this is something that some HR specialists lose sight of." Another participant shared the same opinion, considering that social media "helps with identifying talents in real time, as we do it ourselves within the company; but I do not consider it as the only recruitment method."

Regarding the differences between social media recruitment tactics and American ones, the responses were approximately similar. Most of the participants suggested that in Romania social media is still at the beginning as far as recruitment is concerned, whilst

in America, the apps have been used for a while and recruitment results are relevant in this sense: "As far as I know, in the USA, the apps are used with priority for recruitment and selection. Even the small to medium companies are investing in Facebook pages with extraordinary results in employment." One of the subjects said that comparing them is not even appropriate, as in Romania social media has barely received some popularity and there are still drawbacks in practice. Others mentioned that a favorable climate is present: "Probably in a few years we will have more platforms for using social media, but for the time being we are glad it is gaining notoriety and exposure on the market." Another participant shared this view suggesting that the trend is derived from international practices and that financial and banking organizations are striving to work on their employer brand to attract new candidates in this context. According to the study participants, the domains that use social media recruitment the most are IT, finance, commerce and tourism.

The most diversified answers were present regarding the online social networks that are being used and the future directions. One of the HR managers said that, before including the social media recruitment strategy in the organization, Facebook usage was forbidden within the company. Starting with 2009, the market changes led to a new vision at the top management level which resulted in creating an official Facebook account and page: "Most of the social media candidates were entry level candidates.", emphasizing that this sort of recruitment is not for all positions. Another participant mentioned that they use multiple social media platforms: "Now we use multiple social media platforms such as Facebook, LinkedIn, Twitter and I believe that this develops a competitive spirit amongst the employees, but also for candidates, as the interview conversion rate through social media is 2:1." LinkedIn is used by most of the sample from this study, while Facebook is on the second place, then Google+, Twitter and job websites Bestjobs and eJobs.

The interviewees mostly agreed that social media is used for recruiting specialists and juniors, and for identifying and attracting managers. In this sense, one of the study participants emphasized that the 2019 e-recruitment strategy should include the collaboration with social media specialists, communication, marketing and PR departments, for achieving the best results possible: "One of the strategies for 2019 refer to investing and preparing the best social media consultants and specialists from the PR and marketing departments, who really know how to use online social networks." One of the participants underlined the importance of initiating a dialogue that could influence the potential candidate and additional publics: "In the last years, social media platforms have been gaining a lot of popularity, growing from a trend to an essential recruitment instrument, and offering the possibility to initiate a discussion with potential candidates. With their help, the organization can communicate in real time with talents, offering details about the working environment and corporate culture through pictures and videos, and in the same time, to keep an eye on the interests of publics." One of the professionals mentioned that digital marketing campaigns are extremely useful, bringing considerable benefits to both important events, as well as to less budgeted ones.

Even though LinkedIn is the main platform used by HR professionals, the participants mostly agreed that the most visited platform is Facebook, which can be an important source for recruiting talents, especially from the generation Y: "Facebook is the most used online social network in the world. Facebook would not be the main choice for

conducting an executive search, but it can most definitely be an important source of talents from generation Y". In the meantime, others believe that LinkedIn is the safest platform for e-recruitment: "I prefer LinkedIn because it takes some kind of responsibility to developing the professional profile on this social network."

The last interview question intended to identify the main approaches to social media recruitment. One of the HR managers suggested that it is very important for each organization to have a good strategy in using social media "Each organization should have an effective presence on social media, which is more than recruitment, it is about communication strategy and marketing". Another experienced HR professional emphasized that anyone can use social media, but what makes the difference between the competition and the organization is the online visibility and how it is approached. For this, additional expertise is needed.

Discussion

The research was focused on identifying the perceived advantages and challenges of social media recruitment by human resources professionals, and the future perspectives of incorporating this e-recruitment method in the overall recruitment strategy. Overall, the HR professionals are keen on adopting these new media in their e-recruitment activities because they have seen the potential and the results for reaching specific audiences. However, there are some challenges that should not be overlooked, such as the fact that online social networks are mostly seen as PR and marketing platforms and recruitment should hold a different position. As other studies have found, online social networks are primarily used for promoting various organizational activities, rather than to appeal to potential candidates (King et al., 2014). In this sense, some of the participants suggested the collaboration with social media consultants and specialists who can bring their expertise which is necessary for developing messages and posts that are attractive to potential candidates, and also for allowing the highest visibility possible on these platforms.

Most of the participants agreed that the biggest advantage is time efficiency, as it helps both HR managers and recruitment agencies to obtain resumed information about candidates, also allowing the interaction with passive candidates and their filtering in the screening process. Moreover, the interviewees suggested that online social networks presence is relevant for candidates who are actively looking for jobs, as the positions may not always be present on recruitment websites. Some of the organizations prefer using online social networks considering the fact that they are able to see the candidate's profile, due to this transparency and direct communication. However, even though using online social networks is popular for e-recruitment purposes (especially LinkedIn and Facebook), there are limits to their use. Recruiters can find outdated information or incomplete profiles; they can face the friend request rejection from the candidate which is necessary for evaluating the profile. For instance, Facebook still remains a personal interactive space for users and recruiters can be perceived as intrusive on this space.

Similar to other studies (Ladkin & Buhalis, 2016), we found that there are blurring boundaries between traditional and online recruitment and that online reputation and brand visibility are important effects of employees being engaged in online dialogue with potential candidates. However, managing online interactions can become challenging and they are not implicit for everyone using social media, which is the main

reason why social media consultants and specialists should be involved in the process. If existing employees would be involved in managing the online relationships with prospective employees, they should understand the implications that these interactions can have on the overall organizational image and should go through a process in this sense.

The interview did not reveal as many challenges, however. Even though the professionals did mention that they face difficulties in evaluating the public profiles of their targeted passive candidates (because these candidates may not allow them to view their entire profile information, especially on LinkedIn), there were no mentions of the possibility of discriminating specific public categories or regarding the trustworthiness of the information presented on these social networking profiles, that might affect the impressions formed by employers either positively or negatively (Caers & Castelyns, 2011).

Limitations of the research

Even though the data collection was conducted face to face, there are some limitations to this research. Overall, we noticed that there is some sort of reluctance in sharing information regarding the selection process and what they actually evaluate when using social media recruitment. As such, we did not obtain many answers when insisting on the limits or challenges of this online recruitment method. Then, the level of experience of the sample is different, so it is difficult to draw some relevant conclusions for a certain profile of human resources professionals. More details are required when describing their activity on online social networks and the actual tactics they use for attracting the desired publics. Additionally, the participants should also be asked whether the information they find on social media about the candidates is used, at some point, in the decision making process when proposing a candidate for an internal position. Moreover, the research investigated only the perspectives of HR professionals, and further research should also evaluate the perceptions of candidates (both active and passive) using these online social networks regarding the fact that employers are evaluating their profiles from a professional point of view.

Conclusions

Understanding how social media recruitment is conducted by human resources professionals is important to consider the challenges concerning the widely used social networking sites. Even though this medium has been offering many benefits and return on investment to many organizations from both a PR and a HR perspective, there are still challenges in understanding whether this empowerment is being used for or against candidates, and employees, respectively. The paper explores some of these challenges, but the research sample was not consistent enough to draw some specific conclusions concerning the preferences and tactics used for including and combining PR and marketing into the overall human resources objectives. Whereas social media are used for gaining visibility and employer brand awareness, as far as HR is concerned, social media have the potential of bringing relevant and *pre-screened* prospective employees that eases the efforts of professionals in obtaining applications. On the other hand, there are many types of segments of online users who are missing out on potential relevant candidates, which can become an issue. Facebook is still one of the preferred options for connecting with prospective employees, but this is mainly seen as an entertainment and

personal space, so passiveness could disable employers to be successful or cost effective on this social network. Future research should focus on identifying the tendencies in using online social networks successfully, the specific targets set out by human resources departments and the reactions of future or past internal stakeholders, specifically belonging to generation Y, regarding the approaches of organizations using online recruitment methods to attract candidates.

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GAME-BASED ASSESSMENT – THE NEW REVOLUTION OF CANDIDATES' ASSESSMENT

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Abstract. *Within the framework of staff assessment, especially in the selection area, game-based assessments (GBA) have become one of the most discussed developments in recent years. Game-based assessment has received a lot of media attention and managed to capture the interests of many organizations (e.g. Unilever, AXA Group, Deloitte, etc.). What are actually game-based assessments? These are games that allow you to measure the knowledge, abilities, values, personality, motivation, or skills of the rated person. They fall into the broader category of "serious games", i.e. games designed for purposes beyond entertainment. The introduction of GBA into selection programs contributed, among other factors, to increasing the volume of applications and decreased dropout rates compared to other tests, such as traditional numerical and verbal. Game-based assessments can also help maintain a high commitment during the evaluation and also increases the amount of time that data can be collected. Previous studies highlight that those applying for a job are eager to use game-based assessment for self-evaluation, especially when these games are available for free. Also, in game-based assessment, it is likely to be less obvious to a candidate what behavioral / response elements are measured. Game-based assessment is more likely to generate genuine responses from candidates because they are immersed in gaming experience, thereby reducing the likelihood of falsification and distortion responses. Previous studies have shown that gamified evaluation reduces testing anxiety and that this type of games has been well received by candidates in real selection settings. The assessment is also reinforced by the fact that not only the final data (final result) is recorded, but also process data such as reaction time, time spent on each item, or intermediate steps taken to reach the final result. This new information can add value to the conclusions drawn on the knowledge, skills or traits of the candidates. The potential of games as evaluation tools can only be achieved if data evaluation methods can be developed in psychometrically feasible ways. Many of the traditional methods developed to evaluate the fidelity and validity of (classic) tests do not match game-based assessment. Currently, the game-based assessment marketplace is dominated by alternatives that are not very clear in comparison to traditional psychometry.*

Keywords: *game-based assessment; recruitment; psychometrics.*

Introduction

The application of game mechanics and game design – often called gamification – in non-gaming contexts such as in business, education, and social projects has emerged as a major trend in recent years. Gamification is the use of game-play mechanics for non-game applications (Deterding et al., 2011). Within the framework of staff assessment, especially in the selection area, game-based assessments (GBA) have become one of the most discussed developments in recent years. Game-based ratings have received a lot of media attention and managed to capture the interests of many organizations (e.g. Unilever, AXA Group, Deloitte etc.). In a recent study of human resources practitioners, 75% of participants indicated that they would consider using gamification as part of their own recruitment and selection strategy in the near future (Cut-e Group, 2017).

Gamification guru, Yu-kai Chou defines gamification as “the craft of deriving all the fun and addicting elements found in games and applying them to real-world or productive activities” (Huang & Soman, 2013, p.6). Gamification “represents a management practice similar to other managerial initiatives designed to make the experience of work more positive” (Mollick & Rothbard, 2014, p.16). Gamification can be used for numerous purposes and in various fields. For instance, gamification has a particularly special place in the HR community. Jacobs (2012), stated that “we can gamify many areas of HR, from talent sourcing through to performance management” (p.14). Modern day HR divisions take an increasingly data-driven approach to people management, i.e., the people analytics approach. Games are a powerful instrument for studying human behavior. In a game, rather than asking someone what they did, you can directly observe their behavior. Games also foster increased participation and motivation, which leads to increased quantity and quality of data. By coupling the data advantage provided by gamification with sophisticated analytic techniques, meaning can be extracted. These data-driven approaches are better at dealing with complex data sets, capturing nonlinear relationships, and predicting future outcomes. As a result, they are better suited to modeling real-life complex problems.

Game-based assessment in recruitment

Technological development and increasing globalization force companies to look for new solutions. Candidates for the job have also been subjected to the change characteristic of the present day. The people from the Generation Z (born after 1990) and Generation Y (born after 1980, the so-called Millennials) approach potential jobs with a different attitude than their predecessors (McCrindle Research, 2006). Daily use of the IT sector, greater confidence and commitment to their own hobby means that they require from an employer mobility in obligations and make full use of available technology solutions (Ng, Schweitzer, & Lyons, 2010). Recruitment via Skype, or submitting an application for a post in the company on the other side of the globe is not a challenge, but daily life for Ys and Zs. So, in searching for new forms of employee selection, it is necessary also to take this aspect into account.

Recruitment refers to “any practice or activity carried on by the organization with the primary purpose of identifying and attracting potential employees” (Noe et al., 2012, p.202), so it comprehends all the techniques to make the organization suitable and appealing for skilled workers. As Hinojosa (2015, p. 2617), stated, “recruitment

activities are important for attracting top talent and are a source of competitive advantage for an organization”

Recruiting activities have undergone a series of changes through time, starting from the traditional recruitment to e-recruitment, to finally come up until the gamified recruitment, which is considered to be the most innovative way developing today. But, the advent of a new way of recruiting does not mean the end of the other techniques. In fact, no one is abandoning the old way, but all the research suggests that incorporating tests and games in the process delivers a higher predictor of success (Starner, 2014).

E-recruitment (www.hrzone.com) means using electronic resources, typically the internet but also HR software, to guide or assist the hiring process in order to reduce the administrative and financial burden of recruitment and gain access to a wider pool of talent. This kind of recruiting can be realized by agencies that through the Internet are able to collect bigger numbers of resumes and to send these CVs to companies. However, organizations can do it by themselves through apposite brand websites that enable potential employees to know about them. In this case, the process is easily structured and the advantage is that candidate can add his/her data and can send them in real-time to the organization. Organizations want “to motivate job applicants to explore their recruitment websites to learn more about the organization’s history, values and vision before finally applying” for a vacant position (Reiners & Wood, 2015, p.554). Secondly, organizations want to make their job offers more enticing also once applicants are received.

A second advantage is that organizations can check increasing numbers of resumes and it enlarges the potential of achieving good employees. Another clear advantage is that e-recruitment reduces the costs compared with the traditional ways of looking for new employees, like agencies or newspapers. Furthermore, e-recruitment does not eliminate the job interview, so it means that once organizations select potential candidate from the huge amount of resumes received, they have to interview these people because information contained within CVs are not sufficient to understand their capabilities. From the point of view of employees, it enables them to reduce the time spent looking for a job and it allows them to find new opportunities rapidly, increasing their possibilities of changing company.

Even if it is not so easy to understand the perfect candidate, social network sites represent a good way to attract people, sharing advertising to know the brand and to say when there are vacant job positions available. It has been revealed that 68% of online adults use social networking sites such as Facebook, Twitter, Instagram and so on (www.pewinternet.org). To better understand what social networks are, the definition provided by Boyd and Ellison (2008), was used: “we define social network sites as web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system” (Boyd & Ellison, 2008, p.211).

The use of social networks is evidently a successful route and the new ways in which recruiters are interacting with candidates is allowing for more enjoyable experiences. Brands that are choosing to use gamification are obtaining higher levels of retention and building bigger online communities (<http://theundercoverrecruiter.com>). At the same

time, people like to show themselves on the social media. This can help organizations exploit these tools and the information they share to understand candidate profiles, personalities and characteristics. Therefore, social network sites like Facebook, LinkedIn, blogs on websites and YouTube became the best ways to reach the desired people.

This type of recruitment is usually defined as social recruitment. Social recruitment is "is concerned with sourcing candidates for jobs via social media channels and social media networks" (www.hrzone.com) For instance, LinkedIn was born for business because it came to life for the working world. It enables people to exhibit the personal career with the places they worked in, the studies they attended to and so forth. It provides the recruiters the chance to identify top talents immediately. It also enables the establishment of a personal network of colleagues and organizations, increasing the possibility of being selected for a job interview. Furthermore, well-prepared people rapidly change their position. While in the past, young men started working in a company and more or less spent their entire life working there, now, people have no limits, can travel easily and can change job and country without any problems. Another changing dynamic is that graduate people are less skilled and have low experience, so there is a sort of war to attract the best talents from the universities. Now, the goal is that companies show the vacant positions in a way that help possible candidate to apply for that job.

As stated by Kim and colleagues (2012, p.1612), "many firms now realize the importance of actively attracting and retaining highly skilled, quality employees as a necessary component of their competitive advantage". It is well accepted that, the basis of the success of any company is due to the human capital, which is the combination of people's capabilities and skills. Therefore, the fundamental job of any recruiter is sourcing talent and engaging employees in the organization. For this, they have to ensure that the candidate's skills match well with the organization's requirement and culture. When Gamification is applied to the recruitment process, it brings several benefits. Candidate elimination is done at a much faster pace as it allows firms to test specific skills like time management, creative and innovative thinking etc. It helps the candidate to understand the information about the firm and policies while having fun. Gamification's tool has the potential to bring out the on-the-job performance of the candidate by giving him or her a simulated platform of the job. Apart from that, it also helps in revealing actual behavior and capabilities of the candidate. Gamification is attractive and came as an innovative platform for the companies. It thus helps in establishing the brand as a leader in its field, especially among youth (Han & Collins, 2002). The use of gamified recruitment increases the positive image of the organization and at the same time the employment brand. Employment brand refers to the group of tangible and intangible elements that identify and make a company unique for job seekers, showing which are the characteristics of the working experience within the organization itself (Lievens et al., 2007). The employment brand can be defined "as outcomes of applicants' decision opportunities attributable to job seekers' beliefs about the company as an employer"; therefore, it is the perception about the company from the point of view of potential candidates (Han & Collins, 2002). In fact, if potential applicants see that the company is so innovative even from the recruiting point of view, it could mean that it is innovative also in the production processes and it can be highly attractive for talents, even if working for other competitors. Furthermore, candidates do not perceive the lack of overlapping of content between the test and the workplace as deterioration in validity, and the increased

satisfaction and perceived robustness of the game-based assessment have a positive effect on the overall perception of the fairness of the selection. Actually, gamified solutions for recruitment make hiring processes more meritocratic from candidate point of view, and for this reason, they can instill more confidence and trust.

Although the evidence is still insufficient, there are a number of intuitive arguments for the benefits of game-based assessment. Overall, employers can use game-based assessment to present an innovative image of the organization and increase their attractiveness to potential candidates without compromising their professionalism. The use of (serious) games as an evaluation tool can extend and even strengthen the field of assessment as this type of games has the potential to reveal both the knowledge and the skills and traits that are more difficult to detect when evaluated through traditional evaluation methods, (De Klerk, Eggen & Veldkamp, 2014; Mislevy et al., 2014). Following the methodological approach already used in educational environment (Al-Azawi et al., 2016), two approaches to building and using GBA in the organizational environment can be distinguished: gamified assessment – by gamifying (already existing) psychometric test; psychometric play - use of a game to gather evaluation data.

In a study by Montefiori in 2016, it was noted that from the perspective of the candidate, the presence of the assessment based on games in the selection process are a motivating factor for more than half of the surveyed participants (Montefiori, 2016). In an organizational context, game-based assessment is not limited to selecting applicants. It can also be a very useful tool that can be used to attract potential candidates. Previous studies (Laumer et al., 2012) highlighted that those applying for a job are eager to use game-based assessment for self-evaluation, especially when these games are available for free. Game-based assessments can also help maintain a high commitment during the evaluation, which reduces the likelihood of some candidates dropping out in the process and also increases the amount of time that data can be collected (Iseli, Koeig, Lee, & Wainess, 2010; Levy, 2013).

Also, in the GBA, it is likely to be less obvious to a candidate what behavioral / response elements are measured. This aspect was highlighted by Csikszentmihalyi (1990), who asserts that game-based assessment is more likely to generate genuine responses from candidates because they are immersed in gaming experience, thereby reducing the likelihood of falsification and distortion responses (Csikszentmihalyi, 1990). Previous studies (Kato & de Klerk, 2017) have also shown that game-based assessment reduces testing anxiety and that this type of games has been well received by candidates in real selection settings. The use of (serious) games as an evaluation tool can extend and even strengthen the field of assessment as this type of games has the potential to reveal both the knowledge and the skills and traits that are more difficult to detect when evaluated through traditional evaluation methods, (De Klerk, Veldkamp & Eggen, 2015; Mislevy et al., 2014).

Instead of inviting applicants to job interviews right away, organizations give them games that simulate the work environment and test their aptitude" (Herger, 2014, p.16). Therefore, gamification can allow recruiters to test candidate's skill, motivate them to complete certain tasks, and generally engage with the recruitment process (<http://recruitloop.com>). As Roebuck (2012, p.42) stated, "by applying the same principles that inspire people to play games, such as achievements, status and rewards, businesses can drive deeper engagement and use this to attract [...] employees, as well

as improve staff and business performance". Game, mixed with fun, can increase people's motivation improving their interest toward a particular job position, a company or a brand. From the point of view of applicants, the motivation is high for many reasons. Firstly, they are applying for a position in an innovative company, which is exploiting the best and recent techniques to hire the more talented people and it is stimulating by itself. Secondly, they are playing, so they can take the experience more positively, and with sportsmanship, compared with a common interview.

One of the key advantages of using gamification in recruitment relies on the fact that not only will candidates be coming back regularly to interact with the company brand, but they will be acting as advocates for the brand (<http://theundercoverrecruiter.com>). Another advantage is that organizations can attract a more diverse group of applicants (<http://www.executiveboard.com>).

Gamification can help recruitment to understand people's behaviors, state of mind, abilities, attitudes and potentialities while fulfilling their mansions. "Understanding a person's job skills from how well they play is passed on an extensive body of psychometric research about how behavior links to actual job performance" (www.revelian.com). Gamification inherently immerses test takers in the game world, allowing them to respond naturally to challenges. These natural responses can unveil a lot about a potential employee's cognitive skills, such as their decision-making, leadership, efficiency and organization (Aldridge, 2015). While people are playing they "generate several megabytes of data, exponentially more than what's collected by the SAT or a personality test. They measure how long you hesitate before taking every action, the sequence of actions you take, how you solve problems – all of these factors are logged as you play, and then are used to analyze your creativity, your persistence, your capacity to learn quickly from mistakes, your ability to prioritize, and even your social intelligence and personality" (Peck, 2013).

In one of the biggest advantages of game-based assessment also lays the greatest challenge. What to do with and how to interpret the enormous quantities of data that can be produced by performing a game-based assessment (Levy, 2013). In contrast to a standardized test, which only produces product data, a serious game also provides process data. Process data are the actual log files of data collected that can, in great detail, when analyzed, show how students have reached their product data. Process data are mouse clicks, keystrokes, navigational behavior, time stamps etc. (Rupp et al., 2012). Performance in a serious game can produce many pages of log file data in just a short period of time. The challenge is to find meaningful relationships between the data presented in the log files and their relationships to the constructs to be measured in real life.

Even if this effective tool is developing with success especially among big corporations, we need to underline some of its pitfalls. First of all, we need to make some considerations about the costs faced to sustain this new solution. Organizations can create their own games to attract new talents, but designing the right one with the specific elements and characteristics appropriate to understand the candidate is not easy. For this type of approach, any organization will need to be supported by experts of gamification and psychologists specialized in psychometrics. It has been estimated that 80% of gamified apps will fail to meet business objectives, primarily due to poor design (<http://theundercoverrecruiter.com>). In fact, first it is important to understand what

the organization is looking for in terms of soft skills, and second, it is essential to translate these needs and requests in the right forms of gamified solutions.

Another disadvantage is that probably these tools are young-people-directed. Moreover, one of the risks candidates could face is to underestimate the importance and the validity of the test. While game-based testing works very well in educational environment, many test takers are skeptical of its applications in formal assessment. Some test takers fear that if an assessment is gamified, this promotes the idea that the exam is less formal, or that the answers don't hold as much importance. The risk here is that people will take the tests less seriously, and thus performs worse than they would have on a traditional test (Aldridge, 2015). In fact, according to a survey of 600 HR professionals by SHL in 2015, "only 44 percent of human resources pros said their organizations use objective data on employees' competencies and skills to make workforce decisions" (www.insurancejournal.com). In particular, we would like to underline that "it will take time before researchers determine how well these new assessments predict job performance" (Meinert, 2015, p.92).

While people are playing, the algorithms behind games are able to track the personal skills and abilities. It is not clear how these algorithms work, but as those from knack.it stated, "the company team has expertise in behavioral and cognitive neuroscience, big data and data science, computer science and software engineering, game design, and user-experience design" who help them analyze data efficiently and with scientific rules (www.knack.it).

Although Game-Based Assessment (GBA) has become increasingly popular in workplace assessment, especially, in the context of large international companies' graduate and apprenticeship schemes, yet little is known about this psychological assessment approach. Scientific research describing this psychological assessment approach is virtually non-existing, and there is often confusion about the nature of this method and the place it occupies in the wider gamification arena. Cause and effect at the data analysis stage of elaborately designed games becomes difficult, if not impossible. The greater the number of design elements, the higher the risk of result of contamination, and the harder ^[1] it is to interpret behavior, to the point that it is impossible to directly link a behavior to a specific measure (Narayanan et al., 2016). The real challenge is to identify and select the best evidence linking game performance with the assessment of participants' abilities.

Many of these games are based on scenarios or contexts which, at best, seem irrelevant and, at worst, misinform the job-role requirements of potential candidates (De Klerk & Kato, 2017). Some game design elements may not be necessary or even interfere with selection (e.g., feedback, Yigal & Mairav, 2015). Nevertheless, with the psychometric models improving (Mislevy et al., 2014), we might also see game-based assessment being used for a summative or credentialing purpose in the future. Future research should therefore focus on investigating the extent to which serious games can be used in high-stakes assessment.

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USING A FUZZY EXPERT SYSTEM FOR SERVICE QUALITY IMPROVEMENT. THE CASE OF A CAR WASH STATION

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Abstract. *The paper aims to present how could an expert system, based on fuzzy logic, be used for the service quality improvement of a car wash point station. A single-case study is approach and four linguistic variables are taken into consideration, namely: (i) the average waiting time (mean delay); (ii) the ratio factor (of traffic intensity) in the car wash station; (iii) the number of stands; and (iv) the number of employees per shift. Further, the Gaussian membership functions are selected for the fuzzy sets and 27 rules are established. Data are processes using MATLAB Fuzzy Logic Toolbox. The results prove that the number of stands and the number of employees per shift directly influence the average waiting time and as such, have a major impact on the perceived service quality. Although, the case under discussion is a simple one, it facilitates a heuristic approach of the business environment and it proves that the adoption of these computational techniques may foster service quality improvement.*

Keywords: *fuzzy logic; expert system; service quality improvement.*

Introduction

The “waiting lines” (queuing lines) is one of the most important areas in operations management (Debo, Parlour, & Rajan, 2012; Kremer & Debo, 2015), and it represents a number of customers waiting to be served (at the store house, ticket bank, traffic light, washing cars etc.). In most situations, customers accept that they have to wait for the service to be delivered but they are not willing to wait for too long. Further, various studies have demonstrated that long queues influence customer satisfaction (Borges, Herter, & Chebat, 2015), perceived value of the service (Debo et al., 2012; Koo & Fishbach, 2010; Kremer & Debo, 2015) and customer loyalty (Bielen & Demoulin, 2007). This basically have their roots in service quality which incorporates a relational and operational dimension; the former focuses on understanding customers’ desires (Payne & Frow, 2005) while the latter concentrates on the activities that need to be perform in order to ensure service efficiency (Stank, Goldsby, & Vickery, 1999; van Riel, Semeijn, Ribbink, & Bomert-Peters, 2012).

Although the relationship between queue length and service quality is emphasized by several scholars (Alonso, Barreda, dell'Olio, & Ibeas, 2018; van Riel et al., 2012), its direction is debatable. Thus, Kremer and Debo (2015) and Debo et al. (2012) state that an increased queue length can signalize a high quality service while De Vries, Roy, and De Koster (2018) argue that there is a negative relationship between the waiting time and service quality. The former concentrate on product sales while the latter focus on restaurants. Thus, the perspective is different do to the fact that when it comes to products, a long queue is directly associated with a high level of quality; if the product has a high quality, more customers want it. The situation is different when it comes to services; a long queue is usually considered to be a signal that the company does not have the capacity to satisfy customers' demand in a timely manner.

Table 1. The advantages and disadvantages of the queuing theory (Brown, 2012; Chowdhury, 2013, p.475)

Advantages	Disadvantages
• It provides models that are capable of determining arrival pattern of customers or the most appropriate number of service stations. • It is helpful in creating a balance between the two opportunity costs, namely: optimization of waiting costs and service costs. • It provides better understanding of waiting lines in order to foster the development of an adequate service with a tolerable waiting time. • It offers information regarding setting up workstations, requirement of manpower and number of customers.	• Uncertainty is present in almost all queuing situations and it arises due to the fact that: (i) we may not know the form of the theoretical probability distribution which applies; (ii) we may not know the parameters of the process even when the particular distribution is known; (iii) we could know the probability distribution of the outcomes and not the distribution of the actual outcomes. • The distributions are usually assumed in queuing models. • In multi-channel queuing, the departure from one queue often forms the arrival of another; this makes the analysis more difficult. • Most of the real life queuing problems are too complex to be solved using queuing theory technique. • The waiting space may be limited. • The arrival rate is state dependent since long queues have a negative impact on customers' satisfaction. • The arrival process is not stationary. • The working period usually has peak periods and slack periods; during these, the arrival rate is highly different from the overall average. • Queue discipline may not be first come, first serve.

Within this framework, the theory of waiting line (queuing theory) is developed. Thus, it involves studying the behavior of customers and of those who provide the services (El-Naggar, 2010; Oyatoye et al., 2011; Render, Stair, & Balakrishnan, 2006; Rodríguez Jáuregui, et al., 2017) and it provides various quantitative and qualitative models that can help managers understand and make the best decisions. Nevertheless, it has several advantages and disadvantages (Table 1).

For a given number of service lines, waiting systems can be characterized by: (i) percentage of time, or probability, for which the customer is served; (ii) the likelihood of having a certain number of clients in the system; (iii) the average number of units (customers) in the system; (iv) average time spent by each client in the system (waiting time plus service time); (v) the average number of units (customers) in the waiting line; (vi) the environment spent by each client on the waiting line; and (vii) percentage of time, or the likelihood of a new customer arriving to have to wait for the service to be delivered (Render, Stair & Hanna, 2006; Rodríguez Jáuregui et al., 2017). Based on these information, the managers will be able to improve the quality of their services.

Against this background, the current article aims to present how could an expert system, based on fuzzy logic, be used for the service quality improvement of a car wash point station. Thus, the paper is structured as follows: Section 2 brings forward the characteristics of a general queuing system while Section 3 emphasizes the case study particularities. A fuzzy system is designed for the service quality improvement of a car wash point station and the results prove that the number of stands and the number of employees per shift directly influence the average waiting time and as such, have a major impact on the perceived service quality. Further, the article closes by drawing several conclusions and emphasizing the theoretical and practical implications of the research findings.

Simulation of queuing systems

All models represent simulations of real-world phenomena. From a general perspective, decisional simulations are a way of exploring, in a safe and controlled environment, what may happen if a certain situation occurs (Leon, 2016); it is somehow similar with the process labeled by Thorndike as “trial and error learning”, only this time variables and models are involved instead of human actions and the process takes place in a hypothetic environment and not in a real one. From a more restrictive perspective, decisional simulation is a method of studying systems’ behavior through experiments (Leon, 2016). It refers to a specific class of dynamic models that require the detailed observation over time of the random sizes that interfere in one complex system.

Simulating a waiting lines system is an example of discrete simulation. Generally, the waiting phenomena can appear in any situation that has the following characteristics: (i) there is a significant number of applicants for certain services; (ii) it is not known when the service will be requested; (iii) there are a number of service stations performing the requested service; (iv) the serving time is not known for certain; and (v) there are uncertainties regarding customer behavior after arrival in the system service (Derbala, 2005).

The Service System is characterized by: (i) the number of waiting lines; (ii) the number of servers; (iii) the servers, arrival and service patterns; and (iv) the service priority rules (Zheng, Lin, Chen, & Xu, 2018).

Our approach is a single-line, multiple-server system, has better performance in terms of waiting times than the same system with a line for each server (Figure 1). The Number of Servers System ($S_1, \dots, S_m$) serving capacity is a function of the number of service facilities and server proficiency. In this model the terms server and channel are

equivalent. It is assumed that a server or channel can serve one customer at a time (Baldwin, Davis IV, Midkiff, & Kobza, 2003).

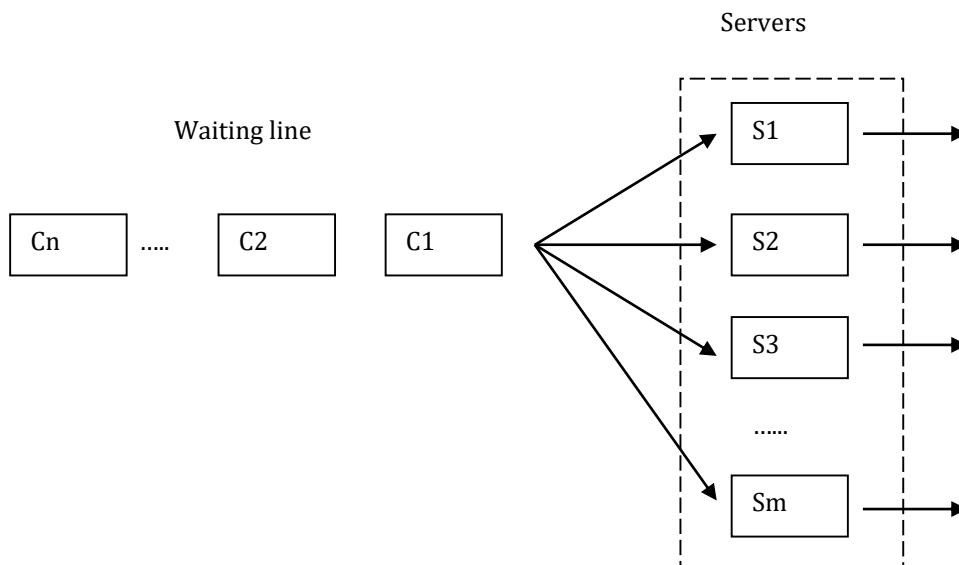


Figure 1. Components of a queuing system

The properties of our specific waiting line models are (Chase, Aquilano, & Jacobs, 1998):

Layout: multichannel.

Service phase: single.

Source population: infinite.

Arrival pattern: Poisson distribution: the arrival process is random and we assume it is a Poisson distribution.

Queue: FCFS (First Come First Served). This rule states that customers in line are served on the basis of their chronological arrival.

Service pattern: Exponential distribution. Other important factor is time the car (unit) spends with the server once the service has started, named **service rate** as the capacity of the server (the number of units per period time). A good approximation of the service rate can be given by exponential distribution.

Permissible queue length: unlimited.

Because a quantitative analysis involves information about the modeling system and complex probabilistic modeling techniques, a qualitative analysis is needed to identify the correlations between the various system parameters and their prediction. Thus, using a fuzzy model is natural.

Fuzzy logic control systems are a solution commonly used for automated control applications of processes with uncertain or variable parameters in wide limits, including physiological processes. Design fuzzy regulators is primarily based on empirical experience, however recent analytical design methods, through neuro-fuzzy techniques allow obtaining satisfactory, or even good, solution solutions, avoiding it accurate mathematical modeling of the process. Using these methods for a decision process is an ambitious study subject to the characteristics of these processes, but at the same time it is a modern one, both through description design methods, and by using them in a management field in full development (Mendel, 2017).

From a managerial point of view, the control of service features and maintenance services can only be achieved by controlling the process that provides the service. Measurement and control of process results are essential to achieving and maintaining the required service quality. When a service quality system is established, the customer represents the point of convergence of all the expected actions (Paraschivescu, 2006).

The decision-making process involves complex and usually undefined parameters with a high degree of uncertainty due to the fact that the conditions of the problem are not properly perceived. Any dynamics of the system cannot be described by the use of traditional mathematics due to the inherent complexity and ambiguity. That's why it's more convenient to use fuzzy logic for this approach. Fuzzy logic is a scientific tool that allows modeling of systems without detailed mathematical calculations using both qualitative and quantitative data. Estimates or calculations are made by words, while knowledge is represented by the IF-THEN linguistic rules (Phillis & Kouikoglou, 2009).

In order to design and illustrate the fuzzy expert system, the problem of improving the quality of a car wash point station is considered. An expert system is designated to replace the human expert from a certain field and it is made from the following components: knowledge basis, inference engine and user interface.

Fuzzy expert systems are capable of solving problems with uncertainty elements, the reasoning developed by them is based on fuzzy logic. Unlike classical logic, in which only two values of truth are used, fuzzy logic allows all predicates to admit truth values in the interval $[0,1]$, providing a more accurate representation of the real world (Zadeh, 1994).

The uncertainties regarding system's variables and parameters are expressed through membership functions. The rules that reflect causal constraints are expressed in the form of a collection of instructions of type IF - THEN. These can be provided by human experts or can be extracted from the numerical data obtained through measurement, and they describe the operation of the system that should be modeled (Kwang, 2005).

The main idea is that, based on fuzzy logic approach, it can monitor certain parameters of a process, the parameters that essentially determine the quality of the executed service to the account that can be quantified. Knowledge-based society is a reality, and continuing education is one of the most effective solutions to remain competitive. Therefore, ensuring a quality management of the services based on computational technologies is a threshold to be overcome.

Service quality improvement – case study

In order to illustrate the design of fuzzy system for service quality improvement a car wash point station will be considered. The way of doing business in a car wash point station is quite simple. A client brings his dirty car in order to be cleaned up. If a car wash stand is available, the client takes it inside the stand. If the stand is unavailable, the client has to wait until it becomes available. The goal is to advice the manager of the station on how to adopt a decision in order for the client to be satisfied.

The first step in designing an expert system is problem specification It should determine the input and output variables of the system, as well as the ranges in which these fall in. For the considered case, there are four linguistic variables: (i) average waiting time

(mean delay) t ; (ii) ratio factor (of traffic intensity) in the car wash station r ; (iii) number of stands s ; and (iv) number of employees per shift e .

The client's average waiting time t is the most important performance criterion of the station. The mean delay should not exceed the limits which the clients consider as being acceptable.

The ratio factor of the service centre r represents the ratio between the client arrival rate λ , and the departure rate μ . The magnitudes of λ and μ indicate the rate of waiting clients. Apparently, the ratio factor is proportional to the number of stands s .

The number of stands, s , and the initial number of employees per shift, e , directly influence the client's average waiting time and as such, has a major impact on the car wash station's performance. By increasing s and e , we obtain smaller values of the average waiting time, but at the same time will increase the costs implied by opening stands and increasing the number of employees per shift.

In the considered model are three input variables - t , r and s , and an output variable - e . In other words, the car wash centre's manager wants to determine the number of employees per shift which are necessary for keeping the average waiting time within an acceptable range.

The ranges of the linguistic variables are specified in Table 2 along with normalised values of parameters t , r and s contained in the interval $[0,1]$. It can be noticed that for the mean delay parameter t , only three linguistic variables are considered - *Very Short*, *Short* and *Average* because values like *High* and *Very High* are simply not practical. A manager cannot allow letting a client wait longer than the average time.

Table 2. Linguistic variables and their ranges

Linguistic variable	Linguistic value	Notation	Normalized limits
Average waiting time (t)	Very Short	VS	[0, 0.25]
	Short	S	[0.2,0.6]
	Average	A	[0.5,0.8]
Number of stands (s)	Low	L	[0, 0.4]
	Average	A	[0.4,0.7]
	High	H	[0.6,1]
Ratio factor (r)	Low	L	[0, 0.5]
	Average	A	[0.4, 0.75]
	High	H	[0.7, 1]
Number of employees per shift (e)	Very Low	VS	[0, 0.25]
	Low	L	[0, 0.3]
	Rather Low	RL	[0.25, 0.45]
	Average	A	[0.35, 0.75]
	Rather High	RH	[0.55, 0.75]
	High	H	[0.7, 1]
	Very High	VH	[0.8, 1]

Fuzzy sets can have a variety of forms depending on the nature of the case in question. For our case we choose Gaussian membership functions for adequate representation of the expert's knowledge and at the same time, significantly simplifies the computation process. In Figure 2 are presented the fuzzy sets for all linguistic variables used in the

fuzzy system. One of the key points refers to maintaining sufficient overlap in some adjacent neighboring sets, such that the fuzzy system has a response as linear as possible.

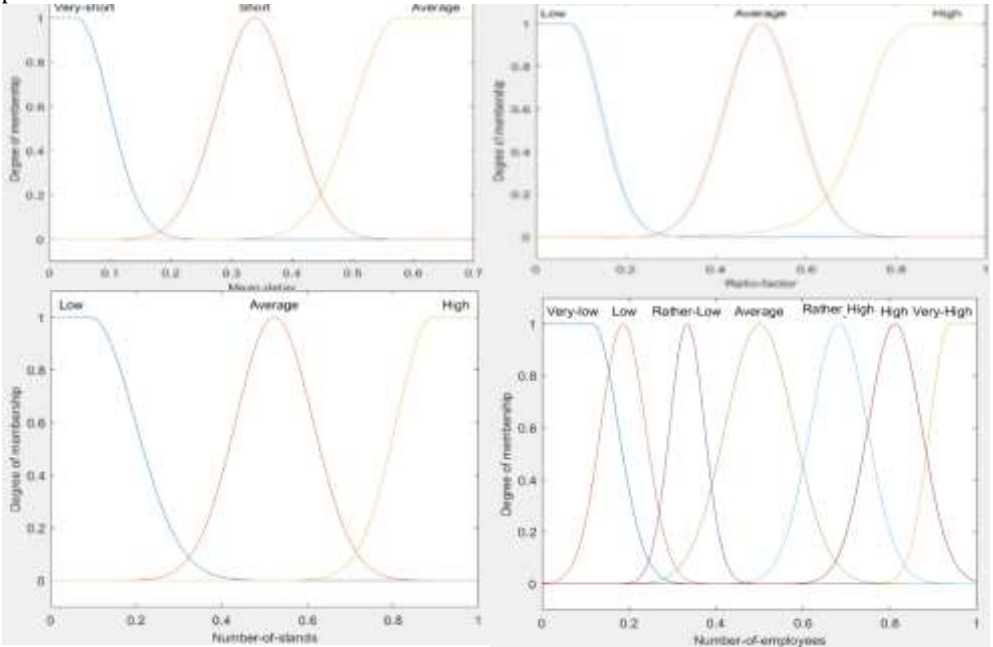


Figure 2. The fuzzy sets for all linguistic variables used in the fuzzy system

Furthermore, the fuzzy rules must be obtained. In order to accomplish this requirement, an expert acknowledgement is required using the fuzzy linguistic variables previously defined. The necessary knowledge can also be collected from books, databases, and diagrams or based on observations.

There are three input and one output variables in our example (Figure 3). It is often convenient to represent fuzzy rules in a matrix form. Figure 3 presents the graphical representation of the three input parameters and of the only one output.

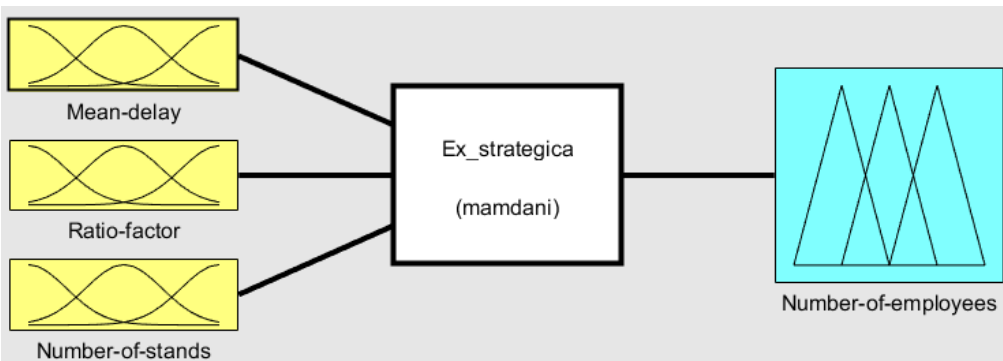


Figure 3. The interface for representing the input and output data of the system

A detailed analysis of the operations at the car wash point and based on an expert opinion determined us to obtain 27 rules that represent the complex relationships between all the variables used in the expert system as can be seen in the Figure 4.

1. If (Mean-delay is Very-short) and (Ratio-factor is Low) and (Number-of-stands is Low) then (Number-of-employees is Very-low) (1)
2. If (Mean-delay is Short) and (Ratio-factor is Low) and (Number-of-stands is Low) then (Number-of-employees is Very-low) (1)
3. If (Mean-delay is Average) and (Ratio-factor is Low) and (Number-of-stands is Low) then (Number-of-employees is Very-low) (1)
4. If (Mean-delay is Very-short) and (Ratio-factor is Low) and (Number-of-stands is Average) then (Number-of-employees is Very-low) (1)
5. If (Mean-delay is Short) and (Ratio-factor is Low) and (Number-of-stands is Average) then (Number-of-employees is Very-low) (1)
6. If (Mean-delay is Average) and (Ratio-factor is Low) and (Number-of-stands is Average) then (Number-of-employees is Very-low) (1)
7. If (Mean-delay is Very-short) and (Ratio-factor is Low) and (Number-of-stands is High) then (Number-of-employees is Low) (1)
8. If (Mean-delay is Short) and (Ratio-factor is Low) and (Number-of-stands is High) then (Number-of-employees is Low) (1)
9. If (Mean-delay is Average) and (Ratio-factor is Low) and (Number-of-stands is High) then (Number-of-employees is Very-low) (1)
10. If (Mean-delay is Very-short) and (Ratio-factor is Average) and (Number-of-stands is Low) then (Number-of-employees is Low) (1)
11. If (Mean-delay is Short) and (Ratio-factor is Average) and (Number-of-stands is Low) then (Number-of-employees is Very-low) (1)
12. If (Mean-delay is Average) and (Ratio-factor is Average) and (Number-of-stands is Low) then (Number-of-employees is Very-low) (1)
13. If (Mean-delay is Very-short) and (Ratio-factor is Average) and (Number-of-stands is Average) then (Number-of-employees is Rather Low) (1)
14. If (Mean-delay is Short) and (Ratio-factor is Average) and (Number-of-stands is Average) then (Number-of-employees is Low) (1)
15. If (Mean-delay is Average) and (Ratio-factor is Average) and (Number-of-stands is Average) then (Number-of-employees is Very-low) (1)
16. If (Mean-delay is Very-short) and (Ratio-factor is Average) and (Number-of-stands is High) then (Number-of-employees is Average) (1)
17. If (Mean-delay is Short) and (Ratio-factor is Average) and (Number-of-stands is High) then (Number-of-employees is Low) (1)
18. If (Mean-delay is Average) and (Ratio-factor is Average) and (Number-of-stands is High) then (Number-of-employees is Very-low) (1)
19. If (Mean-delay is Very-short) and (Ratio-factor is High) and (Number-of-stands is Low) then (Number-of-employees is Very-High) (1)
20. If (Mean-delay is Short) and (Ratio-factor is High) and (Number-of-stands is Low) then (Number-of-employees is High) (1)
21. If (Mean-delay is Average) and (Ratio-factor is High) and (Number-of-stands is Low) then (Number-of-employees is Average) (1)
22. If (Mean-delay is Very-short) and (Ratio-factor is High) and (Number-of-stands is Average) then (Number-of-employees is Average) (1)
23. If (Mean-delay is Short) and (Ratio-factor is High) and (Number-of-stands is Average) then (Number-of-employees is Average) (1)
24. If (Mean-delay is Average) and (Ratio-factor is High) and (Number-of-stands is Average) then (Number-of-employees is Low) (1)
25. If (Mean-delay is Very-short) and (Ratio-factor is High) and (Number-of-stands is High) then (Number-of-employees is Rather_High) (1)
26. If (Mean-delay is Short) and (Ratio-factor is High) and (Number-of-stands is High) then (Number-of-employees is Average) (1)
27. If (Mean-delay is Average) and (Ratio-factor is High) and (Number-of-stands is High) then (Number-of-employees is Rather Low) (1)

Figure 4. The rule base which define the fuzzy system

Once defined the fuzzy sets and fuzzy rules their codification is necessary, this way actually constructing the expert system. In order to do this, we used MATLAB Fuzzy Logic Toolbox from MathWorks (Fuzzy Logic Toolbox User's Guide 2018) because such an instrument offers a complete environment for building and testing an expert system. MATLAB Fuzzy Logic Toolbox has five integrated graphical editors: the editor for the fuzzy inference system, the rules editor, the editor for membership functions, the fuzzy inference viewer and the 3D viewer of output data.

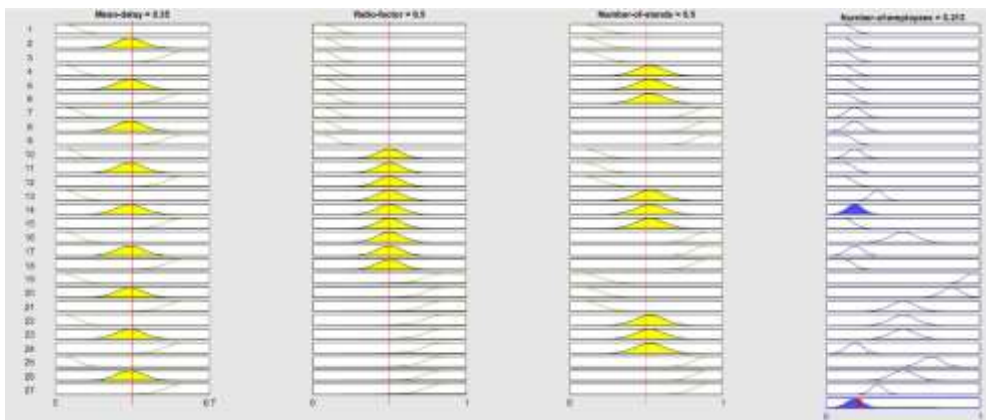


Figure 5. Evaluation and representation of the rules

The last and most laborious task is that of evaluating and tuning the system. Once the rules are introduced in the system, the Rule Viewer module can be viewed, which shows

what happens with the system in the moment when the values of the input data are scrolled. Depending on the interest, we can see the optimal solution in Figure 5.

Fuzzy Logic Toolbox is capable to generate 3D surfaces that help us analyze the performance of the system. These surfaces can be represented as well by varying whichever two of the input parameters, the other one remaining constant, as it can be clearly observed from Figure 6.

Even in this situation, the expert may not be satisfied with the system's performance; in this case, additional membership functions can be added, for example for the universe of discourse of the number of stands s parameter. As a result, the number of rules must be modified, in the sense of its increase, in order to give a better accuracy of the system, and then the output data must be compared with the ones previously obtained. Broadly speaking, the tuning of a fuzzy expert system is a greater consumer of time than fuzzy sets determination or rules construction (Pîslaru, Schreiner, & Trandabăţ, 2010).

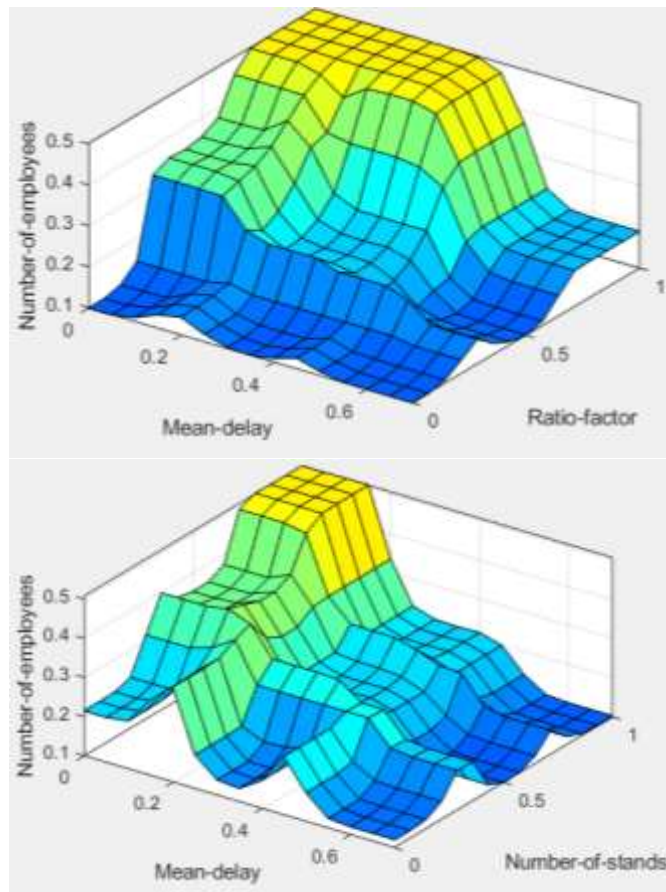


Figure 6. 3D images of the output variable

Discussion and conclusions

In the paper it is presented in a synthetic way, the results of the approach and procedures for the quality assurance process at a car wash station. The paper supports the computational techniques represented by an expert system using fuzzy logic as a starting point in the elaboration of quality assurance procedures. Computational techniques are considered a step forward in service quality assurance. Using computational techniques is another way to manage a business. Even though the proposed case study brings to the reader a lot of information about fuzzy logic, it has been tried to address them in a "friendly" manner, so understanding the problem would not raise great difficulties.

The novelty that the research is represented by the fuzzy expert system of quality assurance process which is characterized by a very high degree of complexity, case in which the adoption of such computational techniques proves its efficiency. Thus, the work contributes to quality improvement of service management using fuzzy technique which in economic terms translates in time and money savings.

The case under discussion is a simple one, but the real processes (production, services, etc.) are characterized by a very high degree of complexity, in which case the adoption of such computational techniques proves the efficiency it eventually translates into time and money savings. The present period is characterized by profound scientific and technological transformations. The volume of information doubles every 20 years, and technologies are replaced after only four years. Knowledge-based society is a reality, and continuing education is one of the most effective solutions to remain competitive.

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MANAGING VEHICLES USED IN TRANSPORT IN EMERGENCY SITUATIONS

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Abstract. *When considering emergency situations, the question arises on how to manage the vehicles used then. Dealing with emergency situations usually involve quick reaction which would influence a lot of people being faced with such matters, as floods, earthquakes, hurricanes or terrorist attacks. Typically, both evacuation and response to the problem involve massive movements and a wide range of issues that need to be addressed. One of the notions of great concern is how to use available tools and how to make evacuation as flawless as possible. The tools involve available means of transport, such as planes, drones and airships, trains, road vehicles such as cars, coaches, buses, but also trams and trolleybuses, and boats of various kind. Those may prove both extremely comfortable and useful means of evacuation and unfortunately, equally effective and threatening means of terrorists' massive attack tool. When considering the former case, one needs to address such issues, as managing the fleet in use, problems with infrastructure or with people skilled to operate them, as well as panic issues. When considering the latter one, one needs to consider distraction impact, the panic that would rise, the need to block the attack and to need to evacuate people. In order to be able to face the challenges, one ought to be able to use the tools to manage all the fleet that is used in emergency situations. The tools that may help deal with such situations are the ones that would cover gathering the information about each of the vehicle. They should also offer the possibility to update such knowledge, as well as pass selected information to other bodies and receive feedback from them. Moreover, there is the approach towards managing the vehicles and towards to priorities set in an emergency situation. The hereby article presents the overview of the available tools and approaches towards dealing with the emergency. The Authors try to describe possible ways and methods in use when facing the emergency, together with the suggestion which option appears to be the most suitable in case of particular means of transport and the situation involved. The Authors are aware there is no one perfect pattern of conduct to be used in every case, however, they hope their work would be of some assistance to those who are responsible for taking decisions in the situations that are both extremely stressful and dangerous.*

Keywords: *managing vehicles; transport; emergency situation.*

Introduction

When considering the issue of emergency situations, the question arises on how to manage one of the means used when such a situation takes place, that is, the vehicles. Dealing with emergency situations usually involve quick reaction which would influence a lot of people being faced with such matters, as floods, earthquakes, hurricanes or terrorist attacks. Moreover, it concerns the cooperation of many parties; as it is highlighted, "Emergency response usually calls for the cooperative efforts of a broad range of community agencies. Typically, police, fire, search and rescue teams, ambulance corps, and backup health facilities work together, but other support services may be called upon to assist as required by circumstances" (Granot, 1997, p.305). That creates the network of numerous people involved in the process who need to respond to the situation but also, to the expectations of the people involved; as it has been observed, "high expectations of public and stakeholders in emergency and disaster management require effective use of resources by collaborative networks" (Kapucu, Arslan & Demiroz, 2010, p.452).

Typically, from the perspective of a body or bodies which are to manage reaction in the given area, both evacuation and response to the problem involve massive movements and a wide range of issues that need to be addressed at the same, or almost at the same time. One of the notions of great concern is how to use available tools of fast evacuation and how to make it as flawless as possible, as was in case of the systems mapping for technology in CBRN response (Hancox et al., 2017, p.111), joining the response of various agents (police, firefighters, hospitals etc.) into one information platform. The tools involve available means of transport, such as planes, drones and airships, trains, road vehicles such as cars, coaches, buses, but also trams and trolleybuses, and boats of various kind. Those may prove both extremely comfortable and useful means of evacuation and unfortunately, equally effective and threatening means of terrorists' massive attack tool.

When considering the former case, one need to address such issues, as managing the fleet in use, overcoming the shortcomings of the emergency situation, such as lack of power, problems with infrastructure or with people skilled to operate them, as well as such challenges such as panic among the citizens or people who found themselves in the area where emergency has taken place. Therefore, what needs to be known from the start is the updated information on exact state, position, number of the vehicles, their location, mechanical requirements, such as power in use (petrol, electric energy etc.) as well as the list of people able to drive, or operate them; such list would offer the possibility to contact such people as quickly as possible, although the challenge arises whether everybody would agree to be enlisted for such reasons (as this is not military force, some would be afraid, others might expect extra funds for being on standby; also, as such vigilance would require updating one's location whenever it has changed – for example, due to holidays, business trips or training – some could be discouraged to participate). Also, the individual's drive for self- managing the problem ought to be taken into consideration: not everybody will listen to and follow the procedure, some people, despite previous plans, would like to take the action into their own hands; although that might prove useful, in some situations such as evacuation, such an approach might prove harmful and disturbing; it sometimes is in case of reaction to the danger of fire – the attempt to distinguish it oneself may win over calling the appropriate services (Whales & Thompson, 2013, p.94). One might ask, whether such behavior pattern would not

override planned activities.

When considering the latter one, that is the case of terrorists' attack, apart from the problems indicated above, such as the location of the vehicles, fuel, people to operate, infrastructure etc., one needs to consider the issues such as distraction impact, panic that would rise, the need to block the attack and to need to evacuate people from the endangered area as fast as possible. Panic is a greatly important issue that may not be forgotten, as it influences not only the individuals exposed to the emergency, but being highly contagious, it spreads among the crowd easily, causing chaotic, sometimes dangerous behavior that is impossible to be fully predicted and therefore, almost impossible to be steered.

Taking all the above into consideration it is to be appreciated how collecting and operating data that may prove useful when managing the emergency is crucial for the situation to be dealt with efficiently. It is especially appreciated in case of using the tools enabling the evacuation, the vehicles, and at the same time, using the skills of the people involved in the situation. What is more, it is not to be forgotten how important the planning and forecasting is, especially in the situations that involve numerous people and may happen suddenly.

Summing up, managing the fleet to be used in the emergency is the task requiring careful planning, involving many bodies, forces, agencies and citizens of the area the situation has taken place and therefore, it is quite a difficult task. However, some of the issues concerning it may be pre-planned, and thus it may appear to be somewhat easier to deal with the case.

The research methodology followed in the article is based on analyzing the contents of the documents and scientific materials (reports, articles) understood as "the analysis of the content as reasonable, systematic and analytic reading/ perception of the content" (Szczański, 2012, p.83). There are two types of documents content analysis; there is "internal analysis focusing on learning the document content, profound understanding and explaining as well as distinguishing major elements, leading thoughts and their mutual relations from the context" (Łobocki, 2005, pp.222-223). There is also external analysis, "focusing on time, conditions of creating the document, and its identification of the author and the reader for whom it has been created or its potential influence on particular situations and happenings" (Łobocki, 2005, pp.222-223). The hereby text was created on basing mostly on internal analysis of relatively short content; following Apanowicz's belief that "the goal is to receive specific data on effects of the activity, process or organization-economic system elements. Document content analysis may be limited to setting an actual state, they may also help to collect data needed to forecast the future state" (Apanowicz, 2000, p.131). Hopefully, such an approach will help to build a greater picture of contemporary solutions, challenges, and chances of managing vehicles used in emergency transport.

Managing vehicles in an emergency

In the times of crisis, various types of vehicles would require different means and methods, appropriate to their conditions of use and the requirements needed. However, there will also be some of the issues common for each type of transport, such as the following:

- some of the means to collect necessary data
- some of the means providing required operating staff
- some of the methods to provide the evacuated with the appropriate information

As far as the means to collect necessary data is concerned, it seems the approach launched in case of smart cities may be of great assistance. It concerns collecting the data of the ordinary traffic in the city using cameras, sensors, and detectors, and passing the information to the traffic participants via radio, internet, mobiles, variable message signs etc. Obviously, it cannot be used in case of all the transport means, air transport would be able to use it means, but road transport may profit from such solutions in total, and rail and inland transport may use at least some of the abovementioned means of communication.

Also, it is important to highlight the obvious, that is that the message ought not to be long and sophisticated: short, clear information about the nature of the problem (it is another concern whether in all circumstances the information should be completely true in that part), the provided means and location of evacuation, preferably method (e.g. how many people on board, the reassuring information that all requiring will be taken and evacuated etc.) of leaving the endangered place.

As far as the means providing required operating staff are concerned, it appears to be a good idea to stretch the military approach over the people owning the required skills. It seems obvious to take their opinion into account, as not everybody would feel they need and should be always ready to take part in the evacuation or else, endanger themselves when they could be far from the problem. However, there are many people willing to participate in official or semi-official military groups such as National Defense forces and perhaps their members would be interested in volunteering into the expert's list: the list of professionals whose skills could be the answer to the evacuation issues in case of the emergency. Such list, available to the coordinators of emergency offices or emergency teams, could provide the solution to the situation, where there are people to be moved, there are transport means available, such as a train, but there is nobody declaring the knowledge on how to operate the vehicle. The idea is not new, it was used before and is currently used, however, in somewhat different form. PMG, Economy Mobilization Program, is designed for the enterprises, not individuals, and prepared on the basis of the Act of 23rd August 2001 on organizing tasks for the state defense, realized by entrepreneurs (Journal of Law no 122, item 1320 with amendments) and on the basis of the Decision of Ministry of Defense on preparing the plan of realizing the duties resulting from PMG (Journal of Laws of MON, Decision no 331 MON from 7th December 2016). The document is prepared every four years for the next decade, it is classified and its goal is to maintain safety and providing the means for appropriate forces, such as Police, Army, etc. It is to enlist entrepreneurs considered important for the economy and they are to create the chain of resources provided to the Army. Such work is paid and reported annually (<http://www.milwomen.pl/aktualnosci/program-mobilizacji-gospodarki>). Such program could also enlist the name list of professionals willing to help in the emergency and be paid for being on standby, which could potentially compensate for the inconveniences of having to report every move in and outside the country.

As far as the methods to provide the evacuated with the appropriate information are concerned, the means all branches of transport could use are of course radio, Internet platforms, text messages sent to everybody in the vicinity, all the applications the mobile

users could download to be updated about the emergency (it is suggested it should be offered for free, but such option is to be discussed in the future). Direct contact with all the exposure to the emergency could provide their fast and relatively calm reaction, however, it would not exclude the role of the coordinators. Their common contact, as well as their contact with the evacuated, is extremely important, however, the tools used on such communication channel would not differ much from the abovementioned ones; perhaps it would be more standardized, as mobiles and emails would constitute the basis of their communication.

Other issues, such as the role particular means of transport could serve in the evacuation, the requirements of its use in such situation and the danger it could create when used by the terrorists should be discussed separately for each means of transport taken into consideration.

When considering air transport means to be used in emergency situations, one may consider planes, but also drones and airships. What all those means have in common is the possibility to see the whole picture, offering the data to analyze the whole issue of evacuation at once. As for planes, they offer the possibility to evacuate quite a lot of people at once, they also offer the chance to travel to and back the quickest. Air transport has also one more advantage to consider from the perspective of evacuation planning, sometimes forgotten. This is firefighting equipment available on the airports. As it is stated: "Airport administration spend millions of dollars providing and operating firefighting equipment, hoping that they will never have to use it." (RFFS) (Kazda & Caves, 2010, p.427). Rescue and Fire Fighting Service is the team that could support other parties in organizing the crowd, monitoring people flow or immediately responding to spreading the fire of water.

As for perceiving airplanes as a potential terrorist's tools, one need to take into consideration the scenarios, when the plane is used to attack the crowd (hitting the building as on 7/11, massacring the crowd on the land etc.) or else, when the plane is hijacked and people traveling with it do not reach safe destination but start their run for life.

When analyzing air transport means, one cannot forget the airships. Slower than planes, yet offering the amazing capacities to start and land from literary everywhere, not requiring so numerous infrastructure solutions as planes, airships may be used as great means to facilitate evacuation. They offer the possibility to evacuate many people at the same time, however, they are more dependent on external conditions than planes. Moreover, one cannot forget their slowness. What is more, as the vehicles using explosive fuel, they may be easily turned into terrorists' weapon and as such prove a real danger to everybody being close to them. Nonetheless, it is highlighted that despite their advantages, "the success of airship transport or any form of airship operation depends to a very large extent upon the efficiency of the ground organization and equipment. In the past, the lack of appreciation of this fundamental fact has been the cause of many of the troubles encountered and to a large extent the reason for the comparatively slow development of the airship." (Scott, 1930, p.235). In case of evacuation, the transport infrastructure is of somewhat less importance than during its development, however, one needs to remember that airship could offer the possibility to supplement the solutions offered by planes.

Other tools supplementing the evacuation procedure are drones. Those smart machines, operating with quite noticeable speed, offering rather small load and size, may constitute great tool for gathering the data concerning the situation, following evacuation process step by step round the clock, giving information on the current state of operation, upcoming dangers, difficulties, ways of coordinating parties taking part in particular operation stage or stages, transporting documents if needed, making films, photos etc. One of the machines used in emergency situations was described by Hasam, Newa and Ahsan (2018), who highlighted its speed, compactness, and equipment: "an aircraft type autonomous portable drone suitable for surveillance and disaster management. The drone is capable of flying at a maximum speed of 76 km/hour. This portable drone comprises five distinct parts those are easily installable within several minutes and can be fit in a small portable kit. The drone consists of a ballistic recovery system, allowing the drone landing vertically. The integrated high definition camera sends a real-time video stream of the desired area to the ground control station. In addition, the drone is capable of carrying ~ 1.8 kg of payload" (Hasan, Newaz & Ahsan, 2018, p.147). On the other hand, gathering information means may be used by both good and bad hands, offering similar intel to the terrorists and warning them against any undertaken action or activity. Drone, is a great supporting tool, may as well be considered as great, dangerous weapon.

As far as road transport means used in evacuation process are concerned, they are usually the ones to be taken into consideration first when responding to evacuation planning. Road vehicles, whether we consider buses, coaches or cars, are the easiest to get due to their number, also the biggest number of people have, even if only rudimentary, knowledge how to operate them, and the infrastructure needed to use them may also fragmentary, even partly destroyed. The greatest concern is fuel, but it is also among the easiest to obtain due to numerous stations (at least, at the level of evacuation). Sadly, those advantages may also prove them being chosen as a quick method of massive harm, such as in some cases when a truck was used to kill, being driven into the crowd – this aspect cannot be forgotten. However, there is one option that first of all solves the problem of people needed for operating the machines and second, eradicates road vehicles from the range of terrorist: those are unmanned vehicles. The trend is quite visible: "The unmanned robotic vehicle industry is largely driven by government requirements, both military and civilian. Unmanned service robots are also found in commercial applications such as pipeline surveillance, crop monitoring and fish school location at sea" (Bloss, 2009, p.13). Road vehicles without the driver would provide easier to access means of evacuation and if protected properly, would not be possible to be used as a terrorists' weapon. The thing to remember when creating and using them, though, is appropriate IT safety measures.

In case of railroad transport means, their popularity offers great evacuation possibilities, however, limited with the already described issues with operating staff willing to participate in the evacuation process and the case of fuel. One of the fuels needed is electric power and this is usually cut off first in case of the emergency, leaving the means immobile or worse, blocking the railroad. That is why it is not easy to consider railroad vehicles as the first means of evacuation, however, in the situation when the power is not cut off yet and the need to leave the area is urgent, perhaps even just for the first mile of evacuation road such means of transport would prove useful, although then they need to be changed into other types of vehicles.

As far as inland means of transport are concerned, they are usually not mentioned, if not forgotten, in the majority of evacuation plans. Perhaps it is due to the case this is not the most popular means of transport, as well as not situated everywhere; however, in the areas boats are available they ought to be considered as an evacuation means, even if only supplementary, as they may help solve the panic problem of people left behind, because there was no place for them in the buses.

Summing up, all means of transport available in the area ought to be considered to be used in evacuation path planning and executing, obviously taking into consideration their strong and weak points so as to avoid the risk of creating the plan impossible to implement and to limit, if not eradicate, potential panic of the people involved.

Conclusions

The issue of evacuation is the complex task that requires careful and detailed planning as well as multiple plan variations so that majority (if not all) scenarios are predicted and well prepared for. In the process of creating appropriate evacuation path, it seems a good idea to consider all the potential ways of rescue and all possible means of transport that could be used in the given location. What need to be considered, though, are the possibilities offered by every kind of available machines, as well as the shortcomings one may face when deciding to use them.

What seems potentially best solution is to divide the planning process into at least two stages and first consider the challenges to answer that are common for all possible solutions, such as lack of operating staff, number of vehicles, means to collect and spread the information necessary for smooth evacuation process. Secondly, it appears to be prudent to consider the possibilities offered by particular means of transport available in the area, as well as dangers they would create when used as the terrorists' means. When such data are cross-referenced with the information about the population of the area, the number of people currently in the vicinity, the nature of the danger they need to face, those may result in appropriate evacuation plan that may work best in the given conditions and help to save lives and wellbeing of numerous people faced with the emergency.

What needs to be highlighted, though, is the general idea of planning, preparing for the situation every one hopes would never happen. As it has already been observed: "Look at the way in which public transport is used for evacuation of personnel in the event of emergencies or disasters. Although the work of the emergency services is well documented, it seems that the important task of evacuation, and particularly the planning, operation, and documentation is often overlooked. (...) This is due to the sometimes unpredictable nature of the transport system due to roadworks, road closures, accidents, etc. Special events, such as football matches, are a regular occurrence, which includes the need to move large crowds to and from the venue. This strategy and planning can be used in the evacuation of people in the event of a disaster" (Scanlon, 2003, p.428).

Planning and trying to prepare for the unexpected seems to be the most important part of any successful evacuation case. It is visible in already analyzed evacuation cases, as it was in case of analyzing floods issue; it was observed, that the flood victims who were given evacuation notices were five times more likely to evacuate (Soon,

Kamaruddin & Anuar, 2018, p.134). It seems impossible to be prepared for anything and everything, but as those are the lives that are at stake the authorities need to do all they can to protect people in need and mostly, to prevent the emergency, and if that is not possible, to protect people against as many of unwanted emergency consequences as possible. Evacuation is but the first step, yet it seems crucial for people to believe the problem might be solved; carefully prepared plan, including the scenario to use particular means of transport and people willing to help evacuate other, is the most important stage of the operation. Therefore, appropriate managing of the vehicles used in an emergency situation would appear the key element for successful evacuation process and that in turn cannot be performed without proper analysis of each and every potential solution involving all means of transport available in the area.

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THE ANALYSIS OF FACTORS GENERATING EMERGENCY SITUATIONS IN AIR TRANSPORT

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Abstract. *While conducting our ordinary social and economic activities, we rarely stop to ponder what would happen if air transport opportunities (and its services) suddenly became largely limited. We neither realize the reasons behind it nor are we aware of its potential consequences. That is why – when preparing business strategies – air transport operators develop modern models of company operations, which account for emergency situations. A rapid response to emergency situations and skillful implementation of modern solutions are the foundations of operational and financial sustainability of enterprises. The aim of the article is to present factors generating emergency situations, which may substantially limit air transport operations, and their likely consequences. The Authors are aware there is no one perfect pattern of conduct to be used in every case, however, they hope their work would be of some assistance to those who are responsible for taking decisions in the situations that are both extremely stressful and dangerous.*

Keywords: *air transport; emergency situations; air transport operators; crisis; factor's analysis.*

Introduction

Aviation has developed its response to the growing demand for passenger and freight air transport. The twenty-first century features rapid development of societies who are willing to migrate for work and study purposes, explore the world and grow wealthier. Thanks to the above and the development of a broadly understood communication, including communications and air transport, the concepts of time and distance have disappeared. Space is perishing; the distance is becoming non-distant. We are living in the world that is a global village, where everything is happening at the same time and where everything is affected by events of various origins.

Problem-solving very often requires us to use the most accurate research methods for various disciplines: Economic sciences, management, computer sciences, and statistics. The choice of methods is dependent on the agreed research procedure. Accurate methods are accepted on its every level what allows to aim the goal of given investigation. According to the given information, this paper includes the following research methods:

- System analysis
- Other countries' experience – analysis of the results

- Potential's comparative analysis of chosen air carriers

Basing on the investigation results of other authors who publish their papers in this area of research, it must be said that previous studies contributed to creating advanced research methods. It also showed that the area of the cargo air transport still faces many problems.

The nature of an emergency situation

With a view to delineating the nature of an emergency situation, we should present its definition set forth in the National Programme of Civil Aviation Protection which presents an emergency situation as: "a situation in which safety is jeopardized by an act or an attempted act of unlawful interference in civil aviation" [www.prawo.sejm.gov.pl]. Unlawful interference in civil aviation, in turn, is specified by the legislator as an illegal and deliberate act consisting in:

- a) use of violence against a person on board an aircraft in flight;
- b) destruction of an aircraft in flight or causing damage to an aircraft preventing the flight or jeopardizing the safety of the aircraft in flight;
- c) introduction on board an aircraft of an object, device or substance which may jeopardize the health or life of passengers or crew, or destroy an aircraft or cause damage to an aircraft preventing the flight or jeopardizing the safety of the aircraft in flight;
- d) unlawful seizure of an aircraft, with crew and passengers on board or without them, also for the purpose of using the aircraft as a device for an aerial terrorist attack;
- e) destruction or damage of onboard or ground equipment, their disruption, or the use of violence against their operator in the event when this seriously disrupts air traffic or jeopardized the safety of the aircraft;
- f) communication of false information which poses danger to persons and property in air communication;
- g) use of hazardous devices, substances and objects or weapon, the use of which may:
 - destruct or seriously damage devices at an airport;
 - destruct or seriously damage an aircraft;
 - disrupt air traffic or airport operations during the violent act directed against a person at an airport or serving civil aviation, which results in or may result in serious injuries or death (www.nowastrategia.org.pl - date of access: June 30, 2018).

Factors generating emergency situations in air transport

Due to its utility values and the benefits of long-distance passenger and freight transport services, air transport is the leader of the transport sector. Nonetheless, in addition to advantages, transport aviation also has its (major) disadvantages, as demonstrated by the presence of a group of factors disrupting its smooth operation. The morphological analysis of the factors is shown in Fig. 1.



*Figure 1. Factors Generating Emergency Situations in Air Transport
(Wąsowska, 2015, p.5498)*

Aptitudes, training, and health condition of flight crews

In accordance with the binding regulations, the pilots and cabin crew members must be examined by a psychologist at least once every six months (following certain rules and procedures, depending on the scope of responsibilities). Quoting the article by Z. Banachowicz and D. Grześkowiak entitled "Zagrożenia bezpieczeństwa we współczesnych portach lotniczych i na pokładach statków powietrznych" ("Security threats at contemporary airports and on board aircraft"), psychological assessment of pilots should be conducted minimum once per six months as human mental condition is subject to frequent changes and, therefore, a team of psychologists (and psychiatrists, if needed) ought to supervise it. According to the authors, neglecting these affairs led to the Germanwings' Airbus A320 catastrophe in the Alps.

The investigation in the case proved with a high degree of probability that the co-pilot, who locked himself in the cockpit and took over the plane after the captain had gone to a toilet, acted intentionally and had been prepared. His unauthorized and unfounded flying below flight altitudes in the mountainous area of the Alps resulted in the plane crash. The results of the investigation demonstrated that this man had mental problems, which could have triggered his destructive behavior.

Having regard to this event, the authors unanimously highlight that every pilot should have his individual psychological profile drawn up, depending on his age and seniority (as a pilot – as of the time of training, as an employee – as of the start of employment with a given employer and airline) and on one's mental and physical features. Examinations conducted year by year would allow one to detect all and any changes in the profile caused by, for instance, life failures, allowing immediate response to emergency events.

The remaining cabin crew members (flight attendants) are required to comply with their roles. The authors reckon that they too should be given extra training so that, in the event of a permanent or temporary disability of a pilot, they are ready to take over some part of professional responsibilities of pilots, such as to communicate with ground forces/service providers or to control an airplane or its devices, to some extent (Banachowicz & Grześkowiak, 2015, p.669).

Air traffic organization – Air traffic management

Air traffic management is providing an adequate level of air safety by striking a balance between the ever-growing number of flights and the available volume of controlled space.

The term Air Traffic Management (ATM) was created in the process of aviation development and evolution and on the basis of the theory of management. Its essence are “all undertakings accomplished on behalf of the state by a special specialised organization, in cooperation with other entities, aimed at ensuring aircraft safety, maintaining well-ordered air traffic flow, and using airspace in the most efficient manner” (www. mi.gov.pl (date of access: June 30, 2018)).

The underlying elements of air transport management are:

- planning;
- organizing;
- coordinating;
- controlling all resources of air traffic management potential, which includes, above all, ground personnel, cabin crew, and all technical infrastructure of the system of air traffic service providers.

ATM consists of the following activities:

- provision of air traffic service providers;
- management of air traffic flow;
- management of airspace.

Rapidly progressing globalization and integration within the European Union have resulted in the need to take up activities which would synchronize and liberalize civil aviation. Their scope appeared to be very broad, for it covers the rights of passengers, matters relating to safety, environmental protection, infrastructural needs, and air traffic management.

Air transport development spurs growth throughout the economy – the idea of sustainable development. This is the main objective of the European Commission, in line with which a reform of the system of air traffic management in Europe was developed

under the name Single European Sky (SES). Given the significant fragmentation of airspace in Europe and the need to cooperate in terms of operations and system adaptation to the present-day movement situation in the airspace, the concept turns out to be extremely important.

The multi-aspect approach to air navigation is an opportunity to attain the following goals within a few-year period:

- increase in airspace capacity;
- the decrease in costs of air navigation service providers;
- the decrease of aircraft operations' negative effect on the natural environment;
- safety [Ibidem] .

Weather conditions

The specificity of air transport is its dependence on temporary weather conditions rather than climate changes, for the current meteorological situation is most important, above all, at airplane take-off and landing. Aviation infrastructure, in turn, is subject to the same climate changes as a building or technical infrastructure. The primary risk for on-ground planes are gusts of strong wind and icing. The remaining atmospheric phenomena, such as downpours or heavy snow, may delay operations and have a negative effect on transport regularity – but they are not a real threat. Nowadays, air transport is prepared to operate under the above conditions.

Fog or volcanic ash emission results in a complete loss of visibility, which as a consequence may lead to discontinuance of transport functions [www.klimada.mos.gov.pl] - this happened at the end of March/beginning of April 2010. The year 2010 did not call for optimism. The economy only started to have a chance of being profitable after an unexpected economic downturn, and here a new crisis – the so-called volcanic crisis - emerged, particularly affecting the air transport. The effects of volcanic eruption covered nearly all Europe, grounding not only air transports but also European Union economies and communities.

The Agency of Aviation Supervision – Eurocontrol – announced that around 300 of 29 thousand flights in Europe were canceled. The International Air Transport Association (IATA) estimated that daily downtimes cost airlines 200 million USD. Tim Clark, the head of the Air Emirates flying passengers from Asia to Europe said: ...”Should the ban on flights be upheld, the aviation industry will collapse” (www.wyborcza.pl (date of access: August 2, 2018)). Lufthansa lost – 200 mln Euros, British Airways – 20 mln GBP, whereas the above mentioned Air Emirates – 50 mln USD.

Air transport is used in the economy primarily for long-distance shipment of fresh foods, medicines, electronics and car parts for production lines, etc. Particular impediments were seen in the movement of goods along the following routes: Asia - Europe and Europe - America.

Losses were recorded not only by the aviation sector. Alcohol manufacturers, such as Johny Walker or Hennessy, and a luxury shoes and bags producer Salvatore Ferragamo with over 130 stores across all airports, also experienced difficulties.

BMW car manufacturer announced that in view of the situation the production of X5 and X6 models in the South Carolina factory (USA) may have been withheld because they were not receiving any gearboxes from their German plants. The same declaration was made in China by Japanese Nissan, as it was not getting its parts from Ireland. Such production halting was also intended by Daimler.

In Hong Kong, commonly referred to as the window overlooking the South-Eastern industrial districts of China, the goods waited between 10 and 14 days before they could be loaded on board of aircrafts. The luxury Hong Kong districts lacked French cheese and Belgian chocolate. LG plants' warehouse was full of electronic devices due to zero transport opportunities across Europe. Thousands of roses died at Kenyan airports and tons of pineapples and papayas intended for Europe went off in Ghana. In China, in the Guangdong province, many plants manufacturing jewelry and watches ceased operations.

In Poland too we could face a shortage of medicines which were not registered in the country but imported upon the consent of the Minister of Health, upon request. These medications include American and Canadian preparations for drug-resistant tuberculosis patients, interstitial cystitis and tumors. As airlines did not take on any new orders, at the time of service renewal the rates could have doubled.

In accordance with the European Commission's 2008 data, air transport includes only 0.6% of the total mass of goods in the EU foreign trade; nonetheless, as their value was 576 billion Euros – in reality, it accounted for 20% of the value of total EU foreign trade.

In the face of danger, the German Minister of Economy Rainer Bruederle said: "Many industry sectors rely on air transport. If in a global world, supply chains are suspended for longer periods, we will have a serious situation [www.wyborcza.pl]". Germany, as the largest European exporter, has special reasons to be concerned for – to quote the main economist of the German Economic Chamber, Volker Treier, ... "a tie-up in flights may cost Germany as much as one billion Euros per day" [Ibidem].

Air postal services also faced multi-hour (between 24 and 72) delays in air mail deliveries across Europe and few-day delays in mail sent both from and to Europe elsewhere. At present, airmail accounts for 70% of all mail shipped from and to Poland. The delivery of all domestic correspondence and courier packages was halted. The carrier in charge of mail-air flights for Poczta Polska also ceased them. Against such background, Poczta Polska tried to substitute air transport with road transport services whenever possible and – across the country – it partly succeeded. Upon the implementation of emergency procedures, similar solutions could be adopted in the countries with road-based postal routes, i.e. in Germany, Russian, Czech, Slovakia, Lithuania, and Latvia.

Travel agencies are yet another group suffering from the closure of airspace. The Vice-President of the Polish Chamber of Tourism (PIT), Paweł Niewiadomski, estimated that during one weekend 20 charter planes did not take off and, consequently, some customers terminated their agreements, other waited for departures, and yet others rescheduled their trips. Travel agencies were incapable of conducting an exact assessment of their losses. Alfa Star calculated its daily losses at 200 – 400 thousand PLN, whereas Rainbow Tours – at around 100 thousand PLN.

Another group facing losses consists of hotel owners. The Head of the Economic Chamber of Polish Hotel Industry, Krzysztof Wojtkiewicz, stated: "...the hotels will be hit hardest by lower numbers of business customers – the group that is most profitable for hotel owners in large cities. This week we were to be fully booked here in the capital city but now customers are canceling their stays[Ibidem]".

Airport infrastructure

Airport infrastructure is composed of everything related to the fitting of the area referred to as the "airport", i.e. parameters of the runway – its length, width, surface condition, other taxiways, signs and lighting, radio-detection devices, communications equipment, devices protecting against unauthorised access to manoeuvring areas of people, animals, and vehicles. Boeing 737 – the most popular communication airplane – may safely land on or take off a ground runway (e.g. grass) of only 1,500 m in length, without the support of any airport equipment. Thus, modern planes are not so closely related to airports anymore – the only exception is refueling. Modern airports are highly complicated organisms which are not limited to airplanes as such. A key issue for all departing and arriving planes may be airports' immediate surroundings, such as nearby mountains, high buildings, chimneys, masts, power lines, or a motorway crossing the runway, as in Gibraltar (www.polot.net - June 26, 2018).

Aircraft seizures

One of the most interesting aspects of air transport threats is hijacking planes. The reasons behind the below-described events depend largely on the ingenuity of those committing air offenses. What should be underpinned is that they do not always have a tragic end – sometimes they are even quite amusing. With respect to the above, we may ask ourselves the following question: What would make one hijack a plane? Well, everything depends on the purpose, but the objectives have changed over the years. Over the period 1945-1989, it was the willingness to escape West, to lead a more normal life. It mainly affected the countries of the so-called people's democracy, i.e. Europe, People's Korea, People's China, and Cuba. Hijackers were madmen who intended to do no harm to anyone.

A different case is an incident that happened on board the McDonnell Douglas DC-10-30 plane during the FedEx Express 705 flight on 07/04/1994. The aircraft carried electronic devices from Memphis, Tennessee to San Jose, California. En route there was an attempt to seize the plane by a dishonest employee of FedEx – Auburn Calloway, who wanted to crash it. He developed a plan to claim compensation on his life insurance (about 2.5 million USD) on the basis of false data, which he wanted to spend on his children's education. One condition of obtaining this amount was Calloway's death as a result of an accident. He smuggled on board the unlucky flight a set of hammers and a crossbow in his guitar cover, thinking that any injuries done with their help would be impossible to detect during possible autopsies of the crew members. The catastrophe was to take place by heading the plane to the main FedEx seat in Memphis. During the flight, the assailant violently entered the flight deck. He attacked the co-pilot with his hammer, who then lost consciousness. However, he did not manage to make a blow to the captain, as he attacked Calloway instead. They started hand to hand combat. The co-pilot regained consciousness and rapidly steering the plane tried to knock down the

attacker with the hammer, scuffling with the captain. Luckily, they managed to restrain the assailant and land. Auburn Calloway was sentenced to a life sentence. The three crew members survived the attack of the madmen, their injuries, however, were so serious that they could not return to flying.

Terrorist attacks

In a contemporary world, a terrorist attack is something passengers fear most. A history of aviation provides numerous examples of such attacks – I will present just two of them.

On December 7, 1987, an Avro RJ 100 plane was serving a scheduled flight from Los Angeles to San Francisco. Shortly after the aircraft departed from the airport, one of the passengers, David Burke, entered the cockpit and shot two pilots. Within 25 seconds, the airplane crashed in a field nearby Paso Robles. Forty-six people died. At the scene of the disaster FBI found a Magnum 44 pistol, still in hands of a terrorist – a previous US Airways employee, who had been dismissed a few days before for stealing a cocktail. The investigation proved that the plane was not chosen randomly because that was the flight which his superior, Raymond F. Thomson, who personally dismissed Burke a few days earlier, flew to work every day. That day Thomson was also a passenger on a 1771 disastrous flight.

The most popular case of a terrorist attack was the one over Lockerbie, Scotland. On December 21, 1988, a bomb was placed in a suitcase on a flight of Pam Am Boeing 747. During a detailed and expensive investigation, the reasons and a course of the attack were established. There are no doubts regarding the method of the attack, but there are still some questions unanswered left. Two agents of the Libyan intelligence service were blamed for the attack - Abdelbaset Ali Mohmed Al Megrahi and Al Amin Khalif Fhimah. The attack was conducted in retaliation to American bombardments of Tripoli and Benghazi in April 1986, which nearly killed Muammar al-Kadafi. After the attack, the Pan Am airline was massively claimed for damages by lots of passengers what resulted in declaring bankruptcy by the airline. This is the attack which caused the tightening up of air transport safety procedures. Subsequent procedures were drawn after a series of attacks on the WTC and the Pentagon.

On October 31, 2015, a Russian airline plane departing from Sharm-el-Sheik to Petersburg crashed on a desert of Sinai Peninsula. 224 people were on board, no one survived. The cause of the catastrophe was a bomb placed by the members of the Islamic Country (IS). This statement was not confirmed by the Egyptian Ministry of Civil Aviation. However, the Federal Security Service of the Russian Federation confirmed in its report that there was an explosion on board (www.fakty.interia.pl (date of access: June 26, 2018)).

Aircraft shot down

The history of aviation marks six aircraft shoot downs three of them will be presented in this publication.

The first one happened on July 27, 1995. Two Bulgarian fighter aircraft MiG-15 shot down a Lockheed L-149 Constellation (4X-AKC) El Al airline plane, flying from London to Tel Aviv, with stopovers in Vienna and Istanbul.

At 2.53 am the plane departed from Vienna, heading towards Tel Aviv. While flying over Yugoslavia, heavy storms caused an inappropriate change of direction finder. The crew was convinced they were flying over Yugoslavia, being within the reach of the Skopje radar. Meanwhile, the plane accidentally entered the territory of Bulgaria, as much as 60 km to the east of the intended airway. The same moment the plane was taken over by the Bulgarian fighters who started to shoot down the plane. As a result of extensive damage, the airplane crashed near the town of Petricz, near the Yugoslavian-Greek border. 58 people died altogether, passengers and the crew.

At the beginning of the investigation, Bulgaria did not want to take responsibility for the catastrophe, accusing Israeli pilots of unlawful invasion of Bulgarian airspace. Finally, Bulgarian authorities assumed responsibility for the catastrophe, admitting that the pilots acted too hastily shooting down the plane. Eventually, the authorities decided to pay compensation to the families of the victims.

The other shoot down took place on September 1, 1983. Boeing 747-200A flying from Anchorage, Alaska to Seoul, South Korea strayed off its intended course due to a navigational error and entered several dozen km on a territory of Soviet Union (Kamchatka) airspace. That was the area of big military bases and installations so the plane was shot down soon afterward by Soviet fighters Su-15, not even allowing it to leave Kamchatka airspace. No one decided to identify the plane or to attempt to bring it down to the airport or to bring it back to its course. 269 people died. Moscow authorities claim that it was a reconnaissance aircraft. Neither aircraft wreckage nor human remains have been returned.

The third shoot down took place on July 3, 1988. The American cruiser USS Vincennes shot down Iranian passenger airplane Airbus A300 carrying 290 people, over the Persian Gulf. Not a single person survived. By analogy to the above-mentioned catastrophe, in this case, no one decided to identify the plane carefully. In this case, the same scenario- first do, then think – was repeated. This incident brought disgrace upon the USA [Ibidem].

Conclusions

The rapid development of our civilization has a number of positive consequences. Nonetheless, we must bear in mind that its effect on safety is also noteworthy. Experience to date gained by the aviation industry with regards to safety is, on the one hand, to increase the level of safety of air transport travel, and on the other hand, to actively participate in the organization of the system at a broadly understood human-contemporary technology cooperation.

The events presented here above confirm the validity and rightness of the use of factors generating emergency situations in air transport to fight threats of various origins. Therefore, we can see a better future, though we ought to bear in mind that contemporary problems are the result of our previous choices, whereas our generation can take decisions today which will allow future societies to live in a safe and resourceful world.

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INTERNATIONAL MIGRATION – ECONOMIC IMPACT

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Abstract. *International migration represents probably one of the most complex aspects of globalization and has seen various moments when migrating flows were created. International migration represents a process currently being into full expansion, process which has seen many approaches. The main question which reality imposes over migration is whether it can bring more benefits or if it is a burden on both sending and the receiving countries. The following article aims to answer affirmatively or negatively to each of the two scenarios and, also, to see the implications of this process for both the receiving countries and the sending ones. The research design and methodology starts from understanding the core of how migration works and its main features, so that readers may have an idea of how to understand the statistics which will be presented. The key findings of this paper should be the ones regarding profiling the current migrants and presenting the main benefits and risks for both countries of origin and destination. Many times migration is usually perceived as a process that leads to drops of wages, therefore it might create discomfort among native people already working in certain areas. Of course global competition means cutting costs, and that might mean cheaper workforce. But there is a much larger understanding behind this dynamic process. Migration policies play a huge role into the acceptance and integration of migrants. Finally, it is important to understand that migration, both voluntary and forced, is one of the key elements behind the economic globalization, and therefore should be analyzed not just in terms of numbers, but in terms of a deeper understanding so that researchers may finally give answers to its necessity in certain areas, and the proper tools to either eradicate, sustain or even encourage it.*

Keywords: *international migration; macroeconomic perspective; migration policy; global competition; immigrants influence.*

Introduction

International migration can be defined as a dynamic process at the world economy, with profound consequences over the sending or receiving countries. The core of analyzing international migration usually refers either to the factors that determine this process (1) or the continuity of this process (2), its intensifying and expansion.

There are 4 major theories regarding international migration, each based on several areas of research: economics theories, sociological theories, geographical theories, unifying (interdisciplinary) theories. The present article refers mainly to the economics theories regarding international migration, and their conclusions will be applied to the

current statistics and effects of this process, especially in the EU, but also it will take a look at the main pros and cons regarding immigrants.

Understanding migration

Migration is widely referred to as “the permanent or temporary change of residence” (Lee, 1966, p.46), or as a “movement of a person or group of persons from a certain geographical unit to another, surpassing administrative and political borders, with the desire of settling down on a permanent or temporary basis, in a different place than the one they came from” (Bauer et al., 2004, p.6). It is obvious that there are clear distinctions between internal and international migration.

Noja (2013) argues that there are some main characteristics that need to be addressed when spoken of migration:

- creating profiles of the ones who choose to migrate;
- identifying what are the main motivations that stand behind their decision;
- identifying the statute of migrants and the legislative environment in both sending and receiving countries;

Borjas (1989) argues that the economic approach of international migration refers to aspects that create a certain path of labor migration such as:

- identifying factors that determine the size and structure of the migratory flows;
- identifying ways in which immigrants adapt in a certain country;
- assessing the impact of migration on economies of both sending and receiving countries.

In regarding the basic analysis of this process, from the economic perspective there are three different ways to approach the subject in matter:

- microeconomic (or individual) perspectives describe the degree of autonomy (liberty) of a potential migrant, which is relevant in so far as the migrant has the capacity of deciding to remain in the receiving country or to return to the origin one
- macroeconomic perspectives describe the economic structures, political, social, demographic and cultural ones that can influence this process;
- other types of perspectives (theories) include analyzing social and symbolic ties between migrants, given by different family ties, ethnicity, religion etc.

The main 4 categories of migrants are labor migrants, migrants of family reasons, foreign students and refugees (or asylum seekers).

Migration in numbers

Between 2000 and 2015 the number of international migrants has grown significantly from 173 million in 2000 up to 244 million in 2015, with Europe and Asia having each approximately 75-76 million of them. The third continent in numbers is Northern America with 54 million migrants, but with the country that has the larger number of migrants, the US having 47 million. The countries that follow the US are Germany and the Russian Federation, having each 12 million migrants, although it is easily to argue that today Germany is clearly second place in this top not only because of the large number of refugees, creating a truly migrant flow in the recent years, but also due to the

state in which the Russian economy currently is, because of the economic sanctions. The fourth country receiving migrants is Saudi Arabia (10 million). (UNHCR 2015 Report)

Another significant fact is that most immigrants worldwide originate from middle-income countries (157 million in 2015), with this category being the fastest growing one, choosing obviously to live in high-income countries. In Europe, because of the positive net migration between 2000 and 2015 the population of the whole continent stayed in balance, and in Northern America 42 % of the population growth in this period is due to positive net migration.

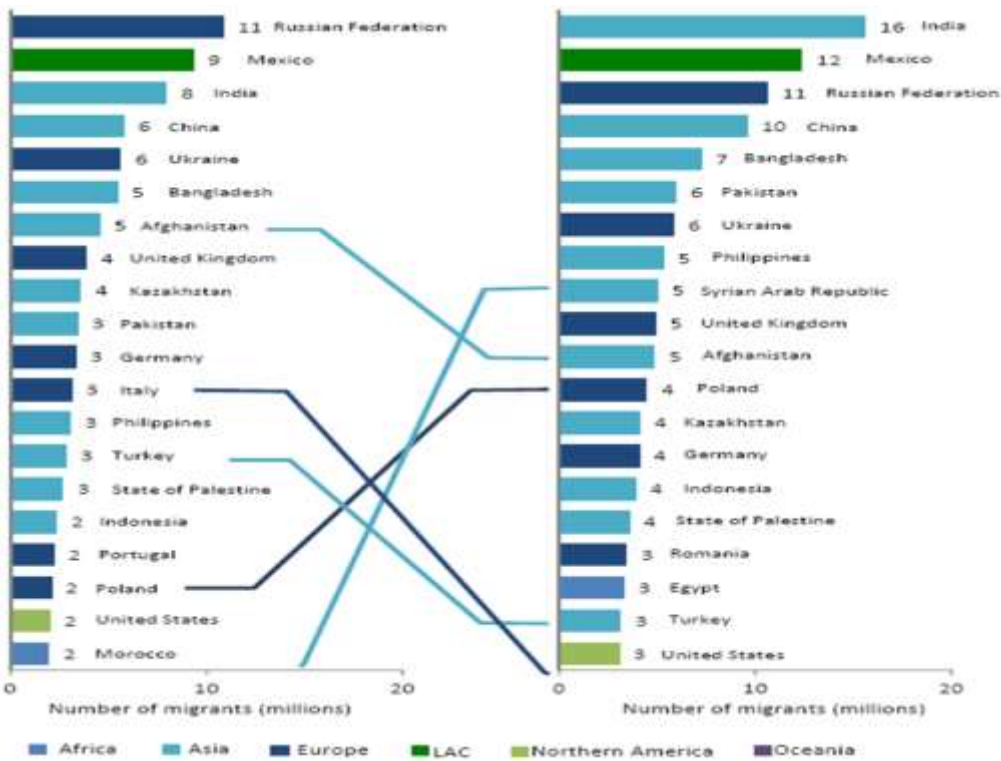


Figure 1. Twenty countries or areas of origin with the largest diaspora populations, 2000 and 2015
Source: United Nations Report 2015

Last but not least, the ratification of the legal instruments regarding international migration provided by the United Nations remains uneven. By the end of 2015, only 26 Member States had ratified all five of the United Nations legal instruments. (UNHCR 2015 Report)

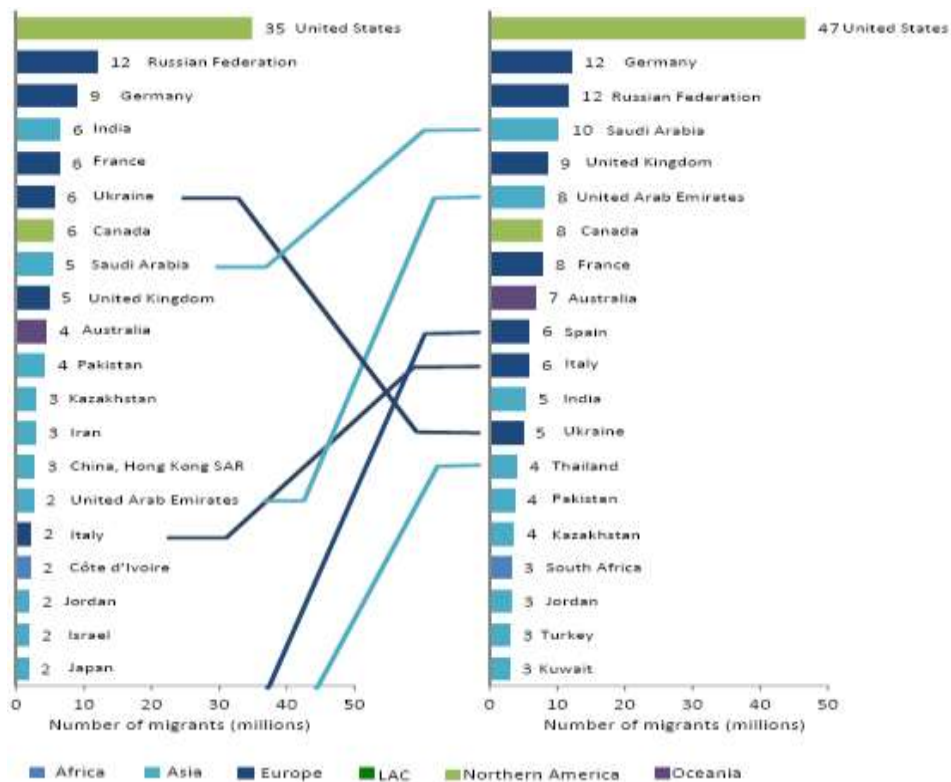


Figure 2. Twenty countries or areas hosting the largest numbers of international migrants
Source: United Nations Report, 2015

Profiling the contemporary immigrant. Global competition for qualified staff

There are various factors that contribute to the decision making process of a migrant. Many times migrants have a distorted image of the possibilities of finding a job in the receiving countries. In most of the times the misinterpret the possibilities of even finding a job at their destination point, and usually end up with a job that is less suitable for them, and underpaid, making their life even more difficult. Postelnicu (2013) argues that adding up travel expenses and notable distances it is easily understood that there are going to be huge differences between different types of immigrants.

This is one of the reasons why in Europe after the last significant wave of labor migrants (2008), it is easily understood that Europe has on one hand a wave of cheap unqualified labor force given by Eastern European countries, and on the other hand, it is the main source into producing qualified labor force because of the high number of foreign immigrant students studying in universities in countries such as the UK, Switzerland, Austria, Germany, France and Belgium. Countries like Russia, Ukraine, Poland and Romania are the main providers for Europe in both categories above mentioned, but Asian students significantly help raise these numbers as well. The total number of European migrants within the European space is over 40 million. Adding up the 8 million African migrants and the 20 million Asian migrants, it is easy to understand why migrants play an important role into the European economy.

Although the average age for migrants worldwide is 38, Europe has the youngest migrant population, the average age being 33-34.

The global competition for qualified staff has been translated into the “*brain drain- brain gain*” theories that can be found in several studies (Bhagwati & Hamada, 1974; Galor & Stark, 1990; Stark, 2003; Docquier et al., 2011) which basically state that immigration of high qualified labor force has negative effects over the sending countries, especially because this countries already lacking of proper high qualified labor force will have a reduced economic growth which will also scare/push away foreign investors. Also the loss of the high qualified labor force means that this people will not contribute at the tax burden in their mother country, but rather in their receiving countries, therefore the only contributors left are the ones that have less to contribute with, and so the economy is again suffering.

The only way to manage changing the negative aspects of losing high qualified labor force is with the intervention of the political factors which need to develop sustainable personnel training programs, thus helping and motivating this qualifying labor into investing time to educate future labor force and creating conditions so that the next generations will work in their home countries.

Benefits for the countries of origin

For the country of origin labor immigration has two major implications:

1. immigration modifies the size and structure (education, abilities) of labor force;
2. immigrants influence the consumption and the investments by remittance into their origin states contributing to the growth of economy and the reduce of poverty.

Therefore, many governments actively promote foreign employment for their citizens as one of their main strategies to increase economic growth, in some cases salaries being 10 to 20 times the value of local wages. Thus these earnings are far more important to developing countries than to the ones of destination, that are usually the developed ones. The total amount of money sent to the countries of origin was over 232 billion \$ in 2005, with most of them going not only to Eastern European countries, but also countries such as China, Philippines, and Mexico.

It is also a fact that temporary migrants send more money home, than the ones who are permanent migrants, and already have developed their own life there. As a consequence, the total amount can be influenced by level of connections between family members, religion, communities and traditions etc.

“International migration has a major impact on the sending countries economy, and especially on its national labor force, helping lower unemployment. This is a key factor in the growing of the economy.” (Cojocaru, 2010, p.14)

International migration might even contribute to political changes into these countries. It is the case of many Turkish, Portuguese, or Greek immigrants which used to work into Northern Europe in the '60's and 70's and returned to their countries of origin as the countries where changing their political environment.

Risks for the countries of origin

One of the main risks for the countries of origin is the fact that there might be created a social inequity between the population that benefits from foreign help, and the one that doesn't.

Also, another major risk is that it creates a bond between passive and active population, discouraging the passive ones into taking action in finding a job in the internal economy. Also, it might discourage the governments into taking proper course of action regarding restructuring the national economy. "The remittance of money does not usually find its self into being used for productive investments, but rather for basic consumption". (Cojocaru, 2010, p.345)

Benefits for countries of destination

Many countries have labor markets which are highly dependent on foreign workers, because they often fill jobs that the native-born labor force is unwilling to take. Also the most developed 20 countries which are the destination for over 2/3 of the total amount of immigrants rely on them of being a cheap and docile workforce. Therefore, immigrants are accepted to work in different developed countries so that they can "help them maintain their economic growth, help them through their economic expansion and by stopping the counterproductive job fluctuations." (Cojocaru, 2013, p.347)

Developed countries rely on immigrants to help them increase their revenues and internal production, but also benefit from all the positive aspects of the *brain drain-brain gain* process established above, thus relying on high qualified immigrant workforce which helps them achieve their goals.

Risks for the countries of destination

One of the main risks for the countries of destination is creating social problems, this being for example one of the main reasons of BREXIT. Although immigration did not create any extra unemployment, it was not the way British citizens perceived immigrants, in some cases British employers stating that they consider immigrants as being better prepared than their own citizens.

Not only UK struggled with social problems regarding immigrants. Other countries, such as France or Germany experience the same problems regarding: lack of shelter for immigrants, many of them living on the streets, lack of schools for immigrant children, lack of personnel in schools, rise of criminal rate, traffic accidents etc.

On a long term these problems will create imbalances due to the stability factor. Migrants will want to settle down with their families in the receiving countries, therefore one of the key positive attributes of immigrants, their mobility as workers, will disappear.

International migration governance

In governing the process of international migration, certain factors have emerged during time and offer now their assistance and guidance in this process: a) International

Organization for Migration (IOM); b) The International Labor Organization (ILO); c) United Nations High Commissioner for Refugees (UNHCR); d) The Human Rights Council (HRC).

Their role is to elaborate the regulatory framework that affects international migrants, and contribute to its applying in an efficient manner so that it can:

- establish competencies and obligations to receiving countries of migrants;
- identify in which particular areas certain states should convene to cooperate regarding international migrants;
- establishing rights and responsibilities for migrants.

Iancu (2013) argues that the future of these policies regarding migrants, can lead to an argued reasoning such as:

- economic growth fuels migration;
- international immigration is a consequence of the process of social, political and economic integration;
- qualified labor will not always relocate to the developed country;
- conditions on the labor market are not necessarily decisive in generating migration;

Conclusions

While some might argue that international migration does not determine the reduction of inequities, which would lead to balance, but rather intensifies them, sustaining underdevelopment, with the loss of the human capital, and, in essence, international migration of labor is the result of a complex set of individual actions and social structural changes, and its analysis involves taking into consideration certain interests of different actors which have a specific role in different environment, but mainly the actions of migrants which are "oriented into gaining as much resources as possible" (Goss& Lindquist, 1995; Son et al.,2009), the present article has to offer a rather more positive perception over international migration.

The economic justification for accepting migrating labor force in Europe is based on 3 arguments:

- 1) European governments tend to have a unified reaction into recognizing the importance of recognizing skills in generating productivity and economic growth. Human capital is thus a huge and vital factor into innovating and growth of productivity, and therefore creating new jobs. For example, "every high qualified immigrant who works in IT in Germany is capable of creating 2,5 new jobs" (Iancu, 2013, p.155)
- 2) although unemployment rate in Europe is at a high level, "European workers are still selective when it comes to choosing a job and are far more qualified than they were 2-3 decades ago" (Iancu, 2013, p.144)
- 3) the aging of European population implies a high level of inactive dependent population, and this burdens social security and welfare systems of European countries, which will make them even more expensive. Therefore, this will generate other models of consumption, especially when it comes to medical assistance, or outdoor activities, which will produce jobs and will need proper labor force provided by immigrants.

Besides the necessity of migrants in certain areas of the European economy, there has to be a careful and unified monitoring of the almost 1 million refugees who have entered the EU in the past 3 years. Proper action into integrating them into the European labor force without interfering into the European immigration process which produces

benefits for the eastern European countries which rely on their workers to provide them with money remittance is also imperative and needs to be a zero priority for the EU states.

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WHAT ARE THE CULTURAL EFFECTS OF THE MIGRATION DUE TO MIGRATION FROM THE CONFLICT ZONES? THE IMPORTANCE OF HUMAN RESOURCE MANAGEMENT

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Abstract. *Since de developments at the beginning of the war in Syria and the so called "Arab spring" it is important to understand what might be the consequences of such events. Cultural diversity must be now more than ever accepted, otherwise it might produce critical imbalances in the society. The following article aims to tackle the difficult questions regarding who, when or what might influence the process of migration, but also the main questions regarding whether religious radicalization is the source of the problems and how exactly it might be prevented? The research method starts from proving that human resource management often comes as a useful tool in overcoming cultural differences caused by migration, therefore it need to be used to address the main dilemmas regarding cultural differencing. At the same time, the origins and identity of migrants play an important part in understanding how challenges regarding particular migrants might be tackled. The idea is to establish that religion, culture and civilization developed in the original war-zone countries from the Middle East play a key role into the development of certain values, visions of life, beliefs and many more particular aspects that define migrants that come from those areas. In addition to that, key questions should be asked regarding the ways people interact with different cultures such as the Islamic ones in different territories. In the and it is to be recognized that there are at least five key actors that are currently involved into merging or/and accepting migrants, and each of their role need to be detailed so that human resource managers can have a clear path on how to address problems regarding migration from conflict zones. One of the future research questions that the article proposes is whether the failure of the western values in the Muslim conflict countries is a permanent one and will it lead to future permanent conflicts between migrants coming from those areas and Christians with western values.*

Keywords: *Arab spring; international migration; migration consequences; cultural diversity; islamization.*

Introduction

The failure of the West in the Middle East and Africa has left tens of millions of people without homes or a stable environment to live in. That is why over the director of the UN office in Geneva, has stated at the begging of spring 2017 that "between eight to ten million migrants are still on the way to Europe". This catastrophical chain of events will lead to the rejection of cultural differences separating the vast majority of Arab migrant

population and the rest of the population, which can have a terrible impact on both the global market but on society in general.

Therefore, we must ask ourselves how exactly do organizations manage to cope up with the hard challenge of dealing with globalization, and how exactly do cultural differences can be viewed from a managerial point of view.

Human resource management in overcoming cultural differences

“In a globally developed economy human resource management is confronted with the pressure of cutting costs, and using new technologies, but also with the challenge of standardizing processes where this is possible.” (Preda, 2006, p.17) Therefore, managing human resources must become more and more preoccupied with managing cultural differences, as a means of motivating their staff from different parts of the world. In most of the cases it all comes down to better financial rewards, but “there still are cultures where titles, staff bonding and social status can also be used into rewarding staff.” (Hoffman et al., 2016, p.24)

It has also been often accepted that people are generally relocated from a place to another because they can adapt to the culture from the receiving area, therefore multinational teams or multicultural teams might be even more productive with the proper feedback.

In another opinion, Adler (2010) argues that cultural hypotheses regarding cultural diversity and it's eco at a managerial level are viewed from two different perspectives:

- a) the hypothesis of homogeneity has a consequence the diminishing of the diversity level. Dominant cultural groups often start from the premises that every person is the same and they should act like it. This model imposes an inflexible leadership and it is typically used in traditional or conservative organizations.

- b) the hypothesis of ethnocentrism consists into some sort of recognition of diversity but in a problematic way chooses to minimize the cultural differences.

- c) the hypothesis of synergy is built upon the idea that diversity has its limits but at the same time has its worth, accepting different solutions into managing intercultural differences.

Fons Trompenaas (2009) has identified seven managerial dilemmas regarding the cultural differencing criteria:

- 1- universal or particular it refers to those certain exceptional situations that cannot be addressed after a specific of known rules. The expression of this dilemma can be exemplified with the following question – should problems be solved after the most relevant known rule or should they be solved by addressing their unique nature?

- 2- analyze or integrate – this dilemma can be reduced to the following question – does managerial efficiency consist into an analytical approach of events or the need to be addressed in a global manner?

- 3- individualism or communitarianism – this dilemma can be reduced to the following question - what is more important: concentrating on the individual development or concentrating on the development of the organization itself (as being part of a community of members that are obligated to serve its purpose)?

4- orientation inwards or outwards this dilemma can be reduced to the following question - what is more important: reasoning, decisions, inwards actions or influences, signals and outside tendencies?

5- time as a succession or as a sync factor - this dilemma can be reduced to the following question - "is it more efficient to leave things a certain succession or to try to unite the team efforts?" (Băileşteanu, 2008, p.121)

6- equality or hierarchy - this dilemma can be reduced to the following question - should employees be treated as equals in order for them to perform or should there be a clear specific of requirements that should be evaluated?

7- earned status or given status - this dilemma can be reduced to the following question - "does the employee status depend on work results, seniority, education, strategic positioning or potential?" (Hoffman et al., 2016, p.34)

Origins and identity of the human resources

The origin and identity of the people who adhere to certain sets of values, the vision of life, normative systems, beliefs, it only counts on the survival of these values, visions, systems, beliefs. White, black, yellow, or in any combination, people really become people beyond the horizons of lucky primates (a horizon that must also be presented in safety and dignity, being the biological basis of the human condition) through socialization, education, instruction, vision, memory, looking for a verticality that leads them above the animal condition, and so on.

Therefore, we can assume realistic and stoic physical (gradual and non-violent, hopefully) replacement of Europe's current population. But we must try to save what can be saved, if we think it deserves the effort, from everything that has imagined, dreamed, created our continent, enrolling us with modesty in a common patrimony of humanity, with the new Europeans, accepting our faults and mistakes, but not without pride of doing good deeds, in the spirit world as well as in the world of matter.

This is the great challenge of Europe's present and future. If we do not find the good answers not only to integrating Muslims peacefully they are tempted to get radicalized. Will for example the 2022 fictional Frenchmen (practically those we see today in reality) obey the Muslims' struggle? Extrapolating the anxieties and puzzles of our present (when Muslims try to get politically organized and why they don't do it sooner?), will for example the Islamist candidate defeat Marine Le Pen in elections, so that Islamic France formally respects the rules of democratic play and reduces to absurd isolation the politics of the National Front and the counterproductive fragmentation of parties and public opinion (for the time being, they collide in the second round)? These are just hypothetical scenarios but with a fundamental base regarding what might happen if the problem isn't addressed properly.

The echoes of violent confrontations sparkled in the Middle East and Africa, "islamization is based on corruption, opportunism, the abject speculation of conflicts between ambitious colleagues and, above all, an amazing fatalism." (Băileşteanu, 2008, p.123) This imposes a serious discussion about the spirituality / culture / civilization of the both the West, the Middle East, and the way people address to cultural differences.

The period of Islamic terrorism as inspiration for other regions of the world in which Islam is rising, has to be addressed in a different manner, otherwise "islamization" is

announced not only through isolated incidents, however frequent and bloody, but through a wider project in which spiritual / cultural / civilization elements are central. This paradigm of caliphate, preached by Islamic religions and hard to counteract or replaced by the politico-philosophical modernity of democracies, has a hot, spiritual / mystical core. The West must be able to respond to Islam in a peaceful and productive answers, although so far the international community have been of a completely different nature of actions regarding the Islamic zones of conflict such as: military responses (weak, hesitant, counterproductive), economic responses (symbolic sanctions, canceled by the need for resources, markets and labor), cops (more failures), cult attacks (caricatures, the obligation to accept any form of jokes, clothing restrictions) etc.

The majority of nowadays white Western youths are not that thirsty of faith (a profound human need of many, if not all Muslims, which cannot be replicated rationally), and this might become the source of conflicts among youth of different religions such as Islam. In a somehow opposition to the West, but this does not mean that Islam is the only spiritual / cultural / civilization problem of the West, religion strives as an important source of work conflict firstly. Nowadays we now have shifted our attention to what might happen in the future as radical Islamist gather in Libya and threaten with new attacks in Europe, as IS it's being shattered by the international coalition in Syria, questions remain regarding the fundamental fact of spiritual presence and offer. It is a challenge to the modern world to see how in a postmodern era we can still deal with such radical challenges of protecting the human race from self-destruction due to religious hate.

Buddhism, Jainism, Animism, Christianity (Catholic, Orthodox, Protestant, Neo-protestant) and others do not raise comparable issues to the radical ones that have sparkled from the Middle East. "Neither our Orthodoxy seems to me to be truly dangerous, although it is preoccupying and symptomatic, with many similarities and sufficient causes common to Islam." (Corboş & Popescu, 2013, p.55)

Therefore, if we tackle the cultural problems of migration, questions regarding their staying in the EU still emerge. That is why we should start asking questions regarding the ways people interact with different cultures such as Islam:

1. The non-Islamic workforce that is working currently in developing peaceful rich Arabic countries such as: the UAE, Saudi Arabia or Qatar.

Many non-Islamic people work in these 3 countries but the way they are treated is quite distinct. While people from Europe or The US are being seen as superior labor force, and are paid most of the time more that they normally would be in their home countries, people from all over south-east Asia are being highly underpaid and treated in a racist manner. Also, there is a big difference in what the Saudi Arabian society requires from the foreign workforce than for instance the UAE. "These differential treatments are already a first a huge cultural barrier in front of the religious acceptance of Islam by the West."

2. The non- Islamic workforce that is working in conflict zones

This labor force can be split into two different categories: the people that are part of the military forces trying to imply or maintain peace in the region, and secondly, the people that work together with international organizations to help aid the refugees and help create a stable environment that will prevent them to spread through Europe.

3. The refugees/migrants who have entered the EU from conflict zones, generally with Arab populations.

It is estimated that over 1,3 million people have entered the borders of the EU since 2011, entering a competition for resources with Europeans who work in different countries than their own and who have claimed that this is their right but also privilege for which their countries have sacrificed a lot of deal to obtain. This means that if the EU does not manage to stop any form of discrimination based on nation or religion, the EU will face (and it already does) a huge wave of nationalist vision spreading that will fuel the fear or radicalism among Muslims.

Key actors and their role into solving the crisis

There are key actors involved into the developing of relations between the two sides, relations that can either go one way (the peaceful one) or the other (the conflicting state) are:

1. International organizations and their leaders:
2. Politicians
3. Employers – Managers
4. Civil society
5. Religious key leaders

These actors have all the power into shifting the attention of the public and guide it to the right peaceful way. But the problem with that is that most of the actors above either have overstepped their authorities, either they have ignored them, or done too little too late. For instance:

- when it comes to the involvement of the **international organizations** (such as the UN, EU or NATO), most of their actions in the conflict areas were either too little or too late, which lead to the even more chaos in the areas.

- **politicians** – either we refer to the local ones or the ones abroad, have invested their personal ambitions into imposing their view as being the only ones right, acceptance or productive alliances being forgotten in this case.

- **managers** – especially the ones from the private sector in Europe are still reserved or dismissive regarding accepting or even hiring for that matter, migrants, especially Arab ones.

- **civil society** – has failed to convince even the general population in Europe to accept cultural diversity, which lead to cases like Denmark, Germany, Austria etc. where ultranationalist politics grew in success especially among youth. If the actions of civil society are such ineffective on home ground, their effectiveness abroad in convincing people to leave their cultural differences aside is even more inefficient.

- **religious key factors** – unlike the first four categories of actors involved, which were unsuccessful in their actions, religious leaders have emerged themselves into politics, exceeding their attributions and promoting violence and the total rejection of the West, bringing nightmares and shadows of the Iranian Revolution over much part of the Arab

world, especially after the Arab spring in 2011. The West is useful as long as it finances their war against all those who refuse to accept religious interference into politics.

Conclusion

Therefore, the failure of the western values in the Muslim conflict countries has its origins into the failure of the first 4 key actors to promote cultural acceptance in a peaceful manner. Their failure ultimately leads to the success of the religious radical figures, that have managed to shade the importance of politicians and for politics for that manner, making the debate in the society about the level of religious non-acceptance that needs to be more and more increased. This makes radicalization more and more easy, and it also means that the only solution to this crisis is a coordinated effort from all 4 key decision making factors, with huge costs, to counter the power of religion, but only through peaceful actions.

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PAY SATISFACTION AS MEDIATOR OF THE INFLUENCE OF ORGANIZATIONAL JUSTICE ON WORK MOTIVATION: AN INVESTIGATION IN THE ROMANIAN CONTEXT

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Abstract. *The financial rewards received by employees have long been considered as a powerful work incentive, but previous studies showed that the relationship between pay and work performance is not necessarily linear. Our study focuses on a specific subjective determinant of work motivation related to pay, namely on pay satisfaction, and on its potential factors in the area of organizational justice. Past investigations found that employee's subjective reactions towards their pay (i.e. their pay satisfaction) are grounded in their perceptions of the fairness of pay distribution and decisions, i.e. of the ways in which financial rewards are allocated within the company. We took into account two dimensions of organizational justice that have been shown as for being especially relevant for employee satisfaction and motivation, i.e. distributive and procedural justice. Our hypothesis was that pay satisfaction mediates the influence of distributive and procedural justice on work motivation. The study was conducted on a sample of 270 Romanian employees of companies in various sectors located in Iasi who were administered the research instruments measuring the four variables in our model. The model, comprised of the pattern of relationships between variables, was tested through structural equation modeling. Our results show that distributive and procedural justice perceptions have a positive influence on pay satisfaction, which further exerts a positive effect on work motivation. Overall, these two relationships indicate that pay satisfaction is a mediator of the influence of the two dimensions of organizational justice on work motivation. A direct effect of procedural justice on the latter variable was also highlighted by the results of the data analysis and was included in the general model. Further studies should test the role of other objective and subjective dimensions in this pattern of relationships, as well as examine the effect of interventions designed to improve employees' perceptions of organizational justice.*

Keywords: *work motivation; pay satisfaction; distributive justice; procedural justice; work performance; mediation*

Introduction

The high competitiveness of the economies worldwide force companies to design and implement human resources policies that would increase the work performance of their staff, which would consequently foster the performance of the company as a whole. Hence, personnel motivation to perform in their organizational tasks and duties represents an essential condition for the companies' economic growth and even survival. The importance of personnel work motivation for work productivity and positive organizational behaviors has been attested by numerous field studies (Schultz & Schultz, 1998; Huddleston & Good, 1999). Not only highly motivated employees perform better at work than their less motivated colleagues, but low work motivation

can also become a toxic employee characteristic, generating negative effects on relationships with management and on the general work atmosphere of the organization (Marsden & Richardson, 1994).

One of the traditional instruments through which companies aim to increase employee motivation is that of financial rewards and incentives. Pay has long been considered as a powerful work incentive, due to its high personal valence that can motivate employees to obtain higher performances on the job in order to receive such rewards, in line with the classic expectancy theory (Vroom, 1964). According to Vroom's Valence - Instrumentality - Expectancy Model, work motivation is determined by the relationships between the effort employees put into their work, the performances that they achieve and the subsequent rewards they receive. Consequently, in order to generate high levels of motivation in their personnel, organizations should ensure that work efforts would indeed lead to performance on the job (Expectancy), that these performances would be rewarded (Instrumentality) and that the rewards allocated are valuable for the employees (Valence).

Pay is a universal incentive, and the influential role of financial rewards on organizational behaviors has been documented by various studies, which highlighted associations between pay and productivity (e.g. Lum et al., 1998), but also other important areas such as personnel turnover (Thatcher et al., 2006; Hunter, Tan & Tan, 2008). Nevertheless, there are also cases in which the relationships between pay and work performance is not so straightforward, as it can be illustrated by two lines of research, specifically that focused on the effects of pay dispersion and that concerned with the effects of pay for performance programs. Firstly, there are empirical results showing a positive influence on pay dispersion and employee performance, in the sense that performances in companies allowing a dispersed pay system, in which there are considerable differences in financial rewards between employees even at the same organizational level, are higher than those in companies with compressed pay systems (Downes & Choi, 2014; Kepes, Delery, & Gupta (2009). Conversely, other studies highlight an inverse relationship between pay dispersion and work performance, indicating detrimental effects of large differences in pay among employees (Pfeffer & Langton, 1993; Bloom & Michel, 2002). Similarly, positive effects of pay for performance programs, in which a significant part of the employees' total retribution is associated with their work performance, have been frequently reported (e.g. Heneman, Ledford, & Gresham, 2000), as well as negative consequences on job behaviors and even overall performance (Wright et al., 1993; Beer & Cannon, 2004).

Such contradictory findings can be accommodated and understood by taking into account not only the objective side of the organizational phenomena at stake, such as financial compensation, pay dispersion and variations, but also the subjective side, in terms of employee's relevant attitudes and evaluations that, in turn, influence their work motivation. Our study focuses on a specific subjective determinant of work motivation related to pay, namely on pay satisfaction, and on its potential factors in the area of organizational justice.

Firstly, it is important to note that the effects of financial rewards on work motivation and performance are mediated by the subjective dimension of pay satisfaction. In other terms, it is the influence of pay-related variables on pay satisfaction that further generates effects on work behaviors. Pay satisfaction represents the employee's

personal evaluation of the financial rewards received, and this evaluation compares the actual level of pay to that considered as ideal in the respective organizational context (Kwon et al. 2008). Besides representing a major component of the general satisfaction employees have with their job (Jurgensen, 1978; Rusbult & Farrell, 1983), alongside other facets such as intrinsic attractiveness of the work tasks, supervision, work relationships etc. (Cotton & Tuttle, 1986), it also has important effects on work motivation and subsequent performance (Dailey & Kirk, 1992).

Secondly, previous research in the organizational psychology literature suggests that the subjective evaluation of pay is based, among others, on employees' perceptions of the organizational procedures involved in the allocation of these financial rewards (DeConick & Stilwell, 2004; Sweeney, 1990). The general principle according to which pay levels and dispersion are evaluated by employees is that of fairness, and previous results show that the perceived fairness of pay can be even more important in terms of its organizational consequences than the actual objective amounts of pay (Folger & Konovsky, 1989). The more general organizational psychology concept that corresponds to and accommodates these subjective perceptions of fairness is organizational justice.

Generally, organizational justice refers to the fairness of the decisions made within an organization, as they are perceived by its employees (Greenberg, 1987). Its theoretical origin is equity theory (Adams, 1965), which highlighted the importance of employee perceptions of fairness, especially regarding the allocation of financial resources within the company, for their organizational behaviors, unfair pay distributions leading to negative consequences on work motivation and productivity. According to the equity theory, an employee's work motivation depends on the comparison that he/she makes between his/her ratio of inputs and outputs and the correspondent ratios of his/her fellow employees. Inputs represent the contributions that one makes to the progress and success of the company, such as effort, skills, experience etc., while outputs refer to the benefits one receives from the organization, such as salary, promotions, bonuses etc. When employees perceive in-equitability at their expense, for instance when they notice that other employees receive more rewards for the same overall amount of input, or when the rewards are the same among employees while some are putting much more effort in their work than others, they will try to reduce the inequity. In many cases, this entails diminishing one's input, by reducing one's effort and productivity. Thus, perceived inequity can have direct and detrimental effects on work motivation.

The dimensions of organizational justice that are most relevant for the topic of pay allocation within companies are distributive and procedural justice. Distributive justice refers to the evaluations of the outcomes of the financial decisions concerning an employee, in other words to the degree to which employees perceive their pay as equitable in comparison to that received by other colleagues. Procedural justice refers to the fairness evaluations of the organizational procedures, methods, and criteria used to decide these financial outcomes (Roth, 2006). These two dimensions of organizational justice have been found to influence various aspects of employee reactions and behaviors, such as organizational identification (Kwon et al., 2008), work withdrawal behaviors (Pinder, 2008), the tendency to engage in counterproductive behaviors and workplace conflicts (Cohen-Charash & Spector, 2001), turnover intentions (Lum et al., 1998). Moreover, employees perceiving pay decisions and

procedures in their company as unjust have lower pay satisfaction (DeConick & Stilwell, 2004) and work performance (Colquitt et al., 2001).

The present study aims to test these relationships between distributive and procedural justice, pay satisfaction and work performance in a different cultural setting than the Western one in which the studies in this area have been mostly carried out, namely the Romanian one. As mentioned before, the empirical results concerning the motivational and work performance effects of various pay – related factors (such as pay dispersion or pay for performance programs) have been mixed, highlighting the need for further studies in this area in various socio-economic spaces. The research reviewed above suggests that employee's subjective reactions towards their pay (i.e. their pay satisfaction) are grounded in their perceptions of the fairness of the ways in which financial rewards are decided and allocated within the company. When they evaluate the amount of pay they receive as unjust, by comparing their work input (effort, qualifications, time etc.) and pay to the input and rewards received by their colleagues and assessing this ratio as unequal at their expense, and / or when they perceive the criteria upon which pay is distributed in the organization as unfair, their pay satisfaction is affected beyond the influence that the actual objective level of financial rewards might have. Furthermore, this detrimental effect of organizational injustice on pay satisfaction affects employee work motivation. Consequently, we hypothesize that pay satisfaction mediates the influence of distributive and procedural justice on work motivation.

Method

Participants and procedure

We distributed 395 surveys to employees in 15 companies located in Iasi, Romania, out of which 270 were returned. The surveys were anonymous, and confidentiality was ensured. In the final sample, 140 employees (52%) were men; mean age was 27 years. Participants' distribution on the work sector criterion was: 81 (30%) in the banking sector, 65 (24.1%) in the health sector, 42 (15.6%) in the industrial sector, 42 (15.6%) in the sales sector, 25 (9.3%) in the private school sector and 15 (5.6%) in private consulting.

Instruments

Work motivation was assessed using the scale developed by Patchen (1970) and used in various studies on the factors and consequences of work motivation (e.g. Khojasteh, 1993; Crewson, 1997). The three items of the instrument require participants to evaluate their level of agreement with sentences describing the work effort that they usually invest. Higher overall scores indicate higher levels of work motivation.

Pay satisfaction was measured with the 13-item instrument developed by Heneman & Schwab (1985). Its items refer to four facets of pay satisfaction, namely pay level, pay raises, benefits, and structure and administration of financial rewards. Participants rate their level of satisfaction concerning the various dimensions of their pay by choosing an option from 1 – “not at all satisfied” to 6 = “completely satisfied”. Higher overall scores indicate high pay satisfaction.

Distributive justice was assessed with the 7-item instrument developed by Brashear, Brooks, and Boles (2004), which has been used in other organizational psychology studies (Chan & Jepsen, 2011; Ladebo et. al, 2005). The scale measures employee perceptions of the distribution of the financial rewards in their company when taking into account their various organizational inputs (effort, responsibilities, quality of work output, etc.). Higher overall scores indicate perceptions of adequate distributive justice. *Procedural justice* was assessed with the scale developed by Tekleab, Bartol, and Liu (2005), a 2-item instrument requiring employees to evaluate the correctness of the procedures through which their financial rewards are determined, on a response scale ranging from 1 – “not at all correct” to 6 = “absolutely correct”. Higher overall scores indicate high perceived procedural justice.

Data analysis

Firstly, we assessed the internal consistency of our research instruments through their mean inter-item correlations, computed in SPSS 20.0 (see Table 1). Secondly, we computed the Pearson correlations between variables (see Table 1). Thirdly, we assessed the adequacy of the proposed causal model between the four variables of the research design, through structural equation modeling in AMOS 18.0. This approach allows the estimation of the statistical adequacy of a complex model, through several indexes (Byrne, 2001), as well as the changes in the relationships included in the model that would improve its adequacy, (i.e., Modification Indexes). In order to evaluate the goodness-of-fit of the model, we used the following indexes: the chi-square statistic, the Goodness of Fit Index (GFI), the Comparative Fit Index (CFI), the adjusted goodness-of-fit statistic (AGFI) and the Root Mean Square Error of Approximation (RMSEA).

Results

The inter-item correlations, presented in Table 1, indicate that all instruments have satisfactory internal consistency. The correlations are in line with our general hypothesis, with work motivation significantly and positively related to distributive justice, procedural justice and pay satisfaction, and the latter also positively associated to the two dimensions of organizational justice.

Table 1. Means, standard deviations, internal consistency and Pearson correlations between variables

	Mean inter-item correlation	1	2	3	4
1. Work motivation	.36	1.0	.33**	.06	.17**
2. Pay satisfaction	.33		1.0	.38**	.16*
3. Distributive justice	.40			1.0	.10
4. Procedural justice	.36				1.0

* $p < .05$; ** $p < .01$

Next, we used the structural equation approach to assess whether the hypothesized model of relationships between these variables, which includes causal effects on distributive and procedural justice on pay satisfaction, as well as of the latter on work motivation, has an adequate fit to the data.

The indexes of model fit resulted from the analysis of this model were: $\chi^2_3 = 8.61$, $p < .05$; CFI = .93, AGFI = .95, GFI = .98; RMSEA = .08 (with a 90% confidence interval .02 – .153). According to the guidelines concerning the accepted values and intervals of these fit indexes (Byrne, 2001), they suggest an acceptable level of model fit. We analyzed the modification indexes to identify the changes in the hypothesized model that could increase its statistical adequacy. We found that model fit can be improved by adding a causal relationship from procedural justice to work motivation, besides the effect of procedural justice that is mediated by pay satisfaction. We re-specified the model by adding this relationship and re-analyzed its model fit. The indexes resulted were: $\chi^2_2 = 4.34$, $p = .11 > .05$; CFI = .97, AGFI = .96, GFI = .99; RMSEA = .066 (with a 90% confidence interval .00 – .15). They indicate a better fit of this model, all indexes showing an adequate fit to the data, while there are no additional modifications that would increase model fit. Also, all the regression weights between variables were significant at the .05 level. The final model with the standardized regression weights, indicating the strength of the influences between variables, is presented in Figure 1.

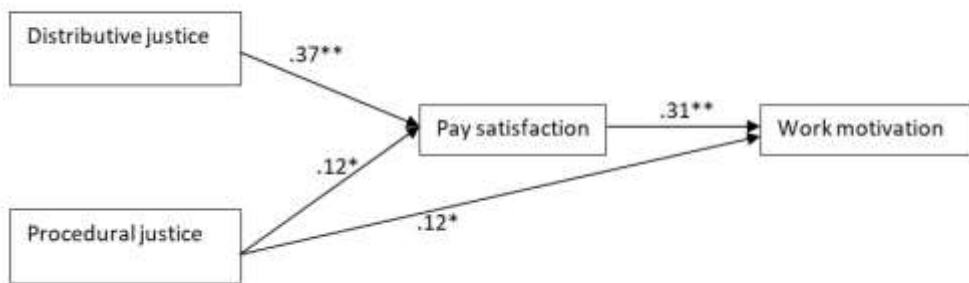


Figure 1. The standardized regression weights of the effects in the final model
**** $p < 0.001$; * $p < 0.05$**

As the relationships depicted in Figure 1 show, we found distributive and procedural justice to exert significant influences on pay satisfaction, and the latter to have a positive and significant effect on work motivation. Hence, pay satisfaction emerged, as hypothesized, as a mediator of the effects of the two dimensions of organizational justice on work motivation. Moreover, procedural justice also has a significant direct positive influence on work motivation.

Discussion

Financial compensation has always been regarded as a major motivator of work motivation. Nevertheless, there are also conditions in which employee perceptions concerning the allocation of pay within their company generate detrimental effects on their motivation and subsequent performance, as studies on the consequences of pay dispersion and pay for performance programs have revealed (e.g. Bloom & Michel, 2002; Beer & Cannon, 2004). This indicates that the exact conditions in which pay – related variables and parameters lead to the best results in terms of work motivation and performance have yet to be determined, as well as tested in various cultural and socio-economic areas. Moreover, elucidating this issue could prove of considerable importance for the Human Resources professionals, as it could inform strategies aimed at increasing the work motivation of the personnel in their organization as well as at

counteracting the potentially detrimental influences on work performance of the employee perceptions concerning their pay.

Our study focused on the potential influential role of pay satisfaction and on the determinants of this evaluation from the area of organizational justice in a sample of Romanian employees. Our results indicate that the two dimensions of justice – distributive and procedural – have a positive influence on work motivation and that this effect is mediated by pay satisfaction. Thus, positive employee perceptions of distributive and procedural justice increase pay satisfaction, which further generates a significant positive influence on work motivation. Conversely, and in line with previous studies, employees evaluate the distribution of financial rewards in their organization as unjust are consequently less satisfied with their own pay (Aquino, Griffeth, Allen, & Hom, 1997). Similarly, when employees perceive the criteria, rules and procedures that make up the process of allocating financial rewards in their company as unjust, they become less satisfied with the pay that they regularly receive (Tang & Sarfield-Baldwin, 1996).

These influences of the two dimensions of organizational justice highlight its importance for the company, especially since they extend to other facets of employees' attitudes and behaviors, as other investigations have found. Specifically, employees who perceive low levels of distributive and procedural justice in their company also have a higher rate of turnover (Paré & Tremblay, 2007) and lower organizational commitment (Ahuja et al., 2007). Taking into account the influences on pay satisfaction and consequent work motivation highlighted by our study, organizational justice appears as a very important and sensitive facet of employees' perceptions of their company, and management representatives should invest effort into ensuring optimal levels of these perceptions among their staff. Consequently, the findings of the present study could be incorporated and developed in HR strategies that would aim to ensure transparency towards employees in what regards their pay and general rewards in all their components, specifically the bonuses, raises and other financial and non-financial benefits that they and their colleagues receive. This can be achieved by explaining the rationale and the exact mechanisms behind financial compensation decisions, which would diminish employee suspicions concerning unfair pay allocation or the interference of subjective biases in these decisions. Specifically, HR professionals could encourage management to organize meetings in which these issues would be openly discussed with the employees, and in which the conditions under which an employee can receive the maximum amount of payment under the current organizational pay scheme would be clearly described. This would not only clarify the relationship between effort and financial rewards for each employee, leading to higher work motivation but would also alleviate suspicions that these rewards would be subjectively and arbitrarily allocated.

Moreover, implementing criteria that employees perceive as being a fair ground for the pay differences between staff is another potentially fruitful intervention. Past work performance is one of the criteria that is perceived by employees as having the higher degree of legitimization (Shaw & Gupta, 2007). Thus, implementing or stressing the weight of this factor in the compensation policy implemented by the company increases the probability that the procedures and the results of this policy would be perceived as fair by the staff. This would also lead to positive effects on general productivity; as Shaw, Gupta, and Delery (2002) found, in companies using performance as the main criterion in the allocation of financial rewards, large differences in pay increase work

performances, while the opposite effect was found in the organizations in which employees' compensation is not differentiated according to work performance. Consequently, our results suggest that another beneficial HR strategy in terms of work performance would be to recommend the implementation of pay for performance programs and to assist management in their development.

Our results also pinpoint a significant effect of pay satisfaction on work motivation, the former mediating the influence of distributive and procedural justice on the latter dimension. In line with previous investigations (e.g. Dailey & Kirk, 1992), employees who have positive evaluations of their current financial rewards are more motivated to perform in their work. Finally, we also found a direct effect of procedural justice on work motivation, indicating that perceiving the criteria and process of allocating financial rewards in their company as unjust has a direct detrimental effect on one's motivation. Similar distinct route of the influence of the two dimensions of organizational justice has been highlighted by previous studies; for instance, Tekleab et al. (2005) found procedural justice to have a stronger association to the satisfaction employees have towards their recent pay raises than to the actual amount of pay they receive. Our result highlighting the specific effect of procedural justice further stresses the influence of this dimension on the general subjective relationships on an employee with their company and thus the importance for the latter of eliminating any suspicions of unfairness in its procedures.

One of the limitations of the present study is that we used a correlational research design, which cannot fully demonstrate the presumed causal relationships between the variables in our model. Second, all data was collected at a single point in time, and thus our design does not capture the possible variations in motivation in time that might be generated by variations in the economic conditions of the companies in our sample.

To conclude, our study conducted on a sample of Romanian employees found distributive and procedural justice perceptions to have a positive influence on pay satisfaction, which further exerts a positive effect on work motivation, indicating that pay satisfaction is a mediator of the influence of the two dimensions of organizational justice on motivation. A direct effect of procedural justice on the latter variable also emerged. Further studies should test the role of other objective and subjective dimensions in this pattern of relationships, as well as examine the effect of interventions designed to improve employees' perceptions of organizational justice.

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KNOWLEDGE ECONOMY

UNIVERSITIES AS LEARNING ORGANIZATIONS: CHALLENGES AND STRATEGIES

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Abstract: *The purpose of this paper is to demonstrate that universities can increase their competitiveness and their ranking positions in this turbulent economic environment by transforming into learning organizations. Although universities have been created as places dedicated to teaching and learning, they are not learning organization by default. There is a widespread confusion between the process of individual learning, which is specific for students learning, and organizational learning, which is an organizational process developing at the university level. A university can become a learning organization if and only if its leadership creates strategies for transforming local and spontaneous organizational learning into a generic and organization-wide process based on clearly defined strategies. The university governance should become a strategic driving force and knowledge management should replace the traditional administration management. Universities in the knowledge economy need to create and disseminate new knowledge and to contribute through research and innovation to the community development. Thus, the vision and mission of the university should incorporate new attributes and the academic leadership should be able to implement all of these changes in the operational academic management. The methodology used in this paper is based on literature review and a conceptual analysis concerning the challenges of the university for the 21st century. The results show that universities can become learning organizations if and only if their leadership create a set of specific conditions and all the members of the academic community share the new vision and mission developed by the university leaders.*

Keywords: *university leadership, organizational learning, learning organization, knowledge management, intellectual capital*

Introduction

Universities of the 21st century face new challenges from the knowledge economy and must perform in a fierce global competition (Bratianu & Pinzaru, 2015; Duderstadt, 2000; Hadad, 2017; Prelipcean & Bejinaru, 2016; Shattock, 2006). The ranking systems of the world universities generate new pressures for performance and offering best undergraduate and graduate study programs. In the same time, universities face a strong competition for intellectual and financial resources. They have to adapt their vision and mission to the new requirements for knowledge generation and innovation, and transferring intellectual property toward society (Dima, 2014; Sanchez et al., 2009; Secundo et al., 2010; Shattock, 2013; Vătămănescu et al., 2015).

The *learning organization* is a metaphor which has been extensively used especially after the widely acclaimed book *The fifth discipline: The art & practice of the learning organization* published by Peter Senge in 1990. In this book, Senge considers the *learning organization* a social invention. While engineering inventions are composed of

tangible components, social inventions are composed of intangible components called *disciplines*. A discipline is essentially “a body of theory and technique that must be studied and mastered to be put into practice” (Senge, 1999, pp.10-11). An organization can become a learning organization if and only if its leadership develop and implement adequate strategies for stimulating and amplifying organizational learning (Argote, 2013; Garratt, 2001; Örténblad, 2011; Starbuck & Hedberg, 2003).

Successful universities, which are world-class universities (Bejinaru & Prelipcean, 2017) made great transformations in becoming *learning organizations* by developing new dynamic capabilities (Teece, 2009) and a strategic governance (Mok, 2008; Mora, 2001). The purpose of this paper is to show what are the necessary requirements for a university to become a learning organization, and how to develop knowledge strategies for increasing its intellectual capital and competitiveness in the turbulent environment of this century. The structure of the paper is as follows: after this brief introduction, we present the basic features of the learning organization, then we consider university governance and leadership as the driving forces for its transformation into a learning organization. We close the paper with some final remarks and further research to be done.

Organizational learning

Organizational learning is a metaphor since only people have the natural ability of knowledge processing and learning. As Argyris remarks (1999, p.7), “When we begin by assuming that individuals are the only proper subjects of learning and that individuals learn, then we are likely to be puzzled and disturbed by the notion that learning may also be attributed to organizations”. Organizational learning is a process of transferring knowledge from individuals to a social structure which is able of developing a specific memory and specific routines in its collective behavior. It is a learning process through social interactions. Through organizational learning “whole organizations or their components adapt to changing environments by generating and selectively adopting organizational routines” (Argyris, 1999, p. 8). Crossan et al. (1999, p. 523) define four premises for an effective organizational learning:

- Organizational learning assumes a tension between knowledge exploitation and knowledge exploration.
- Organizational learning is a multilevel process (i.e. individual, group, organization).
- The three levels of organizational learning are linked through psychological and social processes: intuiting, interpreting, integrating, and institutionalizing (4I's).
- Cognition influences action, and action influences cognition.

Following this organizational learning model, we can see that there is a feedback direction and a feedforward one. The feedforward reflects knowledge exploration, and it promotes learning from individuals and groups to organizations, where new knowledge will be integrated into routines, procedures and strategies. Feedback reflects knowledge exploitation and institutionalizes the learning results.

Intuiting is a dominant unconscious process which is based on pattern recognition and analogy. When time or complexity of the new problem become constraints, the cognitive unconscious tries to find a solution by simplifying the context and finding similar patterns for a possible solution. Intuiting is a fast process but the probability of error is high, especially for people who are beginners in a certain domain. Intuiting works

well for experts, who accumulated thousands of hours of experience in a specific domain of activity (Gladwell, 2005, 2008; Kahneman, 2011). Intuiting is based on processing emotional information and knowledge (Bratianu & Orzea, 2013; Hill, 2008). *Interpreting* operates at the interface between individual and group levels. It is the sequence of externalization of that intuition and explaining it through combination to others (Nonaka & Takeuchi, 1995). Interpreting is a social process when sharing knowledge and values leads to group learning (Bratianu & Orzea, 2010a). *Integrating* is a social process which operates at the group level and at the interface between groups. Integrating is an essential process in transforming the potential of the intellectual capital into operational intellectual capital, and in initializing action through decision making (Bratianu, 2018; Bratianu et al., 2011). *Institutionalizing* operates at the organization level through new routines. Organizational learning is completely different than the individual learning, since the outcomes belong now to the whole organization: "Although individuals may come and go, what they have learned as individuals or in groups does not necessarily leave with them. Some learning is embedded in the systems, structures, strategy, routines, prescribed practices of the organization, and investments in information systems and infrastructure" (Crossan et al., 1999, p.529). Although these phases have been presented in a sequential way, they may manifest simultaneously since organizational learning is a complex and nonlinear process (Bratianu, 2013; Bratianu & Vasilache, 2010).

Learning organizations

As mentioned before, *the learning organization* is a metaphor created to define the organization where managers create strategies to extend organizational learning throughout the company. Örtenblad (2001, p. 126) makes a clear distinction between the process of organizational learning and the learning organization "Organizational learning means processes or activities (of learning) in the organization, while the learning organization is a form of organization in itself". Organizational learning may happen locally in any organization, but only few of them can become learning organizations if they develop and practice the five disciplines defined by Senge (1999): personal mastery, mental models, shared vision, team learning, and systems thinking. Personal mastery stimulates personal motivation to never stop learning and improving the professional competences. Mental models focus on the capacity of creating some simplified cognitive models of the real world which help managers in understanding the business environment and in making decisions. The better the cognitive approximations are the deeper understanding managers get for solving practical problems. Shared vision means to focus on the future of the organization and on designing business strategies to achieve competitive advantage (Bratianu, 2017a, b). Finally, the system thinking integrates all the other four disciplines and creates the framework for the learning organization (Gharajedaghi, 2006; Senge, 1999). Systems thinking is related also to the concepts of emergence and self-organization. *Emergence* refers to the capacity of the whole to generate new properties which cannot be found at the level of any components. When there is an emergence of a stable dynamic structure, the new phenomenon is called self-organization (Sherwood, 2002, p.15).

Garvin (2000, p.11) defines a learning organization as being "an organization skilled at creating, acquiring, interpreting, transferring, and retaining knowledge, and at purposefully modifying its behavior to reflect new knowledge and insights". Thus, one of the main features of the learning organization comes from its capacity to create new

knowledge and learn to adapt to new and complex situations. Senge (1999) makes the distinction between adaptive learning and generative learning. *Adaptive learning* is based on a process of extrapolation of the present into the future by small changes designed on a short-term perspective and predictable results. *Generative learning* is based on interpolation of the future and designing complex changes on a long-term perspective. While adaptive learning makes use of knowledge exploitation, generative learning makes use of knowledge exploration.

Garvin et al. (2008) developed an assessment tool for learning organizations able to measure the depth of organizational learning. This metric is based on the assumption that there are three basic building block of the learning organization: a supportive learning environment, concrete learning processes and practices, and leadership that reinforce learning. *A supportive learning environment* is a necessary condition for creating a climate of psychological safety. That will allow managers and employees to learn from both their successes and mistakes. Also, they will be more creative since there is no fear of being penalized for eventual errors in their decisions and actions. A supportive learning environment creates an open space for new ideas and stimulates people for reflection and collective decision-making. The second block refers to *concrete learning processes and practices*. Learning implies knowledge processing and testing new ideas, which finally lead to a better understanding of a given context and to a change in the organizational behavior. Learning can be stimulated by knowledge sharing which contributes to a higher average level of organizational knowledge as a result of a re-distribution of knowledge. A specific role is played by intergenerational learning which can be very successful in the generation-layered organizations (Bratianu & Orzea, 2012; Lefter et al., 2011). The third block refers to *the leadership that reinforces learning*. Transforming an organization where organizational learning may happen occasionally and locally into a learning organization needs a transformational leadership capable of integrating all necessary resources and local organizational learning processes based on a well-defined vision and mission. Transformational leadership (Bass & Riggio, 2006; Bratianu & Anagnoste, 2011) is based on strategic thinking and change management. It challenges all employees to find solutions for a better organization with a dynamic culture (Ghinea & Bratianu, 2012) and an intelligent approach to competition and performance.

Universities as learning organizations

Universities are knowledge-intensive organizations with natural organizational learning processes but many of them have no shared vision for becoming learning organizations (Bratianu, 2009, 2014). The structure of any university contains departments and schools for the academic part and different offices for the administration part. In each department or office people may share their knowledge and contribute to organizational learning, but if there are no strategies at the university level to stimulate and develop organizational learning then the university cannot transform itself into a learning organization. In other words, a university may become a learning organization if and only if there are fulfilled the following concomitant conditions: the existence of a supportive learning environment, the existence of concrete learning processes, and a learning leadership able to produce change and transform the organization (see Figure 1).

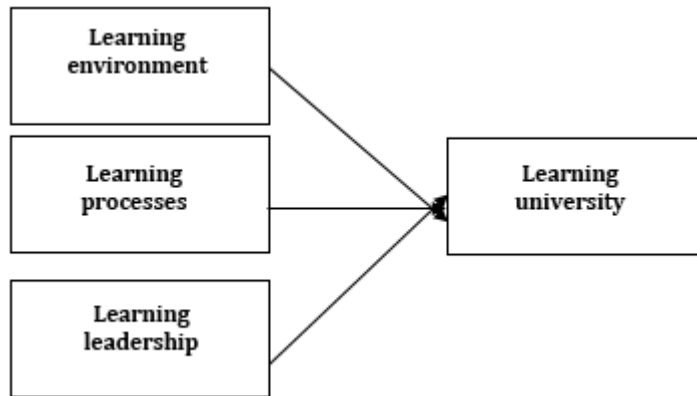


Figure 1. The necessary conditions for a university to become a learning organization
(Source: Author contribution)

Learning environment

Although Garvin et al. (2000) refer to the internal organizational environment, we emphasize the importance of the external environment as well, especially for the state universities in Europe (Bratianu et al., 2016; Christopher, 2012). Legislation and culture constitute powerful driving forces in shaping the organizational behavior and in any managerial decisions. Since most of the European universities are state universities, their governance doesn't have a full autonomy, which creates a rather significant dependence on the governmental financing system. In turn, this dependence induces some limitations in the academic management decisional process. For instance, if the financial system provides payments based on a yearly metric, a university is not able to sign contracts for a larger period of time even if that contracts may have a beneficial outcome for the university. Thus, creating real university autonomy is an integral part of the supportive external environment (Bratianu et al., 2016; Curaj et al., 2012).

The internal learning environment can be achieved through a dynamic organizational culture which integrates a motivational system able to stimulate organizational learning and a visionary leadership able to challenge the unpredictable future and solve the stupidity paradox (Alvesson & Spicer, 2016; Song & Lee, 2014). "Organizational culture is a compass that gives people direction, but it is also a prison that limits their freedom. Culture guides and integrates, but also blind and stifles thinking" (Alvesson & Spicer, 2016, p.193). Organizational learning is a process that requires both an individual and a managerial effort. If people don't have a clear target and a powerful motivational system these efforts will not be done, and there will be no supportive learning environment. It is not only about the capacity to learn, but it is also about the willingness to make all necessary efforts to learn and the set of values integrated into the organizational culture. Sometimes the shared beliefs may become a shared blindness.

Learning processes

In any organization, we have two types of learning processes: learning how to perform professional activities and learning how to use the power of social groups and of the whole organization to improve its performances. Unlike organizations focused on industrial production, universities are focused on learning processes. The final

outcomes of the “production process” consist of thinking models and skills students will be using in their professional life. The turbulent economic environment we face today requests to focus more on developing generic thinking skills than on transferring knowledge, although for many students that requires a mind-shift (Bereiter, 2002; Bratianu & Vatamanescu, 2017).

On the other hand, organizational learning implies knowledge creation, knowledge sharing, knowledge transfer, knowledge retention and a good balance of the organizational knowledge dynamics (Bratianu & Bejinaru, 2016; Bratianu & Orzea, 2010b). Since universities are age-layered organizations an important role in developing learning processes is played by intergenerational learning (Bratianu et al., 2011). As a result of intergenerational learning, universities can increase the knowledge retention when professors retire and take with them a huge expertise. Otherwise, the knowledge loss may put the whole university to risk when the number of retired professors is significant. That was the case of the Romanian universities in 2011 and 2012 when as a result of the new educational legislation have been forced to retire over 1000 professors. Many research programs and doctoral schools suffered an unpredictable knowledge loss.

Learning leadership

Leadership is the most important nonlinear integrator in any organizations which contributes directly to transform the intellectual capital potential into the operational intellectual capital (Bass & Riggio, 2006; Bratianu, 2011). Learning leadership is a dynamic capability of the university governance which contributes to achieving competitive advantage in the global competition (Donina et al., 2015; Teece, 2009). University leadership is responsible for developing the knowledge strategies for the university future and for transforming efficiently the potential intellectual capital into the operational intellectual capital (Bolisani & Bratianu, 2017; Bratianu & Bejinaru, 2017).

Conclusions

Universities are knowledge-intensive organizations whose mission is to create and transfer knowledge toward students and society. In the present turbulent environment, universities face a fierce global competition for human and financial resources, as well as for high technologies to shape the future.

The paradox of any university is that although it focuses on learning processes in developing students’ skills and minds, it is not by default a learning organization. In order to become a learning organization, a university needs to dispose of a supportive learning environment, to create organizational learning processes and to have a learning leadership. These are also the challenges for any university to become a world-class university, which means a university prepared for the global competition.

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THE DEVELOPMENT KNOWLEDGE-BASED ECONOMY: A LITERATURE REVIEW

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Abstract. *There is an increasing 'knowledge' component to economic activity. In a narrow sense this encompasses the growth of knowledge-intensive industries such as information technology, telecommunications and biotechnology. However, it is also becoming increasingly important in many other 'traditional' industries and there are indications that the knowledge content of work generally is increasing. The relevance of research is in the contribution of domestic economic science to building market relations, the sustainable and balanced development of the national economy in the face of global economic challenges, as well as the development of new scientific directions, concepts and models that are adequate to world trends and determine the construction of a "knowledge economy". The main idea of this research is to analyze the existing literature on research in the field of formation and development of a knowledge-based economy. In this paper, we examined in detail the existing literature related to the direction and depth of the development of a knowledge-based economy, indicating the most influential scientists, journals and relevant publications according to the most well-known Web of Science database. As the study of literary sources on the problems of the development of a knowledge-based economy shows, there is still no unequivocal opinion among researchers about its parameters and the depth of research. There are gaps that can be identified by analyzing existing literature. Knowledge economy is not just a new theoretical concept, but a new epoch, which has a fundamental difference from the era of the agrarian and industrial economy. Although its offensive appeared only in the early 90s, it already had an impact and caused changes in all spheres of economic and social life, and this influence is constantly growing. The trend of development of a Knowledge economy is the formation of a Knowledge economy, which will mean the onset of a new stage in the development of the global economy, namely, the stage of global economic networks. For Practitioners, this is valuable in that it is possible to determine the existing practice in the study of problems of development and development of a knowledge-based economy, as well as positive experience for the leaders of knowledge-based companies.*

Keywords: *knowledge-based economy, dimensions of knowledge-based economy, innovation management, literature review.*

Introduction

With the advent of the 21st century, information, communications, and computer technologies have undergone rapid innovation and popularization, profoundly altering human lifestyles and economic structures. The exploitation of asynchronous time in the virtual Internet environment, in tandem with transformations in electronic transactions and monetary regimes, has transformed conventional industrial production processes and management models. The "digital revolution" has triggered a "paradigm shift", whereby the supply of production inputs, goods and services, covering every aspect of research and development, design, manufacturing, marketing, and transactions, has embodied a revolutionary change. As the fields of biochemistry, aerospace, materials science, and nanotechnology have experienced rapid successions of breakthroughs paced by the laboratories, so too have realms such as behavioral science undergone significant developments in theory and practical application through the interplay of information, communications, and computer technologies, unleashing vigorous entrepreneurial spirit and bringing it to bear on every facet of organizational operations.

Innovations in technical applications and know-how have introduced new game rules to markets, propelling a new wave of government regulatory measures including the regime of intellectual property rights and competition policy reforms. The knowledge-based economy has become the major trend in international society in the 21st century. Exploring the characteristics of the knowledge-based economy and establishing an appropriate economic paradigm for accelerating technological innovation is an urgent task for governments. Therefore, in a knowledge-based economic system, the issues concerned with the challenges and the adaptation of competition policy require profound discussion.

In the modern society in terms of globalization and technological revolutions the contemporary economy into a so-called "knowledge economy" (KE). This type of economy defined as an absolutely new type of organizations and work govern the world of business, demanding the rapid development of skills, solid knowledge and greater responsibility. In the research of Hadad (2017) modern civilization as a result converts to a learning society, adjusting to the innovative society, besides this meaning, educational systems should strive to form people who has opportunity to develop skills, to unite fully in the sociocultural background in which they live (Myburgh, 2011). From the middle of the last century, some arguments and disputes arose in the appropriate literature on modern society. In contradiction of this background, the first signs of a new society, a society based on education and knowledge, were discovered. Globalization has helped to more easily distribute new knowledge. Moreover, this was mainly due to modern technology. According to Hadad (2017) over the past years, four main concepts have been used in literature (Figure 1):

The first two main concepts are currently chosen by international organizations and influential politicians and will also be used in this document (Weber, 2011). However, this both words 'knowledge economy' illustrate the most important aspects of the whole concept: knowledge, the "driver of economic development" (Lin, 2006). In fact, the knowledge based economy develops constantly as a direct result of the important increase in knowledge in all economic processes and sectors of the economy (Davenport & Prusak, 2000; Movitz & Sandberg, 2009; Nonaka & Takeuchi, 1995; Rooney, 2005; Tchamyu, 2014; Viedma & Cabrita, 2012).

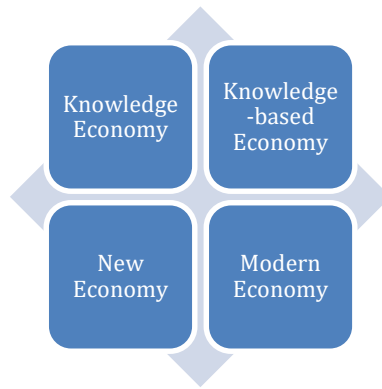


Figure 1. KE main concepts

A fundamental part in knowledge management is to spread and make knowledge accessible and usable within or between chosen organizations. When reviewing literature, there are some terms that seem more central and fundamental than others. For example, in the view of the knowledge-based firm creation, coordination, transfer, and integration of knowledge creates competitive advantages for firms. In addition to the statement above, proposes that knowledge transfer (KT) is a fundamental process of civilization and that it is central to learning which in turn is critical to development, there is clear support for exploring the term knowledge transfer.

It can be argued that in aiming for efficient knowledge-based economy, the search for “correct” choices of methods and steps is crucial. These choices require a well-defined taxonomy with clear concepts and terms. The content and meaning must be clear cut and there should be no ambiguity about the aim when fundamental concepts are used. Although this is undoubtedly a desirable objective, it is hardly the current state of affairs regarding commonly used terminology in knowledge-based economy. In many cases, the authors use central terms interchangeably and without making a distinction between them and sometimes without sufficient explanation of from which perspective the terms are used.

Clarifying the concept of “knowledge economy”

As the study of literary sources on the problems of the development of a knowledge-based economy shows, there is still no unanimous opinion among researchers on its quantitative and qualitative parameters. For example, in Blackler (1995); Bolisani and Bratianu (2017); Bratianu (2013); Asongu (2015) the following characteristic of a knowledge-based economy is given:

A knowledge-based economy is formed as a result of transformation into a diversified economy based on the production of high-tech products.

In a knowledge-based economy, the production of goods, works and services is based on information technologies that allow workers, firms and companies located in different parts of the country to communicate in real time using the Internet, personal computers, mobile communications and electronic commerce.

The system of relations between firms, companies, banks and other institutions is built in a knowledge-based economy on the exchange of computer digital codes (Bratianu & Bolisani, 2015).

The products of a knowledge-based economy are characterized by weightlessness due to miniaturization, the use of materials with predetermined properties. The products of a knowledge-based economy have inaccessible durability, durability, and efficiency. Such goods are distinguished by high labor intensity and added value. For example, the parameters of a knowledge-based economy are given in Alavi and Leidner (2001) where a knowledge-intensive economy is presented as a system in which products that change life, life and production do not have physical weight, in the sense of the physical mass.

According to Lu Yongxiang (1999), President of the Chinese Academy of Sciences, in a knowledge-based economy, the center for economic growth shifts to information technology, biotechnology, the creation of new materials and new sources of energy, as well as knowledge-intensive service industries such as advisory activities. "The high-tech economy," says Lu Yongxiang, "develops thanks to the knowledge and intellectual abilities of a person, so it is a form of economy that will apparently lead to the saving of resources, the coordinated interaction of man with nature and to sustainable development".

According to another point of view (Maximtseva, 2010), a knowledge-intensive economy is "... an economic system characterized primarily by the use of new technologies and discoveries in various areas of human activity, a large volume of already existing scientific knowledge, the generation of new knowledge, a high degree of motivation for the pursuit of innovation".

From the point of view of the Russian economist I.A. Maksimtseva (2010), the term "science-intensive economy" should be understood as an economic system characterized by the use of intellectual resources, new technologies and discoveries for the production of science-intensive products, the generation of new knowledge with a high degree of motivation for the pursuit of innovation. Also I.A. Maksimtseva (2010) considers incorrect the use of the concepts "knowledge economy", "information economy", "electronic economy", "network economy" used in the scientific literature as identical to the term "knowledge-intensive economy". These terms differ in content because each of them reflects the authors' point of view on the prevalence of this or that factor in production processes: in the "information" economy, the leading factor in production is information, the supporters of the "electronic" and "networked" economy are considered as constituting development of information and communication technologies, etc.

In the fair opinion of a number of scientists, in the science-intensive economy a special role is played by the creative, creative abilities of man. Melnikov (2010) told that a high-tech economy is an economy based on the creation and application of new knowledge about the world around, received by a person, his skills and skills in practice. As the main capital and resource of this stage of development of the economy is the intellect, the mind of man, embodied in his creative, creative actions Intellect in this case acts as a "basic" capital, and creative (or creative) actions, manifested through the creative energy of all market participants, are "negotiable" (sold or exchanged) capital.

Summarizing the analyzed literature, we believe that we should agree with researchers who consider the concepts of "information economy", "post-industrial economy", "new economy", "knowledge economy" and "knowledge-based economy", synonyms. In our opinion, they characterize identical transformational processes in the economy, based on the production of high-tech products, mainly based on the use of new scientific ideas, inventions, discoveries, and innovative technologies.

Literature review

The term knowledge-based economy, coined by the OECD in the 1990's, defined a type of economy which was "directly based on the production, distribution and use of knowledge and information" (OECD, 1996). At that time, it was hoped that the convergence of knowledge/ information and computer technology will become "the main driver of growth, wealth creation and employment across all industries" (APEC, 2000). Previous theoretical work by P. Drucker referred to the "knowledge society", a society in which the basic economic resources were no longer capital, natural resources and labor, but knowledge. Therefore, organizations were challenged to build systematic practices for managing self-transformation (Drucker, 1993). Economic analysts believed that knowledge can do more than increase economic growth; it can lead to structural economic and social change by affecting the volume of unemployment, the technological policy, the regulatory framework of a country's economy, the way work and production were organized (Soete, 1996), even the way life was lived (Neef, 1998). However, in 2001, the uneven rate of growth in several OECD economies was attributed not to knowledge production and distribution but to "information and communication technologies (ICT) (particularly investment in ICT), as well as to an increased use of quality labor and to the multifactor productivity growth arising in part from increased business innovation" (OECD, 2001).

There are two main economic theories that attempt to clarify the role of knowledge and technology in making sustained economic growth possible: the new growth theories and evolutionary theories. They have been developed when some economists have "perceived the limits to growth that finite resources and undesirable side effects would pose if no new recipes or ideas were discovered" (Romer, 1993). An economics of ideas as opposed to the economics of objects, which has been studied for centuries, has been proposed, in the hope that new ideas would increase a country's total stock of knowledge leading to sustained economic growth.

The new growth theories (also referred to as endogenous growth theories) consider (technological) knowledge a special type of commodity and use the standard neoclassical general equilibrium models to analyze the production, exchange and use of knowledge. The new growth theories highlight two main growth mechanisms: a) incremental learning and b) investments in R&D (innovation). The first is advocated among others by Lucas (1988, 1993). The second, pioneered by Romer (1986, 1990), Grossman and Helpman (1991), and Aghion and Howitt (1992), explains growth through the combined private and public aspects of investments in R&D. What provides the economic incentive for innovation is the partly "excludable" character of knowledge through the use of intellectual property rights (patents etc.). By exercising his/her intellectual property rights, the innovator, seen as a perfectly rational agent endowed with perfect information, may retain some of the rents accruing. Nonetheless, some of the new knowledge spills over to the rest of the economic system and increases the

social pool of public knowledge, which helps foster new innovations and hence allows growth to continue.

Attempts to empirically verify the new growth theories did not bring many results. Inferring from external R&D the internal productivity of firms and industries, Griliches (1992) measured some technology spillovers. A study by Jaffe and Trajtenberg (2002) identified knowledge flows and technological interaction by surveying patent data. Most new growth theorists find it difficult to treat knowledge as a good, albeit a special kind of good, because of the lack of analytical instruments:

If knowledge is indeed different from other goods, then it must be measured differently from other goods, and its relationship to the price system must be different from that of other goods. But the theoretical foundation on which national income accounting is based is one in which knowledge is fixed and common, where only prices and quantities of commodities need to be measured (Howitt, 1996, p. 10).

Evolutionary economic theories (also referred to as system theories) encompass a number of streams of thought all based originally on Schumpeter's logic of "creative destruction" (Schumpeter, 1934). The main idea in these theories is the perception that innovation, and the technological and organizational changes associated with it, are the key drivers of long-run economic growth (Bryant & Wells, 1998).

The knowledge-based economy should aim higher than the mere amassment of technological knowledge of how to subdue reality to the wishes of men in the hope that this will make societies wealthier and happier. It should deepen the knowledge of humans as they are moral warts and all. The missing moral dimension of knowledge must be cultivated (Sabau, 2006) through recovery of a body of ideas that informs the moral order of classical liberalism, an order which emphasizes freedom within the limits of physical and institutional (legal and ethical) constraints and impartial justice rooted in the moral equivalence of persons. This "thick" morality of a self not abstracted from communal values and commitments (MacIntyre, 1981) offers a better normative stance for the promotion of sustainable development.

Methodology

To analyze and solve the research problem, we reviewed the literature with three databases. First of all, we reviewed the most famous and large databases: Google Scholar, SCOPUS and Thomson ISI Web of Knowledge. The public Google Scholar over the Internet was rejected as part of our study. Because according to (Harzing and Wal, 2008). We cannot consider Google Scholar as a lack of analytical tools of citation information (Li et al., 2010) also Google Scholar demonstrated insufficient knowledge and understanding of the main issues of citation indexing. On the other hand, P. Jacso (2005) compared the three famous datasets, Scopus, Web of Science and Google Scholar, on different grounds and bring into being that the last one demonstrated insufficient knowledge and understanding of the main issues of citation indexing.

Meanwhile Boyle and Sherman (2006) indicated that has the oldest database, it has strong coverage with citation data and bibliographic data which goes back to 1900. WOS claims as it has the most depth and the biggest database with the wide range of records.

Findings

Firstly, we focused on total quotes of documents. In the Figure 3 we can find the chronological segmentation of the papers using three categories: 18443 in general and 7543 in “Management”, “Economics” and “Business” category of publications.

All data was collected from WOS database on the current date 17 of February 2018. First, we gathered 25,097 documents by searching in “Topic” field the words “knowledge economy”. Further we considered 18443 publications in our data set, which is designated as a “general” category. The extracted publication types include articles, proceedings papers, books reviews, editorial materials and others (Figure 1).

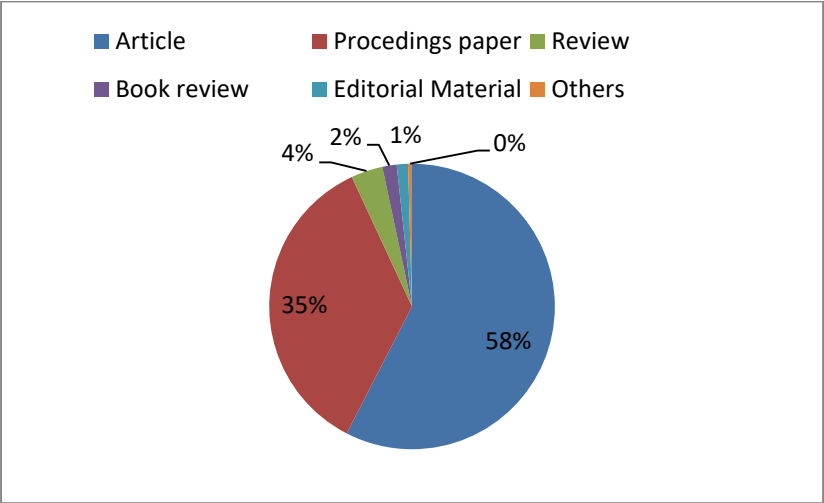


Figure 1. Observing general category by publications by types

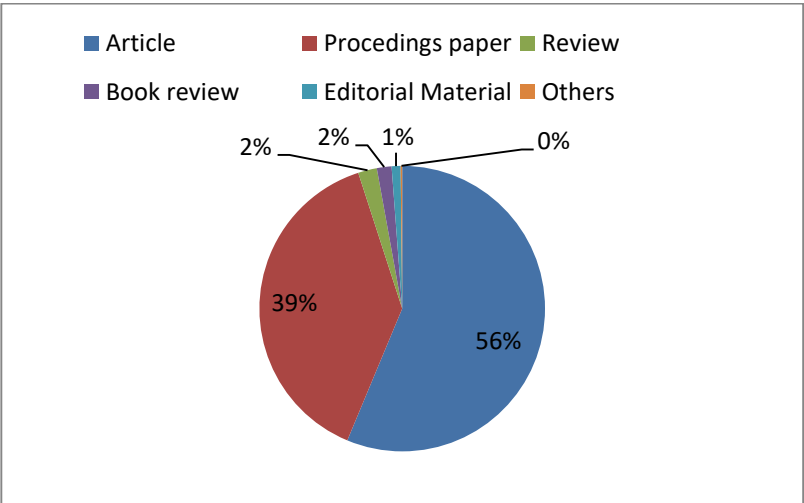


Figure 2. Segmentation of “Management”, “Economics” and “Business” category documents by types of publication

In the second stage of our research include more deep analysis to the specific subject are "Management", "Economics" and "Business". As a result, there were found 7543 documents (Figure 2). In more detail publications were analyzed using authors' bibliographic information, years of publication, content coverage, counties, journal names and citation frequency

According to Figure 3 the earliest article studied knowledge economy was published in 1977. However, there was insignificantly number of publications until 1991 (not more than 10 per year in both categories). In 1992 - 1997 the amount of publications increased in both "general" (from 22 to 126 respectively), although "Management", "Economics" and "Business" still has half of "general" publications in a year. Amount of publications in "general" overcome 1000 only in 2009. For example, there were 1053 publications for 2009, 1206 for 2012 and 2078 for 2016. The same taps can be considered to the "Management", "Economics" and "Business": 128 for 2001, 513 for 2010 and 797 for 2016. For 2018, the data given only for two months (January to February).

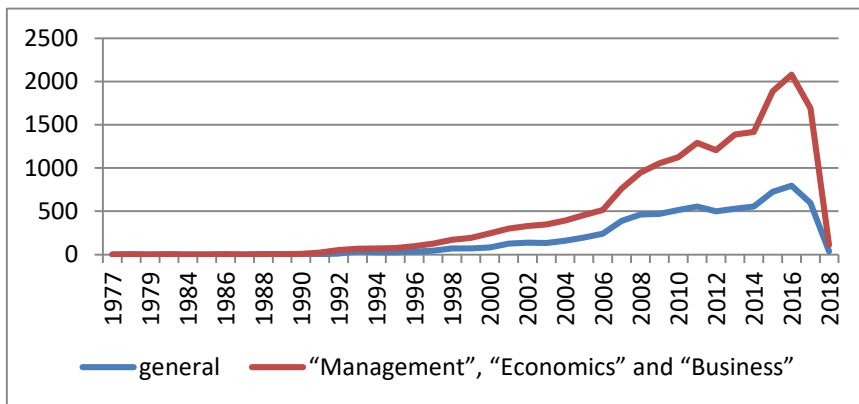


Figure 3. Number of publications per year.

Web of Science has 252 subject areas clusters in publications. We took only 18 subject areas with more than 500 publications (Figure 4). Consequently, the mainstream of publications in "Management" (3874 papers), "Economics" (3456 papers) and "Business"(2753 papers) were related to the field of "Education educational research".1718 publications, "Environmental studies" – 1122, to "Geography" – 1120, "Planning development" – 1111, "Computer science Information systems" – 943, "Operations research Management science" - 910, "Social science Interdisciplinary" - 785, "Information science Library science" – 712, and "Environmental science" - 657. Other fields like "Engineering electrical electronic" (605) and "Computer science Interdisciplinary applications" (598) have fewer publications than those mentioned above. "Management", "Economics" and "Business" has 10083 publications, where Procedia Social and Behavioral Sciences Journal 177 publications, European Planning Studies and Research Policy – 114 and 131 respectively. These figures confirm our assertion that studies related to the knowledge economy from the managerial and economic approach are not sufficiently developed.

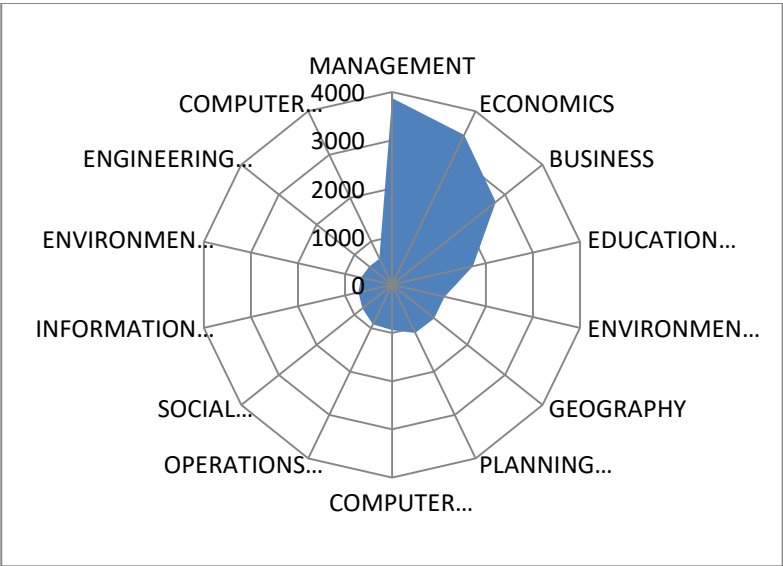


Figure 4. Segmentation of publications by clusters

Further, we confined publications to “articles”, in the “general” category there were 7545 articles among 18443 documents. Analysis recognized that the most citable document was written by M.E. Porter (1998) and published in *Harvard Business Review*. After that we choose articles with at least 500 citations in total. As mentioned earlier the first paper appeared in the Dataset written by G.P. Sweeney in the *Information Scientist* in 1977. Four articles among these 15 papers have more than 500 total citations. By analysis of annotations of 15 articles, we found that 2-ranked paper and 14-ranked paper are specifically dedicated to knowledge economy, whilst others have geography and environment. This paper was published in *Progress in Human Geography* and *environment and Planning A* journals. In addition, we calculated the annual quotes for each article that showed that the annual quotes of articles rise accordingly with a large number of cites.

Table 1. Articles with the quotes of citations more than 500 citations in “general” category

Nº	Cites	Author(s)	Title of Paper	Publication name	Publication year	Cites per year
1	1990	Porter, ME	Clusters and the new economics of competition	Harvard Business Review	1998	94.76
2	1465	Bathelt, H; Malmberg, A; Maskell, P	Clusters and knowledge: local buzz, global pipelines and the process of knowledge creation	Progress in Human Geography	2004	97.6
3	1207	Porter, ME	Location, competition, and economic development: Local clusters in a global economy	Economic Development Quarterly	2000	63.53

No	Cites	Author(s)	Title of Paper	Publication name	Publication year	Cites per year
4	1088	Kale, P; Singh, H; Perlmutter, H	Learning and protection of proprietary assets in strategic alliances: Building relational capital	Strategic Management Journal	2000	57.26
5	950	Teece, DJ	Capturing value from knowledge assets: The new economy, markets for know-how, and intangible assets	California Management Review	1998	45.24
6	845	Maskell, P; Malmberg, A	Localized learning and industrial competitiveness	Cambridge Journal of Economics	1999	42.25
7	759	Owen-Smith, J; Powell, WW	Knowledge networks as channels and conduits: The effects of spillovers in the Boston biotechnology community	Organization Science	2004	50.60
8	737	Javorcik, BS	Does foreign direct investment increase the productivity of domestic firms? In search of spillovers through backward linkages	American Economic Review	2004	49.13
9	645	HEDLUND, G	A model of knowledge management and the n-form corporation	Strategic Management Journal	1994	25.80
10	617	Verrecchia, RE	Essays on disclosure	Journal of Accounting & Economics	2001	34.28
11	608	Malmberg, A; Maskell, P	The elusive concept of localization economies: towards a knowledge-based theory of spatial clustering	Environment and Planning A: Economy and Space	2002	35.76
12	600	Furman, JL; Porter, ME; Stern, S	The determinants of national innovative capacity	Research Policy	2002	35.29
13	595	Frenken, Koen; van Oort, Frank; Verburg, Thijs	Relate variety, unrelated variety and regional economic growth	Regional Studies	2007	49.58
14	504	Coe, NM; Hess, M; Yeung, HWC; others.	'Globalizing' regional development: a global production networks perspective	Transactions of the Institute of British Geographers	2004	33.60
15	503	Henderson, R; Cockburn, I	Scale, scope, and spillovers: The determinants of research productivity in drug discovery	Rand Journal of Economics	1996	21.87

The same research was made to the limited groups – “Management”, “Economics” and “Business” (Table 2). We analyzed only papers with the type of article. So we collected 4358 articles among 7545 all documents. We designated 11 articles with more than 500 total citations. In these fields also the paper of M.E. Porter (1998) published in Harvard Business Review reached the most amounts of citations (1990 citations). Undoubtedly, our expectations were justified; the key areas of research in these journals are related to problems of business, management and economics. Two of the most cited articles were written by M.E. Porter.

Table 2. “Management”, “Economics” and “Business” articles with the highest number of citations

No	Publication year	Author(s)	Title of Paper	Publication name	Cites	Cites per year
1	1998	Porter, ME	Clusters and the new economics of competition	Harvard Business Review	1990	94.76
2	2000	Porter, ME	Location, competition, and economic development: Local clusters in a global economy	Economic Development Quarterly	1207	63.53
3	2000	Kale, P; Singh, H; Perlmutter, H	Learning and protection of proprietary assets in strategic alliances: Building relational capital	Strategic Management Journal	1088	57.26
4	1998	Teece, DJ	Capturing value from knowledge assets: The new economy, markets for know-how, and intangible assets	California Management Review	950	45.24
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12	1996	Henderson, R; Cockburn, I	Scale, scope, and spillovers: The determinants of research productivity in drug discovery	Rand Journal of Economics	503	21.87

In the next level of our research, we identified the countries with the largest number of articles devoted to the topic of knowledge economy. According to the "general" category the most papers published in the US, China and England (Figure 5). Meanwhile, outline is the same for "Management", "Economics" and "Business" category: leaders are the US, China and England. In Figure 5 we can find that a lot of countries study the problems of the formation of a knowledge-based economy, however developing countries consider knowledge economy in the prism of economic field. Kazakhstan also pays attention to this field of study.

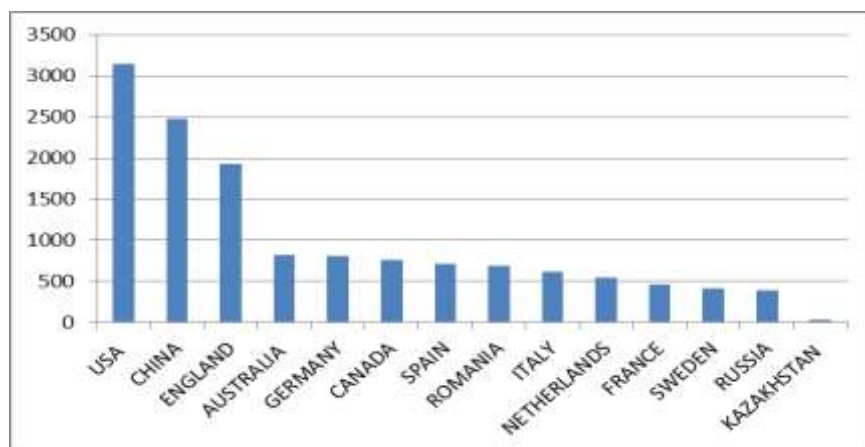


Figure 5. Articles sorted by countries in the "General" category

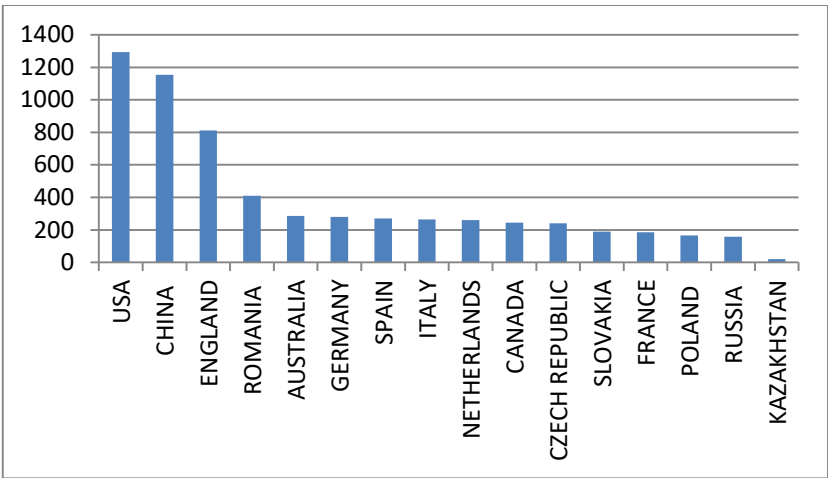


Figure 6. Articles sorted by countries in the “Management”, “Economics” and “Business” categories

In the last stage of our research, we chosen 15 journals which have 60 or more articles devoted to problems of knowledge economy (Table 3). Altogether, these journals published 916 publications or 21 % of all “general” articles. Procedia Social and Behavioral Sciences with 182 papers (12%) stands out, followed by European Planning Studies with 131 papers (9%). Six journals have published more than 100 papers.

Table 3. Journals which have 60 or more articles devoted to problems of knowledge economy

Rank	Journal Title	Number of papers	Percentage of total (%)
1	Procedia Social and Behavioral Sciences	182	12%
2	European Planning Studies	131	9%
3	Regional Studies	122	8%
4	Edulearn Proceedings	116	8%
5	Research Policy	114	8%
6	Advances in Social Science Education and Humanities Research	113	8%
7	Inted Proceedings	95	6%
8	Technological Forecasting and Social Change	93	6%
9	Environment and Planning	82	6%
10	International Journal of Technology Management	80	5%
11	Proceedings of the European Conference on Knowledge Management	76	5%
12	Advances in Education Research	70	5%
13	Urban Studies	68	5%
14	Ekonomicky Casopis	65	4%
15	Journal of Cleaner Production	65	4%
	Total	1472	

We analyzed journals in “Management”, “Economics” and “Business” categories and selected 15 journals with at least 30 publications studied the topic. The data you can see in the Table 4). These 15 journals published articles related to the knowledge economy in total 916 articles.

Table 4. Journals which have more than 30 papers related to knowledge economy in the “Management”, “Economics” and “Business categories

Rank	Journal Title	Number of papers	Percentage of total (%)
1	Regional Studies	109	12%
2	Research Policy	109	12%
3	Technological Forecasting and Social Change	88	10%
4	International Journal of Technology Management	78	9%
5	Ekonomicky Casopis	60	7%
6	Technovation	59	6%
7	International Business Review	58	6%
8	Journal of Economic Geography	55	6%
9	Journal of Business Research	53	6%
10	Journal of International Business Studies	51	6%
11	Annals of Regional Science	46	5%
12	Journal of the Knowledge Economy	44	5%
13	Tijdschrift voor Economische en Sociale Geografie	38	4%
14	African Journal of Business Management	34	4%
15	Management Decision	34	4%
	Total	916	

Data given in the Table 4 shows that the three journals which published the highest amount of publications related to the topic are Regional Studies Journal with 109 papers (12%), Research Policy with 109 papers too (12%) and Technological Forecasting and Social Change with 88 papers (10%) and International Journal of Technology Management with 78 papers (9%). Other journals have less than 60 articles. Substantially that research interests of these journals are related to managerial science, which is close to the knowledge economy.

Summary

A knowledge-based economy is formed as a result of transformation into a diversified economy based on the production of high-tech products. A high-tech economy is not oriented towards consumption on a large scale of natural resources, but on a wider application. It is distinguished by the consumption on a large scale of new scientific knowledge, inventions, discoveries, new progressive technologies.

The relevance of growing information in studying knowledge economy shows the total number of articles in “general” category is 18443 and by analyzing chronological issue of papers, we can conclude that this topic became popular since 2000s. However, every year, the number of publications devoted to this topic is growing, as well as the number of citations of already available publications. Moreover, it should also be noted that interest in this area comes not only from economists and managers as well as researchers of other fields of knowledge.

It is noted that the most influential articles were published in countries such as the USA, China, and the United Kingdom. According this, our analysis showed that it is unlikely that any institution has clearly focused on researching the problems of the economy of the economy.

Journals like *Regional Studies*, *Research Policy*, *Technological Forecasting and Social Change*, *International Journal of Technology Management* can be useful for scholars who study knowledge economy.

The core value of the knowledge-based economy lies in “innovation.” The momentum behind innovation arises from “competition.” Furthermore, “fairness” and the “legal system” are the foundations of efficiency and healthy competition. Therefore, the substantial promotion of the Competition Act is the cornerstone of technological innovation and the development of the knowledge-based economy. The knowledge-based economy has become the major trend in global development in the 21st century. The digital revolution has resulted in a de-emphasis on the production processes and management patterns of traditional businesses, while knowledge-based enterprises using new business methods and models have prospered. Furthermore, the concepts of merchandisers, services, enterprises, consumers, supply, demand, transactions, price, and market scope are becoming more blurred. The well-behaved demand function and the law of diminishing returns to scale of traditional economies and the static productive efficiency from the supply side can no longer satisfy the need for a dynamic optimal allocation of resources. The positive feedback loop brought about by the network effect and characterized by the phenomenon of increasing returns to scale indicates that dynamic competition is more salient than ever before. Likewise, in this age of the knowledge-based economy, competition policy is contributing significantly to a country’s development on a long-term basis.

In addition, in this age of the knowledge-based economy, as key knowledge appears everywhere, market competition is becoming more severe than ever before. As consumers enjoy the fruits of a knowledge-based economy, they also take risks based on asymmetrical and incomplete information. These are all reasons why the competition law authorities get involved in the market. Even if the products, businesses, and technology in this age of the knowledge-based economy keep on being innovated, and the conditions related to market competition drastically differ from those of the past, the Competition Act’s principle of safeguarding fair trade and maintaining fair competition remains unchanged. Even more, it should be intensified because the results of restrictions on competition and technological innovation in a knowledge based economy are more serious than before, and have a widespread impact. In this age of the knowledge-based economy that calls for innovation and change, all merchandise can take on a new value through innovation. All businesses can increase their productivity by means of knowledge. If we can consolidate the execution of this competition policy,

and create a quality environment in which there is fair competition, this can help enhance competition and develop the market mechanism, thus causing economic resources to be allocated more reasonably and efficiently. Moreover, by doing this we can also encourage further technological innovation in business, thereby intensifying the development of economic vitality, and achieving sustainable stability and social prosperity.

Knowledge economy is not just a new theoretical concept, but a new epoch, which has a fundamental difference from the era of the agrarian and industrial economy (Valdez etc., 2016). Although its offensive appeared only in the early 90s, it already had an impact and caused changes in all spheres of economic and social life, and this influence is constantly growing. The trend of development of a Knowledge economy is the formation of a Knowledge economy, which will mean the onset of a new stage in the development of the global economy, namely, the stage of global economic networks.

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KNOWLEDGE MANAGEMENT IN THE UK HIGHER EDUCATION INSTITUTIONS: WHAT TYPE OF OUTCOMES DO HIGHER EDUCATION PARTNERSHIPS ATTAIN?

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Abstract. *This research paper sought to examine the role and contribution of Knowledge Management (KM) in UK Higher Education Institution (HEI) partnerships outcomes. The author conducted a qualitative research making use of semi-structured interviews with nine elite respondents who for the purpose of this research were defined as individuals that have been involved in initiating, developing and managing HE partnerships at executive levels. The analyses demonstrate that HEI partnerships may produce a wide range of outcomes depending on the external factors, purpose, length, specialism, and priorities of the collaboration. Nevertheless, this research has identified 18 partnership outcomes which are grouped into three categories such as academic, financial and marketing and managerial outcomes. Results of the research infer that performing in accordance to partner's expectations helps overcome trust related issues thus building confidence in partners. The establishment of confidence might lead towards exploring other collaborative possibilities and therefore be able to have a combination of academic, financial and marketing and managerial outcomes at the same time. Results show that nurturing and supporting the application of KM activities is essential in allowing the HE partners to share, transfer, apply and absorb the knowledge needed to attain the intended partnership outcomes. The extent to which knowledge is exchanged and distributed within and across HEI partners might encourage the development of new products and services which in return helps an HEI to minimize risk through portfolio diversification and establish a sustainable business model.*

Keywords: *Academic Outcomes; Financial and Marketing Outcomes; HE Partnership; Knowledge Management; Managerial Outcomes.*

Introduction

According to Higher Education Funding Council for England (HEFCE) (2017) Higher Education (HE) in the UK is of a high importance considering its impact in society and the economic development that derive as result of the diversity of knowledge and expertise found amongst educational institutions. As the HE sector is becoming fiercer Universities are continuously exploring alternatives to ensure sustainable market development. According to HEFCE (2017), HEIs in the UK differ in size, ethos, expertise, mission, and vision and are highly autonomous. Nevertheless, the UK HEIs experience common challenges which according to HEFCE (2017) are related with the student cap,

funding cuts, market diversification, technological enhancement and sustaining high-quality research to mention few. These challenges have increased the competitiveness of the HE sector and encouraged HEIs' to exploit opportunities of partnering in order to transform the challenges into opportunities through a combination and utilization of physical, financial and intellectual resources. According to HEFCE (2017), the collaboration between HEIs is designed with the purpose of attaining outcomes that an HEI would not be able to achieve individually and therefore seeks to join efforts with another HEI in order to attain the desired outcomes. However, the nature of partnership outcomes can differ depending on the level of interaction, engagement, and trust established between HEI partners. Although establishing a clear understanding towards the desired outcomes to be achieved through a partnership is fundamental, Ankrah et al. (2013) argue that HEIs should also be resilient in adapting and altering their actions in accordance to the partner's expectations. The willingness and ability of a HEI to support the transition into a partnership may lead towards additional outcomes that HEIs' did not consider at early stages however add value to both institutions and enhance their individual position in the HE sector. Therefore, it is important to establish an understanding of the type of outcomes that HEIs' could attain as acknowledging the potential outcomes could provide an opportunity for HEIs' to develop a more effective strategy and be able to enhance the allocation of resources for the potential outcomes.

Research context

The development of HEI partnerships involves a high level of exchanging knowledge across partners. The extent to which the required knowledge is circulated, stored and used is a significant indicator of the success of the partnership. Thus it is important to understand and take a holistic approach in designing and using Knowledge Management (KM) activities related to knowledge accessibility, repository, sharing, transferring, integration, application, and evaluation.

This research paper seeks to examine the role and contribution of KM in UK HE partnership outcomes. Using a tree analogy Elezi (2017) proposes a conceptual model, named KM Partnership Tree (see appendix 1). The conceptual model aims to explain the role of KM in facilitating the development of HE partnerships by presenting the Behavioral KM Constructs, which includes elements of culture, trust, absorptive capacities, and communication, as the foundation of a partnership development. Afterward, the conceptual model continues to list the institutional and partnership factors required accompanied by the KM activities needed to be applied in order to facilitate the integration of HEIs'. The ultimate purpose of this work is to understand the nature of the partnerships outcomes, and using the tree analogy of the conceptual model to be able to identify the outcomes (fruits) of the KM Partnership Tree.

Literature review

KM is treated as a scientific approach that allows individuals, teams, and institutions to optimize the use of information at inter and intra-institutional levels. The application of KM helps institutions to strengthen their competitive advantage by making the most of the intellectual capacities, expertise, and resources in order to enhance market share and profitability. Management theories explain that KM is a multifaceted area which involves a range of activities with the purpose of generating and managing knowledge. According to Nonaka and Takeuchi (1995), KM is defined as "the capability of an

organization to create new knowledge, disseminate it throughout the organization and embody it in products, services, and systems". The evolving nature of economies, from an agricultural economy to industrial economy and knowledge economy in the early 2000s has placed more emphasis on educational institutions, which are seen as the centers of knowledge, in equipping the future workforce with the right set of skills and knowledge required to support the knowledge economy. However, with differences noted amongst HEIs in terms of expertise, resources, location, opportunities and challenges the competition is becoming fiercer, and establishing and maintaining a competitive advantage, harder. Therefore, many HEIs have considered the formulation of partnerships as an approach to overcome competition and make a better use of institutional resources in order to attain the desired outcomes in the most cost-effective manner. Nevertheless, the success of a partnership strongly relies on the ability of partners managing the existing knowledge which due to several reasons related to culture, trust, absorptive capacities, and communication (Elezi, 2017) may cause misunderstandings, disagreements and/or raise barriers in exchanging knowledge adequately. Therefore, the application of KM principles within a partnership context may assist not only with the achievement of initial partnership outcomes but as discussed by Yarime et al. (2012) but could allow HEIs to explore and consider possible outcomes as a result of synergy established amongst partners.

Altbach (2015) and Lozano et al. (2013) explain that effective application of KM in HEI partnerships has had a positive impact in enhancing students' recruitment campaigns, learning experience and performance as well as training and development opportunities for administrative and teaching staff. However, Fullwood, Rowley & Delbridge (2013) explain that due to complex nature of partnerships is very important for universities to undertake an inclusive approach and involve staff of different levels in sharing and transferring knowledge across teams and departments. Doing so aids the processing of absorbing new knowledge and contributes to collection of different insights and expertise which eventually leads towards the generation of new institutional knowledge (Sulisworo, 2012, Ankrah et al. 2013; Fullwood, Rowley & Delbridge, 2013, Elezi & Bamber, 2016).

KM in HEI partnership development

The development of partnerships amongst HEIs has been a strategy that is increasingly becoming more relevant due to market challenges and opportunities experienced in the education sector. Several studies have shown that during the formulation and management of HEI partnerships there is a significant amount of changes that occur within and between institutions and that management of knowledge capital is crucial (Gibb, Haskins & Robertson, 2012; Dalkir, 2013; Fullwood, Rowley & Delbridge, 2013; Etzkowitz & Ranga, 2015). As discussed by Hislop (2013) the role of KM takes prominence when aiming to design institutional and inter-institutional systems and activities that are required to support HE partnerships in exchanging and accessing the right information with the purpose of attaining the desirable partnership outcomes. Fullwood, Rowley, and Delbridge (2013) explain that a partnership consists of two or more institutions that decide to work together on the basis of a defined and agreed strategy that guarantees added value to the delivery of existing products and services. Li et al. (2014) emphasize that partnerships assess alternatives for improving the use of resources in order to expand their portfolios and generate new products and services. Li et al. (2014) and Fullwood, Rowley, and Delbridge (2013) argue that formulation of

partnerships present opportunities to attain new knowledge whilst sharing financial risks. Bryson (2016) discusses that establishment of HEI partnerships allows institutions to merge intellectual capacities in aiming to make the most of market opportunities, diversify portfolios, enhance the quality of services offered to students and diversifies students' bodies.

The understanding of the expected partnership outcomes could enhance the development of collaborative strategies between HE partners in terms of clarity, resources, and quality. Also, the identification of partnership outcomes may assist HEIs' logistically in regards to planning and controlling techniques required to successfully attain the desirable outcomes. Considering that HE sector is experiencing ongoing changes imposed as a result of legal frameworks and/or market developments, it has become very important for HEIs to create and apply effective strategies in order to address the strategic and technical challenges and take full advantage of market opportunities. Li et al. (2014), Fullwood, Rowley and Delbridge (2013) and Bryson (2016) explain that universities should seek to be resilient and encourage the sharing and transferring of knowledge not only to improve the operations between partners but importantly cope with changes and be able to promote innovative practices, products, and services that otherwise HEIs would not be able to achieve individually.

Several scholars have pointed out the pressure that HEIs experience in addressing scarce resources and the importance of stakeholders' support in ensuring a competitive position in the HE sector (Jones & Sallis, 2013; Li et al. 2014; Bryson, 2016). Similarly, Fullwood, Rowley, and Delbridge (2016) highlight that HEIs seek to establish a profile of highly reputable institutions that offer products and services of good value for money. If KM is applied effectively in HEI partnerships, then these institutions will be able to minimize the implications of environmental risks related to the new undertakings and new product development promoted to the HE market. Effective HEI partnerships demonstrate a positive effect on institutions' knowledge repositories and intellectual capacities which are essential in enhancing the quality of academic products and services as well as the reputation of a University (Sakamoto & Chapman, 2012; Fullwood, Rowley and Delbridge, 2013; Li et al. 2014).

Research methodology

The purpose of this research is to identify the outcomes of collaborative projects undertaken between HEIs. Ontologically this research embraces a subjective stance thus allowing for its epistemology to derive from a biased viewpoint. The author designed and conducted a qualitative research, gathering data through semi-structured interviews held with nine elite interviewees (EI) who for the purpose of this research were defined as individuals who have been involved in initiating, developing and managing HEI partnerships at executive levels. According to Bryman & Bell (2015) and Saunders (2011) embracing a qualitative research through the application of semi-structured interviews allows the researcher to gather insights from the participant and be able to probe at a deeper extent while gathering responses first hand. The application of semi-structured interviews helped the researcher gather examples and more detailed answers on the experiences of EI in managing HEI partnerships. Table 1 provides a brief overview of EIs professional profiles, explaining the position held, responsibilities, years of experience in HEIs and an approximate amount of income generated in the HEI partnerships participants were involved in.

Table 1- Elite interviewees' professional profile

EI No	Position held within the HE institution	Responsibilities	Years of experience in HE institution(s)	Amount of income generated
1	Assistant Director for Development and Innovation	Seek opportunities for partnership development and generate income streams	20	Circa £25 million
2	Vice Principal	Guide and support the HE teams in compliance with regulations and quality standards	27	Circa £7 million (in the last 7 years)
3	Corporate Development Director	Head of curricula development Developing strategic partnerships	18	Circa £15 million
4	Finance and Operations Director	Managing finances and operations People and resource management	10	Circa £10 million
5	Director of Academic Affairs and director of Research Institute	Managed academic teams and researchers in designing, delivering and evaluating teaching and research courses	28	Not less than £ 9 million
6	Pro Vice-Chancellor	Led and managed the development of academic partnerships within the UK and internationally Strategic Planning Committee	15	Circa £6 million
7	Executive Dean of Research Graduate School	Led and managed teams and assured that HE partners complied with the quality standards	26	Circa £48 million
8	Dean of Academic Affairs	Managing the academic responsibilities in a partnership	22	Circa £14 million
9	Executive Vice Principal Curriculum Planning and Quality	Overseeing curricula and quality side	20	Circa £8 million

Each of the interviews lasted approximately 15 minutes and was voice recorded and transcribed in order to proceed with thematic analysis where the author aimed to identify common patterns and extract themes and concepts noted amongst respondents' answers to further analyses and discuss in section 5.

Research results

The answers gathered from the EIs explain that the majority of partnerships are developed with the purpose of increasing market share and diversifying income streams. EI and EI3 explain that HEIs are very keen to expand market accessibility nationally and internationally with the purpose of recruiting more students, develop new academic programs, introduce new degrees and promote internship programs as ways of strengthening a University's position in the face of competition. For instance, EI5 stated that:

"Another partnership outcome is... income generation, development of new curricula, new income streams, knowledge transfer through different colleges and universities as a result of different partnerships and collaborative projects that we are involved in. Collaborate with other institutions to figure out if there is any opportunity for us to work on and get information on areas of activities where we could establish a win-win situation for both of the parties."

EI2, EI4, EI7 and noted that although a partnership has a financial tag attached to it in terms of costs and benefits, the financial perspective is not the only encouragement for HEIs to become involved in partnerships. EI2 highlighted that partnerships are often encouraged as a result of institutional needs and external factors which although are directly related to finances also bring attention to the element of quality. Additionally, EI2, EI3, and EI8 explained that in their experiences HEI partnership outcomes have improved the institution's presence in the domestic and international markets. The promotion received from collaboration with a highly reputable University has allowed the other partner to benefit from the visibility and market accessibility of the partner and be able to attract more students and/or staff.

Another outcome from HEI partnerships was related to the utilization of resources and facilities of the other HE partner which could include engineering centers, IT platforms, laboratories, libraries and other intellectual capacities found in a University system. EI1 also noted that some partnership outcomes have generated joint degrees where students have the opportunity to have a learning experience that takes place across different countries and enhancing their employability skills. Furthermore, EI4, EI6, EI8, and EI9 highlighted that additional partnership outcomes were related to the developments of new departments, validation of courses, and the development and training of staff in order to satisfy partner's expectations and attain the partnership's aim. EI 4 stated that:

I remember one of the main reasons we opened up the engineering department was due to the demand that we were receiving from our partners for engineering courses and therefore we started to design engineering courses and opened up completely a new organizational structure and a new department for engineering degrees which were delivered to staff of Oil companies from Libya, Qatar, Saudi Arabia, Bahrain, and Oman".

Similarly, EI6 discussed the course validation as one of the recent outcomes of the partnership his institution is involved in and stated that:

"We collaborated for a very short period of time with a college in the UK with a program studying horses. Now, we do not do anything with horses in our University due to the lack of resources as there are no courses with horses or horse management related. So we did not adopt their course but we helped them to complete the program that they were working on, in order to meet the validation requirements and we produced the degree that they needed and you could argue that it is an output for us couldn't you?"

Moreover, EI9 discussed that her institution has managed to introduce new qualification (degree apprenticeships), create knowledge repositories, and reduce any institutional risk by enhancing the portfolio diversification as a result of the partnerships they have participated in. EI2 expound that outcomes of a partnership are also experienced at an institutional level through the improvement of internal processes applied for quality measurements, staff, and student recruitment as well as enhance teaching and learning practices accompanied by university student services. EI5 and EI8 pointed out that a very important outcome consists of developing personal and professional relationships with educational agents who can supply Universities' recruitment offices with potential students. EI5 stated that:

"So typically you'll get relationships from outside the project if you like and this... we would be able to work together on other projects in other areas".

Similarly, EI8 stated that:

"This allowed me to work on networking, promote the university and develop relationships with potential suppliers of students. What we also developed was the opportunity for students to go and spend one year within the industry which at the time was not common... and this was part of the programs we designed ... So we developed an Internship Program and that is one of the outcomes".

EI5 continued to discuss that HEI partnerships also produce outcomes related to academic research which is mainly shared and promoted through academic forums, conference, journal articles and/or books. The academic outcomes are quite important as they add value to the institution particularly when undergoing through the assessment frameworks applied in the UK (Teaching Excellence Framework and Research Excellence Framework). EI5 stated that:

"So the idea was if you're going to get involved in a project do you think you'll be able to get a publication out of it...do you think you can get something that can be an output for the REF (Research Excellence Framework) so that will drive a lot of academics now."

Responses gathered from EI5 and EI6 bring to attention that other partnership outcomes experienced by HEIs have included accessing research funding, creating industry prototypes and improving the quality of institutional systems.

Analysis and discussion

The responses collected from EIs explain that although HEI partnerships are initiated as a result of a particular purpose because of development of trust, synergy, mutual respect and interest and performance HE partners are keen to explore other collaborative opportunities and or/projects. It is important to highlight that a rigorous application of KM activities wherever applicable allows the partnership to develop stronger and establish sustainable business operations.

According to Li et al. (2014) and Fullwood et al. (2013) developing a partnership indicates that there will be changes, alterations, and adjustments in respect to working practices and how individuals, departments, and institutions think and act. Therefore, there is a realistic opportunity that through partnership integration, institutions and individuals will realize that joint efforts and resources could also lead towards attaining additional outcomes that were not considered at the early stages of partnership development. It is noted that although the motivation for a partnership development may rely on financial grounds there could be a combination of outcomes attained as a result of collaboration. This research infers that the outcomes of HEI partnerships appear to be of an academic, financial and marketing and managerial background and are further discussed in sections 5.1, 5.2 and 5.3 respectively.

Financial and marketing outcomes

Results show that financial outcomes are experienced at a partnership level meaning that all involved partners directly or indirectly attain financial benefits from working collaboratively. As shown in figure 1, one of the fundamental financial and marketing outcomes focuses on increasing market share and accessibility as a response to competition. Fitzgerald et al. (2016) discussed that undertaking a collaborative approach allows HEIs to explore alternatives for minimizing risks and be able to establish new income streams. Research funding and diversification of income streams was another financial and marketing outcome which allows Universities to participate in funding schemes and support one of their fundamental purposes which consists of knowledge creation for the benefit of society. The knowledge created is sometimes reflected through the development of industry prototypes which was classified as another outcome.

Importantly, HEI partnerships have a positive impact in enhancing the international presence and reputation which provides a great opportunity to promote University's products and services through public relationships and promotion activities. A further outcome consists of developing relationships with agents and student suppliers which may help in developing effective and long-lasting recruitment channels. The continuous changes experienced at socio-economic levels set pressure on Universities' recruitment officers and the establishment of effective relationships with educational agents and/or agencies becomes very important.



Figure 1- Financial and marketing HEI outcomes

It is essential to establish a good understanding of what are the financial and marketing outcomes in a partnership. Doing so not only helps the partners to explore possible collaboration alternatives right at an early stage but aids with resource planning and allocation and identifies areas where further work may be required. For instance, a University may have consolidated its market share and accessibility, however considering market opportunities may require a stronger promotion of its products and services, possibly at an international level. Sakamoto & Chapman (2012) argue that successful partnerships are able to capture and deliver to a larger student population because of the variety of subjects and programs offered as a result of the collaboration. Having said this, the recruitment of new students for certain academic programs and levels is an important outcome that allows Universities to overcome challenges that relate to the design, delivery, and continuation of academic courses.

Academic outcomes

The results gathered from the EIs explain that in addition to financial and marketing outcomes, HEI partnerships attain a range of outcomes that are related to the academic spectrum as shown in figure 2. However, it should be noted that the academic outcomes rely on the effectiveness upon which KM activities are used. Through collaborations and exchange of intellectual capacities, expertise, resources, and institutional infrastructure Universities are able to design and deliver dual academic programs. As explained by Elezi (2017) KM in partnerships requires the application of rigorous KM activities known as knowledge accessibility, repository, sharing, transferring, integration, application, and evaluation.

For instance, Li et al. (2014) argue that the development of academic dual programs helps Universities to attain a stronger competitive advantage. However, as noted in Elezi's (2017) work, the development of HEI partnerships requires a significant amount of knowledge exchange between partners and the application of KM activities is essential in applying effective KM within a partnership scenario. The dual degree programs appear more attractive to students who see these programs as good value for money and have the opportunity to participate and engage in multidimensional socio-academic environments through exchange programs or other alternatives. In addition, from an academic perspective the most common outcomes are related to the course development (i.e. Bachelor, Master and Ph.D. programs) and course validation which come as a result of market opportunities but my lack in expertise or quality standards from one of the partners. Having said this, the development of new academic programs and course validation may lead HEI partners towards new outcomes were in response to market demands and opportunities a University could develop new qualifications and departments.

Furthermore, in response to labor market changes and requirements, in terms of employability skills and transferability of technical and soft skills Universities are focusing in providing the student with industrial experience as an approach to contribute to the development of student through a combination of theoretical and practical understanding. According to Etzkowitz & Ranga (2015) Universities are strengthening ties with industry through a range of Knowledge Transfer Partnerships (KTP) which primarily aim to bridge academia and industry for further development but also equip students with industry insights and prepare them for the job market.

Thus, Universities have been working collaboratively to design internships and placements that address the industry's expectation in terms of employability skills.

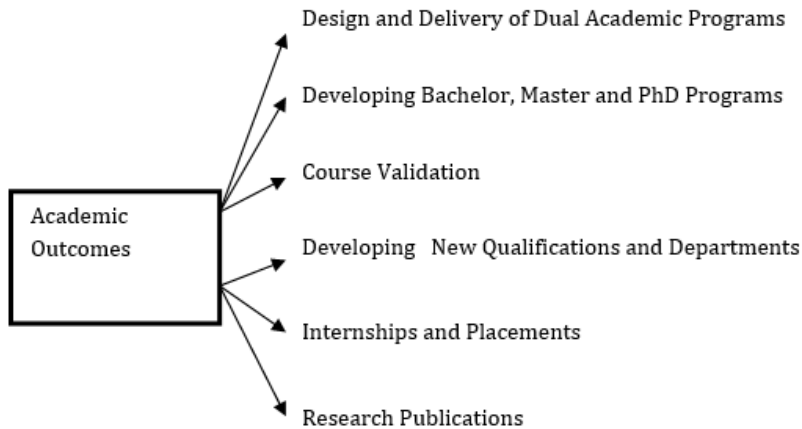


Figure 2- Academic HEI outcomes

HEFCE (2017) explains that UK HEI staff are increasingly experiencing pressure on producing research publications in order to prepare Universities for the REF assessment as it is amongst the main assessment criteria. Having said that, the pressure set by universities in publishing has encouraged the development of partnerships between Universities at an individual and departmental level where the focus is to collaboratively produce scientific work published in high ranking scientific journals or books. The REF assessment values more any research undertaken between individuals working for different Universities as an approach of encouraging collaboration and knowledge sharing and knowledge transfer across UK Universities. Although these are academic outcomes, still have financial implications for the partner institution. However, the purpose is to understand what possible outcomes a partnership could attain from an academic perspective which can then be used by the senior management to design and apply effective KM strategies to support and facilitate the achievement of academic outcomes.

Managerial outcomes

The development of partnerships brings positive results in terms of managerial practices for a given HEI. As partners have to establish a good level of synergy between their operations and actions there is an expectation that some managerial practices will experience changes. Thus, the partnership generates managerial outcomes which help partners improve institutional efficiency and effectiveness and be in line with the partner's expectations. One of the main managerial outcomes in HEI partnerships consists of improving University student services. However, in order to enhance student services, there is a compilation of activities that require improvements mainly related to the quality of processes and procedures regarding recruitment and selection policies for HE staff and students. For instance, one of the HE partners might require the other partner to redesign or develop new recruitment and selection processes for recruiting lectures of a certain specialism that interested HE partner has no previous experience on. As discussed by Li et al. (2014) initial concerns of an HE partner while considering partnership opportunities are related to the capabilities of the partner to deliver at the

expected quality standards. The capability concerns of a partner are associated with the facilities and resources as well as institution's intellectual capacities and systems. Therefore, the integration and synergy developed amongst HEI partners' leads towards an institution being able to utilize partner's facilities and resources which may involve classrooms, laboratories, online libraries and/or IT facilities. In addition, the application of KM activities encourages the development of knowledge repositories due to the exchange of know-how and other relevant knowledge needed to carry out collaborative tasks and attain partnership's outcomes.



Figure 3- Managerial HEI outcomes

Moreover, it is essential for HE partners who seek to enter into partnerships to demonstrate the level of expertise and quality standards required by the partner who is expected to offer assistance with the academic technicalities of developing and delivering new courses or programs. Being able to recruit the correct caliber of academic staff is expected to have a direct impact on the improvement of teaching and learning practices which are amongst the main criteria Universities are assessed on. In return, the improvement of teaching and learning practices will set a University in a more competitive position which sets the institution in better-negotiating positions for future collaborative opportunities as well as strengthens its reputation within the HE sector. Another outcome that derives from HEI partnership relates to staff training and development programs which seek to address issues and concerns related to managerial practices and activities of an academic and administrative nature.

Research implications

The identification of partnership outcomes may be beneficiary at strategic and operational levels. At a strategic level, the implications of this research may be considered from the executive managers responsible for the development and management of partnerships in regards to institutional policies and procedures of collaborative work. At times, individuals may want to become involved in collaborative projects, however, the institution's policies and procedures may be rigid and thus delay the progression of the partnership and raise barriers between partners and questioning the desire of the developing the project. While the implications at a strategic level are related to the institutional policies and procedures of designing a partnership, at an operational level implications are more of a "hands-on" approach.

Operationally, institutions may need to assess the effectiveness of day to day activities with communication and managerial practices being the main focus. The identification of possible partnership outcomes may be used to clarify the communication channels in the context of roles and responsibilities, frequency and medium used to facilitate the exchange of knowledge within and across partner institutions. Although HEIs involved in a partnership may have previous experiences due to the differences noticed amongst institutions it may be required to reconsider institution's managerial practices in accordance with the expertise, resources, and culture of the partner in order to aid the partnership synergy.

Conclusions

This paper sought to deepen the understanding of the nature of outcomes that HEIs attain when working collaboratively. As a result of a fierce competition and the socio-economical and legal changes within the HE landscape, educational institutions are exploring opportunities to join forces in adding value to their products and services. The fundamental justification for the development of an HEI partnership is related to the betterment of financial conditions and risk minimization. However, this research aimed at providing a robust view that goes beyond the financial benefits and elaborated on a range of outcomes that directly and indirectly have an impact of the financial profitability and intellectual wealth created as a result of applying KM activities in collaborative projects. Having established a decent understanding of the potential outcomes that could derive from HEI partnerships may help institutions to embrace and apply effective managerial practices. Application of effective managerial practices would be possible through a clear indication of what partnership outcomes partners are working towards and be able to allocate the adequate resources, provide the required planning and assign the right expertise to complete the necessary actions. Doing so is of a high importance, particularly in the early stages of the partnership where individuals are concerned with the financial risk and communication channels are not consolidated yet. Comprehending the potential outcomes opens opportunities to examine if institutions need to readjust or redesign their academic and managerial practices in order to achieve the ultimate purpose of the partnership. As the development of a partnership indicates change and integration for individual institutions, chances are that institutions will alter their institutional practices resulting in academic and managerial practices that add value to their educational products and services. Being aware of potential outcomes may help institutions to save cost, operate more efficiently and effectively and therefore increase the prospect of formulating a successful partnership.

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Appendix 1- Knowledge management partnership tree



UNIVERSITY AGENDA FOR DEVELOPING STUDENTS' SKILLS IN THE KNOWLEDGE ECONOMY

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Abstract: *The topic selection of this paper is motivated by several aspects like its intriguing character, the challenges that promotes, the multiple perspectives it requires and mostly by the potential it has of generating positive effects for society. The roles of the university changed across history enumerating titles as: moral symbols, social etalons, education providers and innovation facilitators, promoters of entrepreneurial talent, economic and civic leaders and mostly as knowledge pioneers. Throughout the content of this paper we argue, in the first section, the major roles that the university played across time, the ones that it presently performs and we forecast its future powers. Within the second section of the paper we connect the paradigm of the 'learning organization' with the strategic knowledge management model for transforming the potential of the university (in terms of intellectual, financial, material resources) into operational (pragmatic) results. The undeniable strategic advantage of universities is that they can equally provide information and knowledge to both the private and the public domain. Debating about the options of transforming a university into a learning organization will provide new directions for the university leaders in order to increase their value creation for society. Throughout the third section of the paper we will present 'the University agenda for developing students' skills in the knowledge economy'. Under this section we approached the major shifts on the labor market regarding the employability skills. Further we provide argumentation for the most wanted categories of skills in the time horizon of 2030, which are considered to be: fluency of ideas, judgement and decision making, originality, active learning, system evaluation, learning strategies, complex problem solving, critical thinking, system analysis, deductive reasoning. In this context we analyzed the university contribution and perspectives as main player.*

Keywords: *employability; labor market; learning organization; knowledge economy; skills; university.*

Introduction – University role of transferring knowledge

The theories about the influential roles and strategical 'skills' of universities have been intensively debated during the last decades and many of them have been implemented throughout large scale projects. Due to the speedy developments in all areas, education must increase the rhythm of adapting its structure and processes in order to respond to the global market requirements (Altbach & Salmi, 2016; Bratianu, 2018; Hapenciuc et al., 2016; Störmer, 2014; Volkmann, 2014).

During historical stages, the teaching paradigm has switched from teaching knowledge to teaching skills. In this sense, universities have mainly the role of educating students in terms of providing them with the necessary skills for future job tasks. The knowledge transfer of technical and soft expertise towards students represents actually the central part of the university activity. Universities are perceived also as social and civic leaders because there are situations when they can influence the public opinion, they can support a social cause, they can provide consultancy for local development strategies or promote public engagement, community well-being and active citizenship skills (Prelipcean & Bejinaru, 2016).

Today, universities are seen to act like magnets that attract investments and are even assigned the role of economic ambassadors. The presence of a strong university certifies a valuable social and economic environment in which companies can identify the talent resources needed for their field. Universities are given the role of anticipating the needs of the market that are to come and are thus called upon to be involved in creating policies that stimulate research and innovation to increase efficiency and efficacy (Altbach & Salmi, 2016; Bejinaru, 2017, 2016; Bratianu & Pinzaru, 2015).

University needs the skills of the 'learning organization'

In the perspective of this review paper, we will discuss the potential of a university for developing its teaching skills in accordance with the necessities of the knowledge economy. In this sense, we will provide arguments firstly based on the theory of the 'learning organization' and within the further sections, we will argue the potential contribution of the University for delivering the forecasted skills for 2030. The theory of the university as a learning organization is going through its expansion stage and are required new explorations starting from the real world and going toward some levels of abstractions which will allow scientists to reveal new principles and mechanisms able to increase the power of that paradigm. In the same time, universities face today an intense competition as a result of globalization and mostly of the ranking systems which influence their financing resources and their intellectual capital dynamics (Bratianu and Bejinaru, 2016; 2017). Searching for ways of transforming universities in learning organizations will lead to new perspectives for academic leadership to conceive strategies to increase their value creation for society (Chan & Lo, 2007; Davenport & Prusak, 2000; Örténblad, 2015; Powell & Snellman, 2004; Senge, 1999).

Universities must continuously look forward to becoming learning organizations, in the sense, explained by Peter Senge (1999). Nowadays higher education it is strongly linked with research and innovation and thus plays a crucial role not only in individual and societal development but also in the process of delivering the European Union's strategy, to drive forward and maintain growth in each and every domain. Universities are the main actors responsible to provide the highly skilled human capital that Europe needs in order to create jobs, economic growth, and social prosperity. This role has been designated by a considerable body of academic researchers after evaluating the effects of intellectual property and technology transfer policies on research activity and on academic and business communities (Bejinaru & Hapenciuc, 2016; Barath, 2015).

Well-known authors and researchers of this subject say that universities would greatly benefit if they succeed to become learning organizations (Spender, 2014). This growth

potential resides in transforming their theoretical knowledge into practice and also the individual knowledge of its staff into organizational knowledge. Of major importance is the aspect of universities' adaptation to the features of this new economic and social environment which means continuous change and increasing competition. Nowadays, a new challenge is to prepare students for jobs that are not known at the time of their training and to teach them to solve problems that haven't even been. Thus achieving the functional status of a learning organization will enable universities (and implicitly their stakeholders) to strategically adapt and survive to any possible futures. The sustainable competitive advantage is crucial for universities also. On one hand, companies strive to obtain growing profits and are stimulated to continuously adapt to the changing environment and to consumers' preferences. On the other hand, universities are motivated by a core set of principles in order to preserve the significance of their *social role* (Barath, 2015; Deca, 2015; Duderstadt, 2003; Bejinaru & Iordache, 2011).

The research topic is very complex since learning organizations constitute at this moment desirable knowledge-intensive organizations and the theoretical and practical research are still in the extensive stage. For example, in Romania, debates in this domain are striving to reach the critical mass necessary for implementing adequate changes. Romanian universities are coming out of an over-centralized system and even if they got some autonomy in decision making on curriculum and internal structure organization, they need a great effort to compete against world-class universities and to create value for society at the requested levels of the knowledge economy. Since almost 30 years ago the Romanian Higher Education System represents a testing laboratory for various international processes, norms, and institutions that have contributed in many attempts of reformation during the transition to democracy. Even if the Romanian Higher Education System has been defined as a national and European priority (according to Strategy Europe 2020), reforms in the field have rarely been coherent and with a positive impact on this domain development.

In a recent post of international rankings (SCImago Institutions Ranking) Romanian universities have positions that make us proud and strongly motivates the young leaders. Additionally, there are some better positions obtained on disciplines, which demonstrates that there are some isolated nuclei (as more compact research teams) that generate performance (Deca, 2015). A valid example we consider the fact that "Ștefan cel Mare" University of Suceava, Romania occupies the leader position at inventions and licenses for Romania according to data recorded by the Official Intellectual Property Bulletins published by OSIM (2017) (available at <http://www.usv.ro/index.php/ro/17/Proiecte/20/4>). Considering together the significant gaps between theory and practice in the field we argue that there is a strong need for academic leadership and for a new vision in order for our universities to become 'learning organizations' which actually means 'knowledge-intensive organizations'.

The widely acknowledged and applied building blocks (Senge, 1999) – have to be re-designed accordingly to each organization, depending on its resources, structure, and potential, as IC and more – and in accordance to its goals, mission, and vision. Limitations of current research works mainly reside in the linear way of thinking which limits the systemic comprehension (as a functional and interdependent whole) promoted also by Senge and other followers. Bratianu (2017) is the Romanian author who widely promoted through his works a superior conceptual approach as the non-linear thinking

models which generate a dynamic type of thinking. We consider it is essential as the non-linear thinking should be used by the university leadership and by university practitioners in order to build a strong organizational culture that ensures development by itself. We don't say that some approaches are wrong and others are right but from our point of view and researching the most prestigious publications and authors - our conclusions converge towards a certain type of approach -that we choose to promote.

University agenda for developing students' skills in the knowledge economy

Related to universities in the knowledge economy, we are considering another globally topical issue which refers to aspirations which have reached the academic mainstream. The academic involvement in technology transfer, firm formation, and regional development represent a step closer to the academic ideal which is the entrepreneurial university. The more the universities become entrepreneurial, the more the chances for tensions between the old (research and teaching) and the new (entrepreneurial) are intensifying (Curtin, 2004; Dawe, 2004; Etzkowitz, 2013; Gibbons-Wood & Lange, 2000).

It is a fact that entrepreneurship education has gained very much interest but despite this successful proliferation remains the question about the real mission of such education programs whether they are meant to provide specialization of students in entrepreneurship, to increase the number of start-ups after graduation, or to facilitate students to acquire the necessary skills, attitude, and behavior necessary to face the competitive environment and to become future entrepreneurs? For these purposes, the actors which drive the learning are either academic teachers, working in higher education institutions, or practitioners, as businessman, managers or real entrepreneurs (Bedwell et al., 2014; Bejinaru, 2011; Davenport & Prusak, 2000).

The necessary set of skills for business success in the knowledge economy can be widely discussed but we shall refer to the top 10 priorities. It is impossible to know for sure which these employability skills will exactly be but from public debates, data and analysis published by European governmental authorities and many other interested authorities and researchers we are able to estimate a few (Bakhshi, 2016; Bedwell, 2017; Choudaha & Van Rest, 2018; Laurillard, & Kennedy, 2017; Powell & Snellman, 2004; Störmer et al., 2014; Zemsky & Shaman, 2017).

Thinking forward we can comment the estimations based on previous happenings and logic deduction. We will further present the categories of skills that we identified as common for the two decades 2020 and 2030 (Table 1). The categories of skills foreseen to be required for both 2020 and 2030 on a global scale on the labor market are *complex-problem solving skills, critical thinking skills, originality skills, active learning skills and judgment and decision making*. These categories have been already debated in a couple of papers (Bratianu & Vatamanescu, 2017; Dawe, 2004; Volkmann, 2004). According to the literature review, we can state that these categories of skills serve a certain type of objectives which are the most popular in a specific time period and context. These five types of skills are necessary for accomplishing tasks like analyzing and deciding the causes of a given problem; generating multiple solutions which will lead to achieving the planned objectives; efficient deliberating for the final solution; complete and effective implementation of plans. For example, good skills of critical thinking will enable the individual to take the best decision when confronted with several options regarding a

certain problem. Originality skills are very useful for business decision-makers because they can achieve novel and unique solutions for certain yet unknown problems which will give them a competitive advantage. Based on active learning skills the processes of adaptation, innovation, and teamwork are easier developed. Due to the complexity of nowadays working environment and multiple factors involved there are required good skills of judgment and decision making.

Table 1. Top 10 skills for 2030
(Source: Observatory of Educational Innovation)

1. Fluency of ideas
2. Judgment and decision making
3. Originality
4. Active learning
5. System evaluation
6. Learning strategies
7. Complex problem solving
8. Critical thinking
9. System analysis
10. Deductive reasoning

Following we shall analyze the new entries, which are: *fluency of ideas*, *system evaluation*, *learning strategies*, *system analysis*, and *deductive reasoning*. *Fluency of ideas* it is a new type of requested skill due to the speed of today environment. Actually the 'fluency of ideas' is rather considered an ability to generate very quickly a great number of ideas regarding a certain topic. The bigger the number of options the better the ability is considered regardless of their consistency, quality, or originality. The fluency of ideas is possible through lateral thinking and represents the cornerstone for creativity and complex problem-solving. Thus, educators must stimulate students to exercise this skill, mainly throughout brainstorming, because will ensure in the future the facile evaluation of a problem and fast generation of alternative solutions which is actually critical due to the continuously changing scenarios inside and outside the organization. Having skills of *systems evaluation* means to identify the necessary instruments of measurement or indicators of system performance and to propose the actions needed to improve and adjust performance, taking into consideration the objectives of the system. It is rather a white collar type of skills. Next, the skill of *learning strategies* refers to selecting and implementing the appropriate methods and procedures for a self-education process of teaching and learning new contents or activities. Actually, this skill refers to the self-implementing of three learning strategies: intrinsic and extrinsic reflection, seeking help from others and trial and error. In order for students to develop this skill, educators should teach students the mechanism of thinking, the reflection process and problem-solving. In this sense, must be provided a comfortable environment for students to freely express themselves and to receive feedback. Further, we have *system analysis* which represents the skill of coordinating the operations within the systems in order to correspond to the desired outcomes. System analysis skill ensures the necessary supervision of work and the realization of needed changes for the purpose of achieving the scheduled objectives. Last, but not least, *deductive reasoning* is the ability to apply general rules to very specific issues in order to obtain solutions that are suitable in the given context (Choudaha & Van Rest, 2018; Zemsky & Shaman, 2017).

Global trends and scenarios for employability skills

Worldwide surveys, research and analysis forecast, reveal and comment on the trends of the employment market and thus universities should take action in adapting to these challenges. Paying close attention to these estimations, universities must transform their mission of teaching knowledge into teaching skills, but not any skills. Individuals must adapt or even re-professionalize throughout life-long learning which will open new markets that can be developed both by existing and new players, and by public and private players alike (Bejinaru & Prelipcean, 2017).

The necessary skills for increasing employability are changing at the pace of evolutions in technology, human resources, marketing, bioeconomy, environmental sciences, medicine and other areas of great influence for the world's economy and society. In this period of fast advancements in all domains, the major dilemma is what helps graduates more in order to get employed: knowledge or skills? Closely analyzing these categories of skills proposed as priorities for 2030 we should acknowledge that the adequate combination of knowledge and skills will be the most wanted cocktail that employers seek at their potential workers. This is the main reason why universities as knowledge providers and skills' shapers should be the first interested in the evolution and requirements of the labor market in terms of graduates' employability. In this sense, there are other parties which should pay attention to the evolution of jobs like parents, schools, and governments. Even if the major fear about future jobs is that of digitalization, when robots will replace the human work, historically we can observe that industrial automation has created more jobs, growth and prosperity and not involution nor destruction. Thus, historically speaking we should trust and embrace the advancements in all areas of life. Nowadays students will be the decision makers in the labor market in 2030 and by thinking strategically about the future we can prepare them to face yet unknown challenges. Presently the focus of the education sector should be on providing that knowledge and those skills necessary to bridge together and to generate new competencies for the forthcoming workers (Bakhshi et al., 2017; Choudaha & Van Rest, 2018; Zemsky & Shaman, 2017).

For sure that people, ask so much from the future and thus the combination of our aspirations results in huge challenges that we will work our way through implying the acquiring of new skills which are triggering more stress and restlessness. However, we should count also on the innate ability of human adaptation. In order to achieve delivering these categories of skills for their graduates, universities should "focus on development of key skills and attributes that will be at a premium in future, including resilience, adaptability, resourcefulness, enterprise, cognitive skills (such as problem-solving), and the core business skills for project-based employment" (Störmer et al., 2014).

In Figure 1, are reflected 4 scenarios for the future with possible disruptions for the trends regarding UK jobs and employees' skills. The figure is extracted from the report entitled "The Future of Work: Jobs and Skills in 2030" elaborated by the UK Commission for Employment and Skills in 2014. Within this report are previewed and debated four possible scenarios for the upcoming future – the year 2030 – and for each are emphasized the eventual implications. Throughout the report are suggested potential strategies and actions that employers and individuals might implement in order to get ready for tomorrow's world of work. These new skills were brought to the fore by a

UKCES report (Störmer et al., 2014) and are proposed with the amendment that they must be adapted to the major global trends like demographics, urbanization, globalization, inequality, political uncertainty and climate change. The first scenario called 'The Great Divide' focuses on the disruptive developments. This implies that even if the world experiences great technological and industrial advancements, it is increasing the division of two socio-economic layers which are called the "haves" and "have not". The foreseen situation is that the difference between regions with high and low-income levels and offerings will be obvious. The critical issue will be faced by low-skilled labor force in any domains. In this sense, employers will recur to searching their recruits globally and job tasks will be increasingly developed online via virtual collaboration platforms. The second scenario, called 'Skills Activism' is fueled also by disruptive developments. As previously mentioned, technological innovations bring large-scale automation which will lead to a massive crisis for white-collar jobs. At this point, the government intervention will be necessary throughout programs of skills-conversion. The third scenario generated by disruptive developments refers to the phenomena of 'Innovation Adaptation'. Once more the insertion of high-level technology will make the competition between companies tougher and in order to survive business owners will reduce the number of employees and will invest more in technological endowments. The fourth scenario is generated by the 'business-as-usual' trend which means a 'greater business flexibility and incremental innovation leading to modest growth in the economy - but this flexibility often results in less opportunity and weakened job security for the low skilled. At this point market volatility drives increased flexibility in work arrangements, and temporary or zero-hour employment contracts are the rule in many organizations' (Störmer et al., 2014, p.xv).

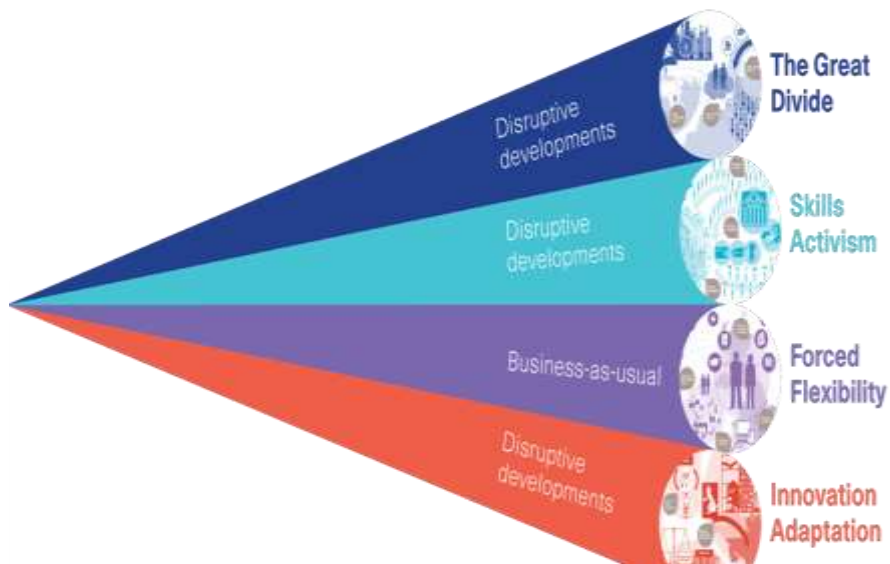


Figure 1. The four scenarios of future work skills in 2030

Source: Störmer et al., 2014, p.XIV

University strategies for providing future skills

Nowadays universities are facing a critical position in the perspective of their stakeholders, whose demands are increasing at the pace of global competition. In this sense, universities must know the profile of their stakeholders because they must comply with global trends, specific requirements of beneficiaries and a certain level of standards (Sin et al., 2016). Universities in emerging countries have a growing interest in raising research and education performance, while the top universities in the world are making efforts to maintain their level and even rise within the global rankings (Wang et al., 2012; Zack, 1999).

Stefan cel Mare University of Suceava is focusing efforts towards strategies for developing its research and education infrastructure, towards building strong and fruitful networks for collaborations with national and international organizations, towards providing educational opportunities for domestic (Romania citizens) and foreign students, towards facilitating career achievement for its personnel. The university leaders have made great advancements towards attracting investments and international funds for implementing complex research projects in several domains: economics, business administration, electrical and mechanical engineering, computer science, food engineering and forestry. We consider relevant to present a couple of the major strategies that the University leaders are undertaken throughout the implementation of complex R&D projects.

The strategy for increasing the capacity of research is developed throughout MANSID, which is the largest project in the university's history, having granted a sum of 6.7 million euro. The overall objective of the project is to increase the multidisciplinary and interdisciplinary Research & Development (R&D) capacity through the development of specific infrastructure and the attraction of young researchers and highly qualified specialists both to the University and to firms with research and development departments in the North-East of Romania. The investment aimed at meeting this strategic objective is the creation of a new R&D infrastructure entitled "Integrated Research, Development and Innovation Center for Advanced Materials, Nanotechnologies and Distributed Manufacturing and Control Systems" (MANSID), comprising 11 research laboratories, equipped throughout this project with more than 130 R&D equipment, out of which 21 pieces of equipment are worth over 100,000 euros.

A strategic approach of the business and social dimensions is being realized by the University under the aegis of the project ANTUR, A Start for Entrepreneurship - Increase Employment in the Urban Area. The project's general objective is 'supporting entrepreneurship and improving entrepreneurial skills at the regional level as a factor for encouraging new business development and employment growth in the North-East Region. Through this project, 37 new non-agricultural businesses will be set up in the North-East Region, in both creative and classical fields, at least 2 in each county of the region and will result in an occupancy increase of at least 74 employees'. ANTUR project has a budget of 1.8 million euro and will develop during a period of 3 years. Considering the entrepreneurial initiatives, the University manages a business incubator – *INCUBAF*, where students have the opportunity of learning the experience of starting their own business benefiting of experts' consultancy.

SOCERT, Knowledge Society, Dynamism through Research had the general objective to improve doctoral and postdoctoral research programs by supporting collaboration between universities and research institutes as well as developing human resources in research, in particular by providing financial support to doctoral students and postdoctoral researchers to increase motivation for developing a career in research and ensuring career debuting, including by participating in mixed teams (doctoral students, postdoctoral researchers). The project will generate a positive long-term effect through the selection of doctoral students and postdoctoral researchers based on specific criteria related to the relevance of the research theme, financial support, and intensive monitoring during the implementation period on strengthening the scientific publishing capacity, diversification of training and development cooperation and transnational mobility.

The successful implementation of these projects is providing the necessary framework for advancing research, for increasing the number of innovations, for improving the quality of services offered to students, for increasing staff opportunities of research and networking, for extending the university's visibility, for building teaching and research infrastructure and more. In the recent years, "Stefan cel Mare" University of Suceava has raised in international rankings like the SCImago Institutions Rankings (SIR) that "is a classification of academic and research-related institutions ranked by a composite indicator that combines three different sets of indicators based on research performance, innovation outputs and societal impact measured by their web visibility" (available at <https://www.scimagoir.com/methodology.php>). These are only a few of the initiatives developed by Stefan cel Mare University of Suceava in order to improve in the strategically important directions. The projected strategies emphasize even greater aspirations for the future, like growing the internationalization, developing more the entrepreneurial capabilities of the university, increasing the quality of education and research and finally rising the prestige of the university.

Conclusions

The main purpose was to search for the most significant factors and conditions able to influence universities in developing as learning organizations and to discuss their opportunity in the context of the knowledge economy. In more detail, we approached the top ten skills required for the next decade -2030 in the business sector and not only. The network between the labor market and the education market is supported by the skills matching, the ones that are searched for add the ones that are offered. The bottom line is that universities have no choice but to acknowledge, accept and adapt to market needs. At this moment, it is universities 'job' to provide for the outside stakeholders and in this sense, they need to know which are the new necessary skills, to understand what are these skills useful for, how will be these skills performed in order to prepare their students accordingly. Within the paper, we discussed these categories of skills, which are totally different from those of years 2000, and to explain the causes and the effects that will be generated within the global market. Further, we considered relevant, as a study case, to present a couple of strategies developed and implemented by Stefan cel Mare University of Suceava.

As a vector of nowadays society, education contributes to the development of social and economic domains which in turn contribute to raising the life-level of the individual. Nowadays, universities should switch from creating adaptation knowledge to produce

generative knowledge, and to become learning organizations. Institutionally speaking there must be created at least a basic impact of acknowledging the actual state of universities' evolution towards the pattern of a learning organization which should be viewed as a strategic road.

Although the global competition between universities can be stressful for the institutions involved, for the states and economies they belong to, we must promote the idea that from this competition philosophy everyone has to win. Thanks to this competition, partnerships are realized, opportunities are created, knowledge is enriched and research and activity fields are expanded. Unlike other organizations that break into the competition chaos, universities retain their mission of serving the world's hopes: to solve cross-border challenges; to unlock and harness new knowledge, and to build cultural and political cooperation.

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THE KEY PROCESSES OF KNOWLEDGE DYNAMICS AND INTELLECTUAL CAPITAL IN ORGANIZATIONS

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Abstract: *Within this paper, we will conceptually approach the influence that knowledge dynamics processes have upon the intellectual capital at the organizational level. In order to achieve our scientific goal, we gradually present and discuss what we consider to be key issues for the research topic. First of all, we present our perspective on the complexity of the knowledge dynamics concept and explain why and how knowledge dynamics must be approached differently in order to obtain individual and organizational performance. For an organization is of fundamental importance to have a clear perspective on the types of existing knowledge. Correct identification of knowledge according to various criteria helps to manage them effectively and therefore contributes to the successful achievement of organizational objectives. Throughout another section of this paper, we argue that knowledge dynamics represents multiple transfers through different processes of which the best known are: socialization, externalization, internalization, combination. These processes are possible due to the existence of two forms of knowledge as tacit knowledge and explicit knowledge. Intellectual capital and knowledge dynamics are largely debated concepts and the global evolution provides continuously new issues for discussion due to their dynamic nature. The intellectual capital of an organization is a complex structure, a very dynamic component and an endless source of innovation and development if it is appropriately capitalized. Therefore, we underline the interdependences of knowledge dynamics processes and intellectual capital components within the organization. Finally, throughout this paper, we will approach in depth important issues about the influence of knowledge dynamics processes and intellectual capital at the organizational level.*

Keywords: *knowledge dynamics, intellectual capital, strategic thinking, organizational integrators*

Introducing the key processes of organizational knowledge dynamics

Following several decades of complex exploration and exceptional confrontations, there is a general acknowledgment and accommodation towards the dynamic nature of knowledge – all through the phenomenon of knowledge dynamics. As knowledge is dynamic by its nature we may say that it can move in the same shape however between various receptors. Additionally, knowledge can be changed progressively taking another form. The same information can exist in various structures of various individuals. With respect to its nature, knowledge has been alluded to as article or process, however next to this, scientists have examined around a few different angles like the setting of information, climate social, organizational or individual and even about its confinement be it the human mind, programs, information bases, or symbols (Bratianu, 2008; Bejinaru et al., 2011).

The most important papers on this subject speak in similar terms about the dimensions of knowledge dynamics. "Opposite of individual knowledge is the organizational knowledge that is very dynamic: upon they work a variety of forces" (Davenport & Prusak, 2000, p.25). Knowledge dynamics means knowledge transformation from one form to another form in terms of specific principles. The changes may occur both at the level of tacit knowledge and explicit knowledge, which can be continuously transformed from one form of knowledge to another. Considering all perspectives, the knowledge dynamics represents multiple transfers through different processes of which the best known are: socialization, externalization, internalization, combination. Transforming information into knowledge occurs when individuals: compare and integrate new information with existing one, imagine the consequences of their decisions and actions; share and analyze their ideas with others. Nonaka and Takeuchi have undergone complex research and found out that employees of Japanese companies have the ability to convert tacit knowledge into explicit knowledge through a dynamic process of human interaction. Based on their findings, they gave meaning and content to the concept of knowledge dynamics (Nonaka, 1994; Nonaka & Takeuchi, 1995).

The SECI model relies on the theory of organizational resources according to which the tangible resources were replaced by the intangible resources and the tangible processes were replaced by the intangible processes. Any organization owns both types of resources and *knowledge* represents the complementary component of the tangible resources dynamics. Thus knowledge management has the role of a link between operational management and strategic management. The level of focus upon the knowledge dynamics within the organization depends greatly on the managerial vision with regard to the development and enrichment of the organizational knowledge platform (Boh, 2007; Hansen, 1999; Hill, 2008; Lam, 2000). The leadership vision is the one which targets on the creation of necessary knowledge in order to complete the organizational resources in a long run (Bratianu, 2017).

A new perspective upon the intellectual capital components

In the current knowledge-based economy, Intellectual Capital (IC) has been seen as the key element for a competitive business. Intellectual capital is a company's asset such as professional experience, skills, knowledge, organizational structure, and routine and internal/external relationship. The most common intellectual capital framework classified these characteristics into human capital, organizational or structural capital and relational or customer capital (Mazzota & Bronzetti, 2013; Schiuma & Lerro, 2010; Edvisson & Malone, 1997; Spender, 1996; Spender & Grant, 1996; Stewart, 1997).

In this approach, human capital represents the overall knowledge, generally in tacit form, of all persons working within an organization. This knowledge does not remain in the organization when the individuals go out. Human capital consists of knowledge, skills, and experience of employees and managers. It is a kind of capital, which is not the property of the firm, so the company needs to enforce the link with its workers as well as needing to find ways to transform the tacit knowledge into structured knowledge (Bratianu & Vatamanescu, 2017).

The structural capital is represented by institutionalized knowledge and codified experience stored in the database, routines, patent, and manual. Whereas human capital is possessed by the employees, structural capital is controlled, possessed and managed

by the firm. In this sense, structural capital can be seen as the skeleton and the glue of an organization because it provides the tools and architecture for retaining, packaging, reinforcing, and transferring knowledge along the business activities. Finally, structural capital, consist of the stock of knowledge that stays in the organizations in form of tacit and explicit knowledge, that is contained in documents, routines and organizational culture. In another word, structural capital is a firm's supportive structures for knowledge creation and deployment as well as the set of knowledge, skills, and abilities embedded in the organizational structure (Mazzota & Bronzetti, 2013; Bontis, 1999; Stewart, 1997).

Furthermore, human capital is a fundamental component due to its endless generation of innovation as well as its impressive adaptation to the organization's needs. Human capital may be rebuilding at a greater speed then structural and customer capital, which need more time to reach a convenient estate. However, in order for the human capital to instantaneously bounce from one stage to another, pushing forward its evolution there has to be an appointed knowledge dynamic (Bejinaru & Iordache, 2011).

Relational capital, mainly tacit knowledge, it is understood as all knowledge arising from the interaction between the firm and its stakeholders. Relational capital reflects the organizational value that emerges not only from a firm's relations and connections with customers, but also with current and potential suppliers, shareholders, other agents, and the society in general (Ordoñez de Pablos, 2005). The relational capital is the source of the reputation, credibility, consent, and image of the organization (Leon, Pinzaru & Zbucnea, 2015). The relational capital consists of knowledge resources derived from networks of relationships between peer, customers, suppliers, and business associates. These three new forms of capital capture a company in movement as it transforms its skills and knowledge into competitiveness. Therefore, the company needs to keep up and develop the existing capital structure and also acquire know-how, skills and professionalism, train and develop employees by emphasizing their business skills and capital to focus on trading and customer (Tennyson et. al., 2013).

When related to intellectual capital, knowledge has to distinguish through its value for the organization. Knowledge actively generates value, only throughout its use. The greater the knowledge dynamics is the greater impact of intellectual capital value. Knowledge creates value by incorporating it into the company's products. Knowledge dynamics significantly influences the company's capacity of producing and delivering valuable economic products to clients. Incorporating knowledge into the organization it will lead to valuable outputs which not only that enclose knowledge but also were the result of previously well-processed knowledge (Bratianu, 2018).

The research was undertaken in domains like knowledge management, IC and learning organization obviously emphasize the actual estate of disciplines in the context of organizational change. Each of these disciplines represents the need to shape the employee's knowledge as a must for the survival in the present business environment. Out of the whole picture, the researcher will construct the cause-effect relationship between the organization and its knowledge dynamics (Bejinaru & Iordache, 2010).

Intellectual capital comprises both human capital and structural capital for the purpose of using their synergy in order to increase the organization's growth. The company's value depends and also comprises the entire value of workers, together with the

company structure. Actually “the intellectual capital develops the company values and optimizes the company business operations”. (Davenport & Prusak, 2000) Intellectual capital implies human resources, information technology, business strategy, and employees’ participation in order to rapidly transfer the imperative experiences across the company. For individuals to share knowledge within the company, the management has to facilitate the dynamics of knowledge among employees, enabling them to become knowledge workers. The company has to put at disposal of members the available information, to provide communication and to train everyone to use the information and technology the company possesses (Hunter, 2002).

Discussing the intellectual capital dynamics means to have an integrative view of the following aspects. Competences include knowledge and practical abilities on which they base. The attitude refers to the employee volition of using his/her knowledge and abilities to serve the organization’s interest and he/she may be influenced by motivation and behavior. Intelligence refers to the employee’s capacity to use knowledge and abilities in various contexts and in order to increase knowledge and competences throughout learning. Relating capacity represents the individual ability to establish relations with others -clients, suppliers, business partners, and other stakeholders. The innovation and development rate comprises the intangible aspects that may improve the intellectual capital, all the ‘elements’ that were built or conceived and that will have an impact upon the future value of the organization’s intellectual capital.

The nature of the organization is to manage valuable knowledge only for itself and the individuals inside. The individuals’ nature is to adapt their work –of creating knowledge –to the organization’s requirements and also resources. The intellectual capital existing inside the organization generates that organization’s values, knowledge, and intelligence. The output of values, knowledge, and intelligence depends greatly on the input. The organization’s intellectual capital is built with the aid of human elements and structural elements.

The existence of knowledge dynamics serves as an organizational competence that helps in creating the intellectual capital at the necessary level that might increase the organization’s performance. The link between intellectual capital and knowledge dynamics at the individual level may be reduced to a person’s motivation to increase his/her participation in such a way to contribute to building an organization oriented towards learning. On the organizational level we picture the dynamic processes on the vertical axis contributing to transforming individuals’ assets into organizational, and on the horizontal axis, they reflect the progressive knowledge transformation into action (Bratianu, 2008; Bejinaru et al., 2011).

The influences of knowledge dynamics and intellectual capital

A knowledge-based perspective sees the organization as a repository of knowledge resources and capabilities. Throughout the perspective of intellectual capital, the organization’s knowledge dowry includes the expertise and experience of individuals, the routines and processes that define the distinctive way of doing things inside the organization, as well as the knowledge of customer needs and supplier strengths. To the extent that the knowledge and capabilities are unique and difficult to imitate, they confer a sustainable competitive advantage for the organization. Knowledge is cumulative, so the more the organization knows the more that it can apply what it knows to new areas

of opportunity and increase its returns. The primary rationale of organizations is thus the creation and deployment of knowledge. Performance differences between organizations are a result of their different stocks of knowledge and their differing capabilities in developing and deploying knowledge. Knowledge and competence have become the primary drivers of competitive advantage in advanced nations (Choo et al., 2001).

The field of intellectual capital poses special challenges because is conceptualized from numerous disciplines resulting in a mosaic of perspectives. Thus, accountants are interested in how to measure it on the balance sheet; information technologists want to codify it in systems; sociologists want to balance power with it; psychologists want to develop minds because of it; human resource managers want to calculate a return on it; and training and development officers want to make sure that they can build it (Choo et al., 2001).

The idea of intellectual capital surfaced from the dialogue between researchers and practitioners seeking a more complete representation of the visible and invisible assets and processes that constitute a firm's capacity to create value (Bontis, 1999). Conceptually intellectual capital consists of human capital and structural capital. Human capital is a function of the competence, intellectual agility, and attitudes of the organization's members. Structural capital refers to the learning and knowledge that is enacted in processes (process capital); knowledge that is codified as documents, objects, and intellectual property (intellectual assets); and the reputation and relationships the organization has developed over time with customers and partners (relationship capital). The dynamic perspective is opposite to the operational structure based on the static model of intellectual capital which has been developed from the practical need of measuring the contribution of intangible assets to the market value of a given company. In this perspective, intellectual capital is considered to be the sum of everything everybody in a company knows that gives it a competitive advantage (Bratianu, 2008).

Roos et al. (1998) observe the distinction between intellectual capital (IC) and organizational knowledge as follows: "While knowledge is a part of the intellectual capital, IC is much more than just knowledge. Brands and trademarks, as well as the management of relations with external parties (trade distributors, allies, customers, local communities, stakeholders in general and the like), are all dimensions of value creation." The strategic management of intellectual capital is not only concerned with the identification and measurement of stocks of organizational knowledge, but also with the control and alignment of flows of knowledge (knowledge dynamics) across organizational levels in order to enhance performance. Thus we must state that the interdependences of knowledge dynamics processes and intellectual capital are obviously continuous, strong and rapidly changing (Prelicean & Bejinaru, 2016).

Several authors (Ordóñez de Pablos, 2003; Roos et al. 1998; Bontis, 1999; Pöyhönen & Smedlund, 2004) have noted that most studies tend to view intellectual capital merely from a static point of view, whereas in order to understand how organizations use intellectual capital for value creation, a more dynamic approach is required (Kianto, 2007). In figure 4 we show that human capital can be structured into three independent entities: knowledge, intelligence and values.

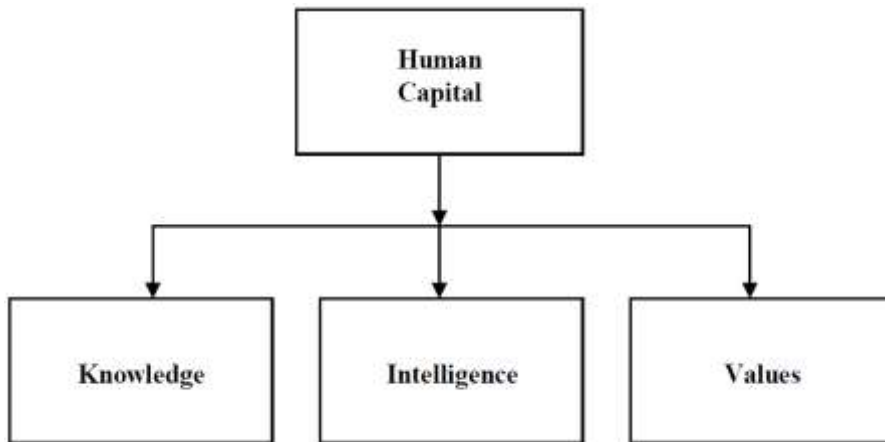


Figure 1. Operational structure of the human capital
(Source: adapted after Bratianu, 2011)

Knowledge contains both tacit and explicit components which are generated at the individual level and afterward developed (due to their ontological dimension) at the group level and organizational level. Intelligence is considered in its multiple frames as the capacity of processing knowledge accordingly to a certain human dimension. The greater this capacity is the more will grow the IC. Values are considered here in the cultural framework of a given society. Values represent the most inner part of an organizational culture that guides the decision making process. At an organizational level, the values reflect traditions, symbols, rituals and other ingredients of organizational culture (Bratianu & Orzea, 2013; Davenport & Prusak, 2000; Edvinsson & Malone, 1997).

If we agree that human capital at the individual level can be structured into these three categories, then it is easy to demonstrate the fact that these categories can be identified in the structural capital and relational capital as well. That means that measuring intellectual capital as a sum of human capital, structural capital and relational capital is misleading since we can measure some entities twice or even three times. Human capital, structural capital and relational capital are not independent entities from their content point of view. On the other hand, knowledge, intelligence and values are independent entities and can be considered as building blocks of the organizational intellectual capital (Bratianu, 2011; Bratianu & Bejinaru, 2016, 2017).

Organizational experience demonstrates every day that knowledge is in a continuous transformation process at both individual and organizational levels. Performing a literature search and analysis, Kianto (2007) considers that there are three main dynamic interpretations for intellectual capital: a) value creation dynamic; b) organizational activities and c) change capabilities. (Bratianu, 2011) The first dimension shows how different resources interact to create value for the organization. That means that two companies having almost the same tangible and intangible resources may have different intellectual capital potentials due to the different ways these resources interact and combine together as a result of managerial capabilities.

The second dimension signifies the importance of all activities through which knowledge is generated, acquired, disseminated and used effectively in the organization.

It is not important how much knowledge one organization has got, but how much it is able to process effectively. For instance, there is an interesting learning paradox about universities, which are considered as knowledge-intensive organizations. The paradox may be formulated as follows: although a university is an organization based on learning processes, it is not necessarily a learning organization. It can become a learning organization if and only if there is at least a strong *integrator* to assure the transition from individual learning to the team and organizational learning (Bratianu, 2008).

The third dimension of intellectual capital focuses on organizational capabilities for generating and managing change. This change is necessary for continuous adaptation of organization to the turbulent external business environment. Innovation, learning, and renewal are the major topics related to this third dynamic dimension of intellectual capital (Kianto, 2007; Roos et al., 1998). Although these three dimensions are associated to the dynamic nature of IC, the basic structure of the organizational intellectual capital does not change, which is a severe limitation in understanding and evaluating the potential of intellectual capital (Bratianu, 2011; Franz, 2010).

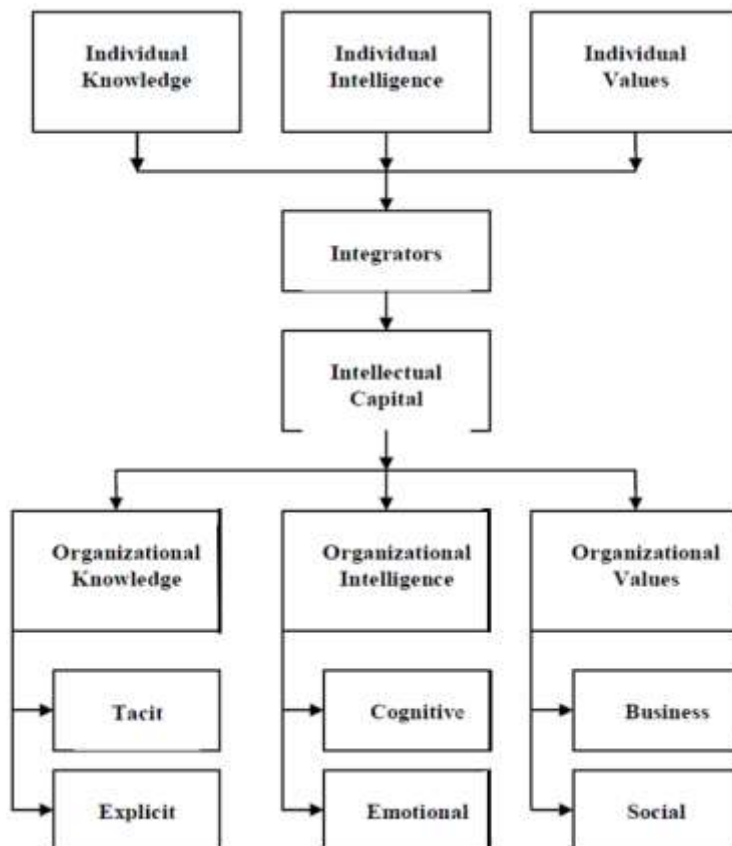


Figure 1. Dynamic structure of the Intellectual Capital
(Source: adapted after Bratianu, 2011)

The potential of the IC's components may be entirely revealed and used through the organizational mechanisms that are called –integrators. Integrators- have the power to bring together the primary constituents, and to integrate them into the final intellectual capital of the whole organization making use of synergy, as in a system designing process (Bejinaru, 2016; 2017). We have already mentioned that the static model of intellectual capital has many limitations and vulnerabilities as the three main components of intellectual capital are not independent entities. At this point, Bratianu (2011) demonstrates that when measuring the organizational intellectual capital there are several elements that will be quantified more than once, maybe two, three or four times. Bratianu (2011) shows that each main component of the intellectual capital may be divided into three distinct/independent entities: knowledge, intelligence, and values. According to the new perspectives presented about intellectual capital and considering the dynamic nature of its components, we promote the new dynamic structure of the intellectual capital as designed in figure 5.

Within our figure 5, you can observe twice the term “intelligence” as it once relates to the individual and then to the group/company. The bottom line of this figure is that the circuit has logic and obviously shows the dynamics of intellectual capital within the organization. The represented process is continuous and each time its “loop” is different as all components are dynamic and change their proportions. The dynamics of human elements is irreversible and unstoppable as individuals learn either through training (if provided) or through practicing and experiencing; the dynamics of the structural elements is the consequence of humans’ entrepreneurship. The nature of humans is to change everything around in order to suit their interests and this is why humans learned in time to get things moving.

Conclusions

As we systematically argued in each of our sections intellectual capital has been debated by many, defined by some, understood by a select few, and formally valued by practically no one. The great challenge for business leaders is to discover the magic equation that shows how to increase the intellectual capital of the organization and thus obtain greater revenues.

The dynamic understanding of intellectual capital provides insights for managers. Instead of viewing the management of intellectual capital as controlling the stock of codified knowledge resources possessed by the organization at present, the dynamic approach directs attention to the future-oriented management of flows and the facilitation of knowledge sharing, learning, and innovation. More specifically, the value-creation-process view emphasizes that managers should be highly aware of how intangible resources influence value creation and what kinds of synergies there are between different types of resources.

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will lead to valuable outputs which not only that enclose knowledge but also were the result of previously well-processed knowledge (Bejinaru & Prelipcean, 2017).

Furthermore, human capital is a fundamental component due to its endless generation of innovation as well as its impressive adaptation to the organization's needs. Human capital may be rebuilt on a greater speed than structural and customer capital which need more time to reach a convenient estate. However, in order for the human capital to instantaneously bounce from one stage to another, pushing forward its evolution there has to be an appointed knowledge dynamic (Bejinaru, 2011).

We conclude by reminding once again that the intellectual capital of an organization is a complex structure, a very dynamic component and an endless source of innovation and development if it is appropriately capitalized. Therefore, we underline that approaching the interdependences of knowledge dynamics processes and intellectual capital components within the organization represents a great opportunity for improving the use of organizational resources.

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DOES INTELLECTUAL CAPITAL CONTRIBUTE TO A BETTER MANAGEMENT OF VIRTUAL TEAMS?

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Abstract. *This paper proposes a review of the literature on two very important topics for managerial population nowadays: intellectual capital and virtual teams, with an eye towards applying the theoretical information to organizational performance and efficiency. In a knowledge-based economy, where the information is still the most important source of power, the “intangible” assets of the company (the intellectual capital, with its three forms human capital, relational capital and structural capital) are playing the main role in the creation, development and survival of the company on this very demanding and competitive market. Consequently, employees are seen not only as resources for the company, but as values creators, exchanging their knowledge and the information and using their abilities and skills within various networks. In the current economy, change is a constant for the organizations and combining this reality with the fast pace development of technology, virtual teams have become one of the most common solutions for many companies, especially for multinational ones. In order to find the most effective strategy to use the knowledge about the intellectual capital and its components in virtual teams’ management, we review books and articles from different areas like: management, sociology, organizational psychology and law, to discover all the aspects involved in this approach. We discovered that knowledge and understanding of the human and relational capital are playing a vital role for the management of virtual teams, considering the specificity of those teams.*

Keywords: *virtual teams’ (VT) management; intellectual capital (IC); relational capital; network-based capital; digitalization.*

Introduction

We assist today to a considerable digitalization of almost everything: even when we are referring to younger categories of employees, aged between 18 and 38 years, we are talking about “digital immigrants” (describing the Generation Y members) and “digital natives” (describing the Generation Z members) (Prensky, M., 2001; Twenge, J.M. & Campbell, S.M., 2008; Twenge, Campbell, Hoffman & Lance, 2010); we also have global digital marketplaces, where products from all over the world are bought and sold every second; we have digital technologies, including all types of electronic equipment and applications that use information in the form of numeric code, so we can posit that overall we have a digital economy. Most of us are making “digital” our way of living: we are online buyers and we are part of the online communities of consumers, we are doing online transactions and payments, so why wouldn’t we be remote employees? Or members of virtual teams (VT), using our abilities, competencies, knowledge and information in a digital workplace, instead of a traditional one? This new style of thinking and acting, this type of “knowledge-based economy has turned the attention of many organizations from the functional production models to more flexible, creative

and innovative ones, adapted to meet the expectations of the digital consumer” (Vătămănescu et al., 2018a).

Recent HR studies stated that classical work contracts, with a limited or undetermined period of validity will soon become history and the Harvard Business Review (2018) affirmed in a recent book that: “Virtual collaboration is fast becoming the norm”, so it is obvious that the number of digital employees will increase and these people will do a constant exchange of knowledge and information with similar peers, collaborating within online networks or communities (Vătămănescu, Nistoreanu & Mitan, 2017; Vătămănescu et al., 2018b) being part of virtual teams (Lilian, 2014) or teleworkers (Bergum, 2014) or “remote employees” (Purvanova, 2014; Bunce, Wright & Scott, 2017). Therefore, in order to react appropriately to this new certainty, new forms of intellectual capital (IC) will develop and will be on the research agenda of academics and practitioners, affirming their relevance, in this context of the digital workforce management.

Nowadays, organizational performance is increasingly a knowledge-related issue (Vătămănescu et al., 2015, 2016a, c, 2017, 2018a, b) and our research question was related to the contribution of the intellectual capital to the performance of the virtual teams. While the literature about intellectual capital (IC) focuses on intangible resources of a company that contribute to value creation (e.g. Edvinsson & Malone, 1997, Sullivan, 1998, Spender et al., 2013), typically in terms of human, structural and relational capital assets governed by an organization (e.g. Bontis, 2001; Guthrie, 2001); the latter concentrates on the activity of virtual teams, their strengths and weaknesses, the communication within these teams, the challenges of these teams, the management and leadership, and of course the performance of the virtual teams (Avolio, Kahai & Dodge, 2001; Bell & Kozlowski, 2002; Malhotra, Majchrzak & Rosen, 2007).

In order to recognize how the employees can create value for the organizations without working face-to-face or in a traditional work environment, it would be very useful to understand the relationship between these two aspects (IC and VT). At this moment, this is a great volume of research on IC and VT fields separately, but there are only few studies combining these approaches and demonstrating how IC advantages and their management might impact the value creation in virtual teams (e.g. Alavi & Tiwana, 2002; Harvey, Novicevic & Garrison, 2005; Striukova & Rayna, 2008; Suchan & Hayzak, 2001).

The intellectual capital in the organizational framework

In an environment that is more and more competitive, dynamic and knowledge-based, where the artificial intelligence intends to take over part of some standard human activities, it seems that the most valuable resources of the organizations and suitable for considering, are not anymore the ones that appear on the balance sheets, but the “intangible” ones, also known as Intellectual Capital (IC) (MERITUM, 2002) of the organizations (Subramaniam & Youndt, 2005; Teece et al., 1997). Studies have shown that intellectual capital and non-tangible assets are also important for value creation (Moustaghfir & Schiuma, 2013; Bratianu & Vătămănescu, 2017; Bratianu, 2018) and IC is information that could be converted into profit (Sullivan, 1999) and it could be a predictor of a company’s greater productivity, efficiency, and overall profitability (Berzkalne & Zelgalve, 2014).

Because of the difficulty of measuring, at the beginning, it was hard to identify the intellectual capital, to define it specifically and completely and there were different opinions on this topic. Notwithstanding it is being demonstrated that knowledge assets could lead to a company's superior performance than tangible resources (Bogner & Bansal, 2007).

Although, there is not a general consensus and a general accepted definition, so the intellectual capital was defined by the academics as: "the sum of all knowledge and knowing capabilities used to form the process of conducting business to gain competitive advantages (Subramaniam & Youndt, 2005; Youndt et al., 2004, Nahapiet & Ghoshal, 1998; Stewart & Ruckdeschel, 1998; Teece & Teece, 2000); the knowledge assets that can be converted into value (Edvinsson & Malone, 1997); the sum of a company's hidden assets not fully captured on the balance sheet (Youndt et al., 2004). Considering from an economic point of view, in 2015, intangibles represented 87% of the market capitalization of listed companies forming part of the S&P 500 stock-market index (in Cañibano, 2017) the trademarks being a large percentage of these assets and in many cases the expenditure on R&D exceeding the net profits of these companies (Cañibano, 2017).

Despite the different definitions of the IC, there is a consensus of the main components of the IC and in most papers, intellectual capital is seen to consist of three elements: human capital, structural capital and relational capital (Dean & Kretschmer, 2007; Sharabati et al., 2010; Herremans et al., 2011; Leitner et al., 2014).

The human capital refers to employees and executives, and includes the sum of employees' education, experience, competence, knowledge, skills, innovativeness, attitude, commitment, wisdom, and creativity (Guthrie, 2001; Boujelbene & Affes, 2013; Wang et al., 2014). It represents the individual knowledge stock of an organization to reach certain targets (Pablos, 2002; Nick & Alexander, 2007; Bontis et al., 2007; Cabello-Medina et al., 2011; Campbell et al., 2012). The human capital is the first dimension of the IC, because a highly skilled workforce can contribute to improve business processes, can make the company more competitive and valuable, and can contribute to the development of the company (Hitt et al., 2001; Vătămănescu et al., 2016a).

Structural capital is embedded in the entire organization, rather than in its employees (Cañibano, 2017) and it is represented by the non-tangible assets of organizational capabilities, organizational charts, organizational culture, routines, procedures, process manuals, strategies, information systems, hardware, software, databases, company images, patents, copyrights and trademarks (Bontis, 1998; Karagiannis et al., 2008; Zangouezinezhad & Moshabaki, 2009; Aramburu & Saenz, 2011). The structural capital refers to the valuable intangible assets that employees cannot take away when getting off work or leaving the organization (Edvinsson & Malone, 1997) and that help company to meet the market requirements (Pirtini, 2004).

Relational capital is the most complex dimension of the IC, because it consists in all the relationships between the internal intellectual resources and the external stakeholders (De Clercq & Sapienza, 2006; Carmeli & Azeroual, 2009; Kong & Farrell, 2010; Bronzetti et al., 2011) and it speaks about the organizations as dynamic and open systems (Vătămănescu et al., 2016a). Nowadays companies have a wide range of stakeholders:

customers, suppliers and partners they interact with (Cañibano, 2017; Vătămănescu et al., 2016c; Andrei et al., 2017). Having a strong relational capital with external actors of the organization, companies can learn from their experiences, can improve their processes and they become more innovative (Cousins et al., 2006; Dewhurst & Navarro, 2004). From an economic point of view, researchers suggested that relational capital may influence transaction costs, enhance cooperation, strengthen supplier relations, and regional production networks (Moran, 2005; Thuy & Quang, 2005; Zhang & Fung, 2006).

There are also other authors who found out by their researches different dimensions of Intellectual Capital, such as “renewal capital” referring to innovative solutions, products and services available for the firm (Kianto, 2008), “trust capital” the trust embedded in its relationships, both internal and external (Mayer et al., 1995), “entrepreneurial capital” the competence and commitment related to entrepreneurial activities in the organization (Erikson, 2002) and “network –based capital” defined as “an intricate configuration and consistent interaction among people, knowledge, information, expertise, competences, know-how within complex and dynamic online social networks” (Vătămănescu et al., 2016a).

The third dimension of the intellectual capital – relational capital - can be observed in the online environment also and there are authors speaking about “network capabilities” (Still, 2014). Online communication is recently (especially for generation Y and Z) the preferred way to communicate, to share information, beliefs and values. Internet has provided people with this freedom to communicate (Zhao et al., 2013) because in this virtual environment there are no boundaries and the time and space are more flexible concepts (Bharati et al., 2015). Considering these aspects and trends (mobility and flexibility), we can state that virtual teams respond to the needs of the young generations: to have a flexible workplace (Cristea & Mitan, 2017), with a totally adaptable schedule, communicating via technology and using the Internet, being part of greater communities of colleagues. The online preference is also related to the globalization era we are facing (Cuculeski, 2016) – nowadays the employee has the opportunity to work for an organization, even if he is not leaving his/her native country (Cascio & Shurygailo, 2003; Lilian, 2014) and the companies have access to valuable resources from all over the world, with less geographical barriers (Serrat, 2017). In the 21st century when companies face a more sophisticated consumer demand that influences the business orientation and when information influences the purchase behavior (Dawkins, 2004), virtual teams can help companies to adapt better to the local demands and to respond more quickly and appropriate to customer needs.

Virtual teams

Megatrends affect individuals and companies from all over the world and at this moment, mobility and flexibility are two megatrends (Großer & Baumöl, 2017), influencing our daily life including the way we communicate, the way we work or interact with others. Technology is constantly progressing and reinventing itself and sustained the creation and the development of these global trends. To keep up with the technology, companies that want to resist in this competitive market needs to adapt quickly to all those changes and trends, need to reconfigure their organizational strategies and reinvent themselves (Petrou, Demerouti & Schaufeli, 2018).

There are many factors that contributed to this fast development usage of the virtual teams within the companies. First, the technological advancements, we were describing above (e.g., Priem, Li & Carr, 2012): there are many technologies allowing the employees to work, communicate and collaborate with their colleagues and managers, even if they are thousands of kilometers away. There are the “classical” communication means like: phone calls, e-mails, SMS, internal chat, internal communicator, audio-conferences and video conferences (Serrat, 2017), and the newest ones: like using 3 D holograms during meeting (Bunce, Wright & Scott, 2017), or avatars or instant messaging (Bond-Barnard, Fletcher & Steyn, 2016) on different social platforms and so on (Gilson et al., 2015). Second, the preferences regarding the work-life balance of the generations newly entered on the labor field (Generation Y and Generation Z) have changed. Millennials prefer to choose where is their office and when they work, because they do not like the idea of having a standard office or a standard schedule (Cristea & Mitan, 2017), like their parents or grandparents. They do not value the idea of paid extra-hours and they do not try to impress their manager with them (as Generation X) (Hobart & Sendek, 2016), because they prefer a flexible schedule and they give importance to the higher good of their work, not to the exact hours they are working to accomplish it. And third, the cost efficiency policies of the companies that, thanks to these new technologies, can found and contract valuable talents, responding very well to their needs in underdeveloped countries where they can pay less, while obtaining the same results (Cascio & Shurygailo, 2003; Lilian, 2014). This third aspect, corroborated with the first one lead us to the idea that geographical distance is no longer a barrier when it comes to find the best people for the team.

Therefore, it is not surprising that the virtual teams study is still an important topic for the academics and managers and it became a common procedure of HR and managerial strategies (Raisinghani et al., 2010; Gilson et al., 2015), because understanding and using the right tools for virtual teams` management will be the prerogative of a well-prepared manager.

Definition of VT, advantages and disadvantages

Work in virtual teams and management of the workforce located in different places, has occurred in many situations as an alternative and a necessity of the employers who did not find local work force and they needed to find new sources of talent to accomplish company goals (Lilian, 2014). The virtual teams have been studied for almost twenty years (Jarvenpaa & Leidner, 1998; Lipnack & Stamps, 1997; Lipnack & Stamps, 2000; Gilson et al., 2015), in order to provide the managers and companies with answers to questions like: “Is this solution an efficient one? And if it is, what are the risks? What are the limitations of this solution and for how long can we use this type of work force?”. However, there is still not a general accepted definition for *Virtual Teams* or *Telework*. Academics and practitioners agree with few general characteristics of them: they are groups of people (they can be employees, collaborators of partners), geographically dispersed from the head quarter, brought together to work on a common project, and who use information technologies (ICT) to communicate (Huws, Korte & Robinson, 1990; Korte & Wynne, 1996; Bergum, 2009). As virtual teams are communicating especially through technology, which enable synchronous and asynchronous communication (Avolio & Kahai, 2001) leaders of these teams should have the ability to transmit the information in a manner that serves reaching their goals (Eissa, Fox, Webster & Kim, 2012) and this involves new managerial abilities such as: the ability to

interact on social networks, a global way of thinking, capacity to adapt to multiculturalism, and the ability to be active and online 24/7 (Trivedi & Desai, 2012).

The reasons why virtual teams are now a topic of high interest for managers and academics, were that some benefits of this working style were highlighted: easy access to talents and resources, from different countries, locations and organizations with no geographical restrictions (Serrat, 2017), where resources can be represented by valuable people, knowledge (Bunce et al., 2017) and information. The virtual teams present also some disadvantages and limitations like: the limited face-to-face communication, contextual differences, cultural differences, time differences, country specific aspects that are difficult to understand, team cohesion, trust, cooperation behavior, work satisfaction, and all these can end up with a low performance of virtual teams. Considering all these limitations, many academics studied the theoretical difference between face-to-face and virtual teams in terms of performance and work efficiency (Ortiz de Guinea, Webster & Staples, 2012; Mesmer-Magnus et al., 2011) and the conclusions were that face-to-face teams would be more performant. Although, practical studies could not support the academic findings (Malhotra, Majchrzak, Carman & Lott, 2001) and because of this lack of consensus, there are still plenty of research opportunities, based on these contradictions.

Conclusions: challenges of virtual teams and opportunities offered by the usage of the intellectual capital

Various studies demonstrated the huge impact of the leader in team's performance for collocated teams (Lilian, 2014; Bergum, 2014) and the researches carried out on virtual teams proved an even more important role of the leader for the success of this type of teams (Zaccaro & Bader, 2003; Leonard, 2011).

First, taking into consideration the needs of the employees from the generation Y or Z, the role of the manager is currently changing: the leader should be a *coach* and a *mentor* for his employees (Honore & Schofield, 2012; Miller, Hodge, Brandt & Schneider, 2013). Second, considering the opportunities and challenges of the virtuality, there are authors who stated that leadership is not only the responsibility of the hierarchical leader, but it should be shared between the team members in a collective way, delegating the power and the accountability to each member of the virtual team (Kirkman, Rosen, Tesluk & Gibson, 2004) giving birth to an important concept for virtual teams: Leader-Member-Exchange (LMX) (Gilson et al., 2015), concept that englobes aspects of the relational capital and human capital of these teams.

In this dynamic work environment, leadership fundamental concepts remain the same for virtual teams: vision, mission, direction, strategy, motivating the employees, inspiring them, creating trust within the team, but we assist to a change of paradigm and a change of the way these concepts are transmitted to the team members and after that implemented by these ones (Trivedi & Desai, 2012).

The organizations of the past had a well-defined hierarchical structure and a formal way of transmitting the information and the power from the leader to subordinates (Jarvempaa & Tanriverdi, 2003). With all the technological progress, the companies needed to adapt to new ways of working and to the demand of globalization and virtuality, consequently new organizational structures, more flat ones and web-like

were adopted (Jarvempaa & Tanriverdi, 2003), to facilitate the access to information, the flows of the processes with fewer boundaries and the exchange of the roles within the teams. Therefore, the manager of VTs should be able to use replacements of the direct leadership strategies, materialized through clear rules and procedures, specific standards and routines, respected by all the team members (leader included), in order to control the behavior of the members, to limit the negative impact of the lack of face-to-face interaction and to prevent misunderstandings (Hoch & Kozlowski, 2014), a great expression of the structural capital embedded in these teams.

Geographical distance is a reality for the virtual teams, and there were academics studying this concept from various perspectives: from an organizational perspective, Antonakis and Atwater (2002) define "leader distance" as consisting of three variables: geographical distance, perceived social distance and perceived interaction frequency, from a human geography perspective Boschma (2005) shows that the distance can be classified into five categories: geographical distance, cognitive distance, social distance, organizational distance and institutional distance. Studies conducted after 2005 (Bergum, 2014; Hoch & Kozlowski, 2014; Suh & Shin, 2010) tried to identify what type or types of distance have the biggest impact on employees in terms of their performance, their communication with the direct manager, their satisfaction with the company, the trust they invest in the company, and other organizational behavior. To face the limitations determined by the distance, members of these teams are part of working communities or networks, where they are using ICT to communicate, to interact with other team members, to share their knowledge, their abilities, their expertise and competencies, in a dynamic environment, manifestation of the network-based capital of these teams (Vătămănescu et al., 2016 a, c).

Knowledge of and familiarity with the new forms of intellectual capital can provide the managers of virtual teams with answers to questions like: "What is the best way to share the information within the team?" or "How can I transmit the objectives to the members, in order to empower them to work as a team to obtain the best results?" or "How can I be an inspiring leader for the team?", aspects that are for sure a constant preoccupation when managing virtual teams.

Future research based upon this theoretical framework would present the results of a survey-based research conducted in Romania, with virtual and collocated employees from different companies as respondents, to evaluate the opinion of the respondents regarding the collaboration and communication with their direct manager.

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STUDY ON THE IMPLEMENTATION OF AN INTELLECTUAL PROPERTY POLICY IN A COMPREHENSIVE UNIVERSITY

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Abstract. *This paper concentrates on the problems about the current state of intellectual property and, especially, on the necessity of the implementation of an intellectual property policy in a comprehensive University. A case study was carried out in which such a policy was proposed, following the in-depth study on the policies of four Universities from the entire world by making a comparative analysis with the policy that WIPO (Worlds Intellectual Property Organization) has elaborated on as an example. By the work in question, it was intended to reflect the most important aspects that need to be taken into consideration when elaborating on an intellectual property policy: the objectives, purpose, possession is use of intellectual property, the involvement of students and teachers in research and in the spin-out companies, the use of the University resources and facilities, the directorship, the conflicts of interest, the revenue distribution and the procedure for assigning the intellectual property rights.*

Keywords: *policy; intellectual property; researcher; innovation; spin-out; copyright and neighboring rights; patent, technology transfer; competitiveness.*

Introduction

Intellectual property includes all rights relating to literary, artistic and scientific works, to inventions in all fields of research, and to scientific discoveries, industrial marks, trademarks, emblems, but also to all rights resulting from intellectual activity in Industry, literary or even artistry. In fact, intellectual property is included in the intangible property category, although its external manifestation may be visible, or material. For example, although a painting is a tangible object, if we are talking about the object of intellectual property in question, we refer to the creativity of the author of the painting, which obviously is inalienable. In this context, we can say that intellectual property is nothing more than a result of different human activities, independent of the use of different devices or technologies that help discover new inventions.

A real and simplistic example is the computer itself - a tool that helps to create an innovative program or application. As a holder of the intellectual property right, an individual has the legally recognized right to authorize or prohibit access to information related to his creation, as well as the possibility to decide whether other persons have the privilege to use or reproduce the creation (Țîțu & Oprean, 2015).

At present, intellectual creation is increasingly tolerant of all territorial constraints, as it naturally has an international vocation. As the product party is the primary resource in which value is created, and it has a very important status in the economic and social sphere, which leads to increased attention from both governments and universities that make major efforts to promote and protect intellectual property. In this context, universities gain a special value, as they have contributed to the development of society and the economy. In fact, a tradition has been created in which universities engage in these fields by training specialists and gaining performance, always meeting the demands of society (Al-Ali, 2003).

The motivation for choosing the theme is related to the interest of the academic researchers in this field, the importance of their visions regarding the knowledge, the operationalization and the evolution of the concepts related to the intellectual property policies developed at the university level, as well as the notification of the universities regarding their role in enhancing educational performance.

The purpose of the paper is to symbolize the use of performance as a synergistic element, proposing a solution for universities reflected in an intellectual property policy, as well as developing the topical idea of the theme, not capitalized on the area of higher education institutions. In fact, the present paper recommends a theoretical and practical approach to issues related to intellectual property and the ways to protect it reflected in the rights related to intellectual property.

The research is based on a study conducted in a comprehensive university in Romania. The comprehensive universities include Lucian Blaga University of Sibiu, University of Oradea, Transylvania University of Braşov, Valahia University of Târgovişte, Ovidius University of Constanţa, Dunarea de Jos University of Galati etc. For confidentiality reasons, the name of the studied university will not be provided.

Defining key concepts

As the paper wishes to become an informative material not only for specialists in the field but also for anyone who wants to know or deepen their knowledge of the field in question, it is absolutely necessary to review all the concepts involved, such as competitiveness, innovation, technology transfer and intellectual capital (Andriessen, 2004; Bratianu, 2010; Ricceri, 2008). At the same time, it will analyze the patent concepts, utility model, trademark, model and industrial design, geographic indication.

Competitiveness defines the ability of individuals, firms, economies or regions to stay in competitive domestic and/or international competition with the aim of gaining competitive economic benefits in a particular economic context.

Innovation illustrates the process of creation or the generation of new ideas, but also the effects of the changes they generate. One of the specific features of the SME sector, along with flexibility and market orientation, is the ability to innovate.

Technology transfer is defined by the introduction or purchase of specific technologies and equipment, as well as of research equipment and facilities, in the economic circuit, all with the aim of obtaining new or improved processes or products or products that have been requested on the market, or participate in adopting innovative behavior.

Intellectual property refers to all the creations of the mind, embodied in inventions, literary or artistic works, symbols, names or even commercially used images. In fact, intellectual property is divided into two categories:

- Industrial property including inventions, trademarks, geographical indications, designs and industrial designs;
- The copyright of literary works such as novels, poems, plays, films, musical works, artworks and architectural works. Related rights of copyright refer to the rights of performers to their work, but also to those of phonogram producers and broadcasters on their radio and television programs.

Intellectual capital is a concept perceived as a set of knowledge from an organization, this definition being comprehensive, but suffering multiple updates due to continuous accumulations of knowledge. Bratianu (2018) demonstrated that many researchers have a limited understanding of the concept of intellectual capital due to their metaphorical thinking in the conceptualization of knowledge. Thus, many evaluation models of the intellectual capital use the linearity and tangibility properties, which do not fit into the fundamental meaning of this new concept.

Patent for the invention. It offers its owner an exclusive right over an invention, be it a product or a process, which aims at introducing a new technical solution to solve a problem. The utility model protects any type of technical invention, but taking into account the fact that it is new, exceeds a limit of a simple professional skill, and it is susceptible of industrial application.

The brand is defined as a distinctive sign that highlights the idea that certain products and/or services are made or provided by a particular person or organization. In fact, the marks may consist of words, letters, figures, either alone or in combination, but may also consist of drawings, symbols, three-dimensional or sound signs, perfumes or colors, all of which are used for distinctive purposes.

Industrial designs refer to either aesthetic or ornamental appearance that characterizes an animated object. In fact, they reside in three-dimensional features, such as the shape or texture of the object, on the one hand, and two-dimensional - motifs, lines, and color - on the other hand. The geographical indication is a sign that is used for products of a fixed geographical origin, showing certain qualities or notoriety due to this place of origin. For the most part, geographical indications are based on the place of origin of the product.

Intellectual property in universities

The establishment of the action plan, agreed by universities, and by the research-development institutions, aiming at an evolution of the intellectual property culture (Hiroyuki & Roehl, 1987), as well as the creation of a national strategy, is absolutely necessary for the achievement of an economic development and a special innovative spirit. In Romania, such an action plan was developed and adopted in the Workshop "Dissemination of Intellectual Property in Universities", Bucharest, March 23, 2007, as well as at the international meeting in The Hague, December 3, 2008.

The solution for developing the culture of intellectual property in universities comes out of understanding the need for developing adequate knowledge strategies (Bratianu & Bejinaru, 2017; Bratianu & Bolisani, 2015). The sensitivity to intrusions, as well as the high qualifications of universities in the techniques, procedures, methods, and methodologies of intellectual property, prove their efficiency as entrepreneurs, which must be taken into account and generalized at the national level. The totality of behavioral and professional reactions related to the remarking of intellectual property rights, which are supported not only by the legislative system but also by other unwritten rules; compose the culture of intellectual property.

The establishment of international bodies such as the World Intellectual Property Organization (WIPO or World Intellectual Property Organization, founded in 1893 and having its headquarters in Geneva) or the World Trade Organization (WTO), established only in 1995, after many years in Geneva) was determined by the need to provide effective protection for intellectual property rights. In our country, there are only two main bodies harmonized according to the European legislation in force, namely the State Office for Inventions and Trademarks (OSIM, 1997), and the Romanian Copyright Office (ORDA, 2017). Ownership of intellectual property depends largely on the legislative and contractual situation between the donor body, the inventor of intellectual property, the employee and the nature of the intellectual property.

The role of intellectual policies in university

- Intellectual property policies have several roles with the following effects (Țîțu, 2016; Țîțu et al., 2016):
- Accountability of all parties involved in the innovation process;
- Educating future specialists in the field;
- Raising awareness of the public not only in the field of intellectual property but also the importance of its rights and its protection;
- Create a regulation that will be respected by all involved, avoiding any errors;
- Economic, social and cultural development of the country;
- Creating relationships with enterprises interested in new creations that can facilitate production processes;
- Compatibility and harmonization of the intellectual property system in Romania with the existing mechanisms at the level of the European Union;
- Attaining a level of performance demanded by the evolution of a knowledge-based society;
- Transparent cooperation between organizations involved in the protection of intellectual property;
- Building an appropriate administrative infrastructure in the field.

British Columbia University. At the University of British Columbia, in accordance with its desire to stimulate community-based research, university staff are encouraged to discuss and make public the results of research, including university research, as soon and as complete as reasonably possible, provided that this does not violate any agreement that has supported or is related to the research in question. Public disclosure of university research products may make it impossible to apply for patent protection for such products.

City University of London. Within the University of London, the University will hold all intellectual property designed and or created by individuals employed by the University by graduate or non-graduate students involved in research, and where intellectual property has been created under an agreement or contract which the ownership of the new intellectual property has accepted, in whole or in part, of the University, but also in the conditions in which the person holding the intellectual property has assigned his rights in writing to the University. Moreover, the University does not claim ownership of intellectual property created by students or graduates, before, during, or after the completion of studies.

Harvard University. The Harvard University has a long history of "work" for the benefit of the public through its research programs. Growing demand and the use of media communication, educational technology, computer programs and other approaches to conducting papers in the University often give rise to complex and ongoing challenges in terms of proper and fair use, as well as the obligations and redress associated with innovation.

Determining Property. After examining the information document, the OTD will determine whether the invention is an accepted invention or accidental invention and, in the case of an accepted invention, it is further determined with the assistance of a patent consultant who is the inventor in accordance with patent law from the United States. Harvard will have the right of ownership, and every inventor, at Harvard's request, will grant the University all of his rights and title. Ownership of an accidental invention remains with its inventor, subject to any rights that may be granted to Harvard University as required by their policy in the field.

Submission of patent applications. The OTD is solely responsible for determining whether a patent application is filed for an accepted invention. The completion of determinations may be made based on commercial potential, third-party rights obligations, or other reasons the OTD of its choice deems appropriate. The creator of an accepted invention for which patent applications are filed cooperations, without the inventor's expense, in the patenting process in all manner required by the University, the agent or its representative.

MIT University. When faculty, students, staff, visitors or other people participating in MIT programs develop Intellectual Property, using significant MIT funds or facilities, MIT will own intellectual property. If the material is not subject to a sponsored study or other agreement conferring rights on third parties, the question of whether or not significant use is made of MIT funds or facilities will be reviewed by the laboratory director or inventor's central department / Author, with a recommendation sent to the Technology Licensing Office (TLO). The Vice President for Research will make the final decision on

this issue and on any litigation or interpretation of the intellectual property policy. When the invention is described, it is assigned an internal case number and a copy of the communication is sent to the Intellectual Property Coordinator in the sponsored Program Office, examining the patents and copyrights, the terms of the applicable research agreements, and notifying sponsors in Presentations of information. In TLO, the disclosure is attributed to a technology-licensing officer who will contact the inventor to discuss the invention. A decision is then made to determine whether the transfer of technology will be most efficiently achieved by a patent application or by other legal protection. Industrial sponsors are usually granted the right to choose a technology license for which other legal protection patents are required; Specific terms are then negotiated with TLO.

University of Tokyo. When manipulating the intellectual property created at the University of Tokyo, it is important to consider various issues such as contributing to the international public in the context of rising globalization and international Japanese consolidation, competitiveness as well as that of the University of Tokyo itself. Taking into account these various objectives, University members are required to pursue the most effective means of intellectual property derived from their application and to work for the greatest possible benefit of the public. Both faculty members and the institution itself have an obligation to return to the benefits of public intellectual property derived from publicly funded work at the University of Tokyo. As a matter of principle, the University believes that providing the appropriate means to manage and enforce such intellectual property requires the University's property right. Based on this framework, the University of Tokyo will establish a system for the management and use of intellectual property derived from its intramural activities as well as for litigation involving such intellectual property.

WIPO. The Institute encourages researchers to identify the results of research with potential marketing value and to increase the reputation of the institute by bringing it to public benefit and use. The person or department designated by the institute is responsible for the protection and commercialization of the intellectual property of the institute. The inventor will be consulted at each stage of the procedure. Researchers will be required to submit in writing the publication projects containing scientific results to the head of the department before publishing them and must put in writing that, to the best of his knowledge, these papers do not contain results for which protection can be obtained, or which can be exploited in any way. Researchers, including hired students, students, and visiting researchers, are required to disclose all intellectual property to the person or department designated by the institute. Copyrights will be excluded from disclosure obligations, except for those that have been developed through the performance of sponsored research or any agreement with third parties. Since the protection and success of the commercialization of intellectual property may depend on timely and effective administration, inventors are required to disclose all intellectual property with exploitation potential as soon as they become aware of them. The disclosure must be made in writing by completing an Intellectual Property Disclosure Form, available to the person or department designated by the Institute.

Case study. Propose an intellectual property (IP) policy in a comprehensive university. SWOT analysis

As it was mentioned in the introduction, this research is based on a study conducted in a comprehensive university in Romania. For confidentiality reasons, the name of the university will not be provided. The SWOT analysis was not done in general terms, this study has parts that can be taken over by all universities.

Strengths:

- Annual organization of the "Night of Researchers" project;
- The existence of an organizational culture in the field of IP focused on the recognition of its own values;
- The comprehensive university efficiently uses IP created within it, which it treats as the primary resource that creates value;
- The main purpose of the comprehensive university is to provide IP protection;
- Origins of the comprehensive university to stimulate innovation and creativity;
- The existence of a department dedicated to the field of IP;
- Participations in the world and national exhibitions leading to the continuous development of the studied comprehensive university;
- The comprehensive university is based on procedures that manage the analysis of the files of the persons requesting the registration of IP products and objects.

Weaknesses:

- Insufficient development of a computerized database that highlights and organizes didactic and research activities;
- Insufficiency of international research programs and transversal programs;
- Insufficient number of specialized teachers;
- Inability to support specific IP courses;
- Lack of motivation for students to participate in various research activities in order to develop creativity.

Opportunities:

- Harmonization with EU normative acts and international treaties in the field;
- Existence of complex IP legislation, which our country and, implicitly, the comprehensive university has;
- The comprehensive university is a common ground between academia and business, facilitating the transfer of technology;
- Possibility to adopt the policies that the World Intellectual Property Organization has formulated for the academic environment.

Threats:

- Frequent legislative changes that may lead to a major reorientation of the scientific research activity;
- Low student participation in research activities;
- The danger of migrating specialized teachers to other sectors of activity in the country and/or abroad where they are offered other material, and more substantial advantages;
- The decrease in the interest of graduates for a teaching career.

The role of intellectual property in the studied comprehensive university

Research institutes, whether public or private, are commissioned to carry out research. The primary function of universities has traditionally been to learn. However, universities are research institutes that carry out technology transfer activities (Chapple et al., 2005; Debackere & Veugelers, 2005; Anderson, Daim & Lovoie, 2007). Thus, intellectual property is inherent in many research and learning functions at the studied comprehensive university. A successful research program can generate inventions that can be patented, as well as other forms of intellectual property. Decisions must be made taking into account the protection of these inventions and bringing them to the next level of development.

The need for an intellectual property policy at the comprehensive university

An institutional intellectual property policy applied at the comprehensive university serves three tasks:

- Recognition of intellectual property owners created;
- Provide a framework in which the institution can identify, assess, protect and monitor exactly the IP for the further development and usual marketing of a certain kind;
- Define the responsibilities, rights, and privileges of those involved.

On the other hand, without an official document regulating the ownership and use of IP rights, the involved parties would not benefit from any guidance that would guide them to make their decisions on intellectual property properly. In addition, a IP policy also contributes to:

- Promotion of scientific investigations and research;
- Encourage researchers to consider the global value and possible opportunities for any new inventions and increase the potential flow of society benefits;
- Providing legal certainty;
- Balancing various conflicts of interest;
- Providing an environment where the innovative spirit is present and those who participate can be rewarded correctly for contributions to successful development;
- Provide practical guidance and specific procedures for identifying, evaluating, protecting, managing and licensing or transferring IP.

The objectives of intellectual property policy

The studied comprehensive university is committed to ensuring that intellectual property is used for the benefit of individuals and societies. At the same time, it also engages in the widespread promotion and use of research results through appropriate means, including publications and marketing. The policy establishes the comprehensive university stance on the possession and use of intellectual property, the recognition and rewarding of IP creators, and the obligations, roles, and responsibilities of all involved.

Purpose of intellectual property policy

This policy should be applied to all properties created within the comprehensive university, as well as associated rights. At the same time, this policy can be applied to all researchers who have established relationships with the comprehensive university.

Mastery and use of intellectual property

Mastering intellectual property depends largely on the current legislative context, the contractual situation between the sponsor and the creator of intellectual property, as well as its nature. Therefore, the person designated to exercise authority on behalf of the university must ensure that the contract includes provisions that place the researcher under the sign of the policy. In this respect, students are required to sign an agreement to regulate their relationship with the university, but to link them to this policy before starting any research activity. It is the responsibility of the researcher to ensure that an agreement (hereinafter referred to as the "Research Agreement"), whose terms and conditions of cooperation are appropriate for both Contracting Parties, has been concluded with the cooperation of third parties. Taking into account the financial and intellectual contributions made available by the comprehensive university, third party involvement may become a good choice when it comes to the creation of intellectual property, as each cooperating party will have access to intellectual property rights, as well as to the distribution in the form of revenue generated by their marketing. The use of resources and facilities of the University, the Company can access all facilities and staff of the University only if the University approves this fact. At the same time, the University holds absolute control over its own resources of any kind, for which it can charge for these services preferential tariffs as part of the University's investment in the company.

Directorate and conflicts of interest

The right to appoint remove or replace a director falls entirely on the University and the Board of Directors of the Company. Thus, the members of the Intellectual Property Trading Council will normally select the director of the university. If the university director decides to leave the university, he will have to resign from the university. However, the position of director of the company may also fall on an inventor who will necessarily act in the company's interest; therefore, individuals in charge of this job must recognize potential conflicts of interest.

Sharing revenue

The comprehensive university policy provides for the distribution of any income generated by the commercial exploitation of intellectual property, depending on the contributions that each individual involved in research brings to the creation of intellectual property. Within the comprehensive university, the rector of the university is the one who has the authority to endorse all documents that have in their content elements related to the strategy, development and organization of the activity undertaken by DPPI - the comprehensive university, i.e. all those documents that will be submitted to OSIM in order to obtain protection in the field of industrial property.

All the comprehensive university structures wishing to officially register a product or object belonging to the intellectual property right have to initially address DPPI- the comprehensive university to file this file that will be submitted to OSIM for related documentary research, approval and release of IP certification documents. Therefore, when a file is filed and documents are recorded, the DPPI- the comprehensive university Secretariat has the obligation to verify that the dossier contains all the necessary documentation for sending it to the OSIM Center for verification and subsequent

registration. Under Law 544/2004, the terms of settlement and communication for the applications, requests or addresses of the case are 30 days from the date of registration with the DPPI- the comprehensive university Secretariat. All these operations carried out in respect of the registration and management of documents and files of those requesting the registration of the property and the objects of ownership are strictly confidential.

Conclusions

Intellectual property is native to every nation and marks an evolution of that world that, from a historical point of view, contributes to the progress of society. Intellectual property rights are outlined as any other kind of property rights that allow patent holders or other certificates to benefit from their own creations, all of which are enshrined in the Universal Declaration of Human Rights.

The efficiency with which a university uses intellectual property is an important factor that influences the evolution of the university's notoriety, for intellectual property is considered to be the main reward that creates value. The government, research, and education institutes, as well as the Courts of Justice, are the institutions that manage intellectual property rights and those that connect with society, with the main objectives of ensuring and guaranteeing the protection of intellectual property rights; this raises the possible barriers to development, encouraging creativity and innovation.

Harmonization with the EU normative acts and international treaties in the field is due to the complexity of the intellectual property legislation of our country and covering all related fields. Thus, it can be said that the legislation of the Euclid Union is based not only on the founding treaties, but also on the binding legal acts, and it succeeds in providing protection to all categories of rights. The main objective of the European Union is to ensure the protection of intellectual property, being a priority, because there is no progress without new ideas and knowledge.

Intellectual property rights are important for stimulating innovation and creativity, leading to a continuous evolution, both socially and economically. The economic sectors in which intellectual property rights are widely used give rise to about 39% of all economic activities in the European Union, which means that they account for up to 26% of the total number of jobs in the Union. The comprehensive university underwent a national strategy in the field of intellectual property approved by the Romanian Government through Decision no. 1424/2003, as amended and supplemented by the Decision no. 1174 / 29.09.2005, which involve the promotion of an active, performance-oriented society based on values of work, social cohesion, solidarity, and responsibility.

Our country has a legislative framework in the field of complete and complex intellectual property, legislation compatible with all EU normative acts while respecting all the treaties and conventions of the field. All activities and documentation to the DPPI- the comprehensive university department must be authorized in advance by the Rector of the University, while the department secretariat records them, being responsible for transmitting to OSIM all the documents that are subject to the recognition and certification of intellectual property rights. The time limits for the settlement of the files filed with the DPPI- the comprehensive university secretariat are subject to the legislation in force, i.e. Law 544/2004, according to which the applications are settled

within 30 days from the date of their registration at the DPPI- the comprehensive university Secretariat.

The comprehensive university is subject to a confidential policy which requires all operations and acts used in file registration and management activities to be confidential, all involved being required to maintain the confidentiality of data and information on intellectual property and related rights. Thus, through this policy, all parties involved will agree on the impossibility of transmitting the data and information they are aware of during the duration of the collaboration relationship. Failure to comply with these Confidentiality Policy clauses results in an obligation on the guilty party to pay a number of damages.

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CHALLENGES FOR LEADERSHIP IN THE KNOWLEDGE ECONOMY

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Abstract: *The purpose of this paper is to debate the concept of leadership considering several coordinates like the traditional and present philosophy, the past and present business environment, the former and actual type of employees and also the future perspectives. The theory and practice of leadership have a long history and yet it has much to evolve also. The discrepancies might reside in the fact that the theory builders can't be ahead of the market developments and thus is difficult to create futurist theories. Nowadays, all over the world there is much talking about leadership and the need for leaders. There is a growing interest on the impact of management, leadership and entrepreneurship practices on achieved performance. In recent years, organizations have undergone significant changes, becoming powerful and effective, with a strong desire to have intelligent leaders of emotion with vision and character. Throughout the sections of the paper we present several aspects which help the projection of a comparison between the classic paradigm of leadership and the new philosophy of leadership. Within the introduction section we refer to some of the issues which changed the perception of leadership, like emotional intelligence or leading teams. In order to emphasize what are the coordinates of leadership in today's organizations we decided to present a series of best-practices of well-known global companies which we consider as modern organizations because they are always updated and implementing the latest methods and techniques. The section about leadership of work-teams contains brief argumentation about the most well-known five stages of: training, agitation, normalization, running and discontinuing operations. At this point we discussed the effectiveness of a specific type of teams, actually the virtual teams. Following we focused the debate upon the future of organizations and which might be the upcoming challenges to be faced mainly by business companies.*

Keywords: *leadership, strategic management, teams, vision, emotional intelligence.*

Introduction

Nowadays, all over the world, there is a growing interest in the impact of management, leadership and entrepreneurship practices on achieved performance in various domains. When companies manage to perform significantly from one year to the next, they mean that all three categories of managerial practices are well developed. Managerial and entrepreneurial practices have a great impact on profitability and market share, while leadership helps develop the organization (Baesu & Bejinaru, 2013a, 2013b, 2015). Although in reality, such a three-to-one management profile is more difficult to meet, the leader's mission is to build a team to complement their competencies and develop organizational capabilities (Bejinaru & Baesu, 2013, 2015, 2017). Only with such a team, success can be achieved. Such a construction can be done by shareholders and investors, who should keep in mind that teamwork and collaboration make the difference. A valuable organizational context does not mean that

the one who is at the top makes the difference but how he manages to build the team. Involuntarily, such a construction leads to a less charismatic and more integrity-based model of leadership (Adair, 2005; Armstrong & Stephens, 2008; Zhang, Zheng & Darko, 2018).

Thus, a future leader must know to focus on building a trustworthy and efficient management team, and last but not least, to have the necessary motivation and experience to lead. In order to predict future performance, knowledge and behavior are not enough; managerial skills, technical skills, and self-refinement may be sufficient to create a picture of potential but insufficient to predict its performance. Therefore, it is considered that the most difficult issue for current organizations is choosing the leadership model that they want for their future (Bolden et al., 2011; Bratianu & Bejinaru, 2016, 2017; Goleman et al., 2008; Tracy, 2018).

In recent years, organizations have undergone significant changes, becoming powerful and effective, with a strong desire to have intelligent leaders of emotion with vision and character. Emotional intelligence as the ability to sense, understand and apply the power of emotions as a source of energy, information, creativity, trust and relationship and includes four elements: -better understanding of your own emotions; -effective management of your own emotions; -a better understanding of others; -creating better relationships with others and increasing your own image (Goleman, 2004).

Perspectives about the leadership concept were introduced by Adair (2005), who is considered to having a triple contribution to shaping this domain, which consists of the following: -was the first author to demonstrate that leadership does not necessarily imply an innate skill but can be acquired as any other quality; -helped to transform the concept of management into a broader leadership concept, with which we associate decision-making, communicate and manage time; -defined leadership as "an ensemble made up of target, team, and individual, subject to load-oriented education." Through the argumentation of these leadership missions, Adair (2005) actually updates Maslow's model of needs hierarchy and the management functions of H. Fayol. It is shown from this presentation of leadership missions that in fact, we are dealing with management processes, but with a greater emphasis on their human side. By sharing his wisdom and experience in the business field, Koestenbaum (2006) reveals a series of fundamental missions and principles that someone who wants to become an authentic leader should meet. The basic idea of his philosophy is that managers should implement the "leadership diamond model" in order to be able of embracing change and challenges in an effective manner that would lead to positive results (Bratianu & Anagnoste, 2011; Bratianu & Orzea, 2014).

Leadership of work-teams

Work teams are considered the core of the organization of the future. The most well-known model of team evolution is Tuckman's 1965 team, which involves five stages: training, agitation, normalization, running and discontinuing operations (Armstrong & Stephens, 2008). *The formation* is the stage of a considerable degree of anxiety. Thus, team members address questions that reflect an interest in the assigned roles, but especially in the nature of the leadership role and the resources that are at their fingertips. Team members search for information about other members, especially about their background and the type of task the team has to perform. It is likely that they

are curious about the team's external expectations and ask for information about the rules that will influence the working methods. In this early stage, participants can be relatively cautious about the information they disclose. Initial considerations about others will, therefore, be based on limited knowledge.

The *agitation* stage is the one that delimits the constraints that may occur between individuals and subgroups. The choices, authority and/or powers of the coordinator are targeted, and members do not accept any attempts to dominate the leadership. Members of the group question the relevance and practicability of the imposed task. Also, latent tensions surface, as individuals manifest themselves strongly advocating opposing opinions. This stage is also characterized by honesty and openness in solving divergences. The leader should encourage the settlement of misunderstandings to get the focus of all participants on common goals. They also need to create trust, set up team roles and conflict resolution strategies.

Normalization is the stage during which conflict resolution takes place and the team starts to tackle the task from the perspective of positive co-operation. Plans are drawn up and standards established. Members easily share their opinions and feelings, developing a network of mutual support. The coordinator must allow the team to assume greater responsibility for planning and processes, allowing them even some mistakes and encouraging their subsequent reflection. It is important to impose rules in line with the needs of the organization as teams can also set rules against effective functioning (for example, tolerance of lack of punctuality at work or absence at meetings).

Running stage starts when team members begin to see the results of the constructive concentration of energy on the common task. An effective work structure is set up, in which individuals feel good and start to work together more relaxed. The leader no longer has to intervene on any given day, members realizing and accepting this change. Regular review systems should be organized at this level so that the team can continue to yield and be in touch with the environment in which it operates. *Closing* the activity. At this stage, as a rule, not all teams arrive, but, over time, important members will leave the group, and the projects will be finalized or discontinued. It is important that the effects of these changes on team existence are recognized as some teams may regress at earlier stages depending on the level of maturity and the rate of change (Armstrong & Stephens, 2008).

Exceptional performance in modern organizations is achieved only if the members of the organization act as a team in the sense that: stimulate each other to learn and improve professionally; will show trust, respect and honesty to each other; promote the principles of ethics and deontology specific to their profession; cherish diversity and encourage its manifestation; will stimulate change, because what is good today, tomorrow needs to be improved; recognize the qualities and merits of others; induce the feeling of security, camaraderie and solidarity among others, according to the "everyone for one, one for all"; will ensure that the workplace, discipline, order, environment is as pleasant and conducive as possible to quality work (Mainemelis et al., 2015).

Performance appraisal is the process of estimating the results of an individual in order to identify his needs and development potential and to determine the directions and

ways in which achievements need to be improved. Assessments can also document performance decisions or salary increases associated with the contribution, usually through a calibration system. The individuals work better when they know what they have to do, how well they expect them to act and how well they did. Performance appraisal aims to ensure the dissemination of this information between managers and their team members (White, 2004).

The evaluation focuses on two aspects of performance. The first aspect refers to the results obtained in the form of "outputs" (measurable or observable results) and "effects" (the general contribution made by the individual occupying the post in achieving the objectives of the team, the department and the company). The second aspect relates to what the individual brings to his post from the point of view of knowledge, skills, and behavior. The performance assessment cycle, as illustrated in Figure 1, consists of three steps: 1. Planning: it is agreed by mutual consent what to do and how to do it. 2. Preparation: it is decided how to conduct the evaluation discussion. 3. The official evaluation discussion: the balance sheet of what was done and the way it was done during the period that leads to the preparation of a plan agreed for the next period.



*Figure 1. The performance assessment cycle
(Source: adaptation after White, 2004)*

The future of organizations

Inside an organization, it is considered that the answer to every problem encountered is management. There are situations when employees do not devote their flesh and soul to their work and when their loyalty decreases and when the growth programs in which thousands of euros are invested do not give any result (Prelipcean & Bejinaru, 2016).

When teams and whole organizations face their collective emotional reality, they begin a necessary reconsideration of common customs that create and perpetuate that reality. In fact, for leaders to reflect their emotional intelligence on their teams and organizations, they need to start looking seriously instead of concentrating first on the ideal vision. This reverses the sequence of reflection and self-discovery, as it was at an individual level (Goleman, 2008). Several studies (Barnett, 2004; Morris, 2002) show that the only problem is insufficient trust in those who lead and in some companies, there is even an organizational discrepancy between customers, employees, and leaders.

Because of incompetence and mediocrity, managers fail to create a consensus between these levels and all this results from the way managers look at their employees.

We consider that one of the most relevant differences between a company with high performances and those with lower performances lies in the functioning of the ecosystem man, organization, community, which highlights the contribution of professional life to improving the lives of others in the community. No matter what the future of today's organizations will be, the progress of the modern world cannot be seen without the concept of freedom and equality. Modern organizations have largely succeeded in balancing work, material gain and creativity (Bejinaru, 2017; Drucker, 2000; George, 2003; Hage, 1999).

Armstrong and Stephens (2008) outlined the contrasting leadership styles as charismatic or non-charismatic, autocratic or democratic, enabler or controller, and transactional or transformational. As Armstrong and Stephens (2008) explained, charismatic leaders, rely on their personality and inspirational qualities, the non-charismatic leaders, mainly rely on their know-how. Autocratic leaders also impose their decisions on others by using their positions, while the democratic leader encourages people to participate in decision making. Similarly, the leader who is an enabler inspires people with a vision of the future and empowers them to achieve goals, and the controller leader manipulates people to obtain their compliance. The transactional leader exchanges money, jobs, and security for compliance while the transformational leader motivates people to work towards greater-level objectives (Armstrong & Stephens, 2008).

Over time, specialists have analyzed the causes of failure at the top of organizations, focusing on the psychological side, referring to executives and the features of their failure or success. Also, the economic side was also considered by analyzing the economic and financial performance indicators, defining a set of methods and processes that ensure success. Among the different perspectives on the causes of failure at the top of organizations, we recall (Morris, 2002): -the inability to form and maintain a team together, arrogance, differentiation from others, desire to be at the center of attention, manipulation, and desire to please are just a few factors leading to failure; -lack of continuous improvement; when a manager thinks he is performing better than he is, his leadership potential is greatly affected. As a conclusion, it can be said that management is a process of personal development and self-knowledge. Failure stems from the inability to manage your own ego in superiority, which prevents others from affirming.

The difference between performing and mediocre organizations is given by the long-term business priorities, and building and maintaining efficient and trustworthy management teams. In other words, the difference is not given by personal skills or traits, but by the values and motivations for achieving the organizational ideal. The organization of the future is based on flexibility, it is committed to acting, adapting and changing according to the changes that take place in its environment. Flexibility must become an integral part of organizational culture. Organizations need to adapt to the requirements of the external environment and be prepared to meet all customer needs (Drucker, 2000). Specialists describe the organization of the future as an organization that teaches and promotes and pursues the development of human resources (Harrington-Mackin, 2002). For leaders to be effective in the future, it is imperative that they are perceived by the subordinates as credible. Overall, human capital can be

developed through organizational credibility. The permanent success of some companies is due largely to the culture they have. Culture is the one that influences the employee's individual performance and decisions: to stay or leave the company.

Leader or manager?

One of the questions that emerges today is: How can leaders succeed in adapting their behavior and demonstrate the flexibility they need to meet the challenges of future organizations? (Goleman, 2018) Leadership complements management does not replace it (Kotter, 2008). Most companies seek to have leaders at all organizational levels, and the recruitment and selection process is centered on leadership skills. To these two elements, namely management and leadership that ensure the success of companies, there is also added entrepreneurship that has remarkable effects on the performance of a business. The reality shows that companies that manage to achieve significant performance and sustainable organizational development currently have well-developed leadership in all three categories of practice (management, leadership, and entrepreneurship) (Reardon et al., 1998).

Nowadays, in leading organizations leaders are primarily and most of all managers. There are seven key roles of the manager, which acknowledgment can help managers become fully aware of their leadership potential (Tracy, 2018).

1. Planning is the process of accurately determining the objectives to be achieved in perspective. An efficient manager must: -write down all the things he thinks, each goal of the identified goals, and implicitly the steps to be taken to reach them; -be aware of the evolution of things, including the financial situation; -determine the true measure of planning ability for the plan to lead to the desired performance;
2. Organization: is the process of coordinating human resources to achieve the goals. A manager who meets leadership needs to: -make a list to help him implement the plan and finalize it within budget limits; -organize things identified in sequential order and priority; - accept and assign responsibilities for each identified task or activity.
3. Choosing the staff: is the process of attracting and retaining the human resource that has the necessary skills to carry out the plan and achieve the desired results. In this sense, the ability to attract and motivate performers leads to success in leadership. Therefore, a leading manager must: -select the right people, invest time and effort to make effective employment; -analyze vacancies' responsibilities in order to know exactly what additional features a person should have for the post; -to conduct effective interviews to find out relevant details about the job's previous performance and his / her greatest achievements in the professional field.
4. Delegation of tasks: is the ability to identify the right person for the right function. Therefore, a competent manager must: -analyze carefully the tasks, and think exactly the result he wants to achieve; -establish performance standards that lead to the proper performance of tasks; -choose the right person, capable of performing delegated tasks; -to clearly explain to employees what they need to do to achieve the desired results.
5. Surveillance of the execution of the tasks: is the process by which the manager can be sure that the tasks are resolved on time and within the allocated budget. A manager who has leadership qualities must: -plan the work to ensure that the most efficient resources are used; -define performance so that employees can recognize and work to achieve it; -be friendly with the staff, give them time and be respectful with them; -to manage human resources just as they would like their own contribution to be managed in the reverse situation.

6. Evaluation: consists in establishing an appropriate system of indicators for each component of the work. In this respect, the Lead Manager must: -establish numerical indicators by which the quality of the desired results can be measured; -check on a daily basis how employees are approaching the achievement of indicators that quantify individual performance; -give rewards, bonuses and promote according to the achievement of indicators defining performance.

7. Reporting: consists in constantly informing the human resource involved in achieving the objectives. Therefore an efficient manager must: -manage human resources at all levels, including relationships with superiors; -to inform all employees about the issues that define their work, to organize weekly meetings to ensure that employees are well informed; -choose a suitable means of communication; -establish an information reporting program, encourage employees to ask questions and ensure that employees understand the message correctly; -have persuasion skills and make people around him feel important. The best leaders know everything about their own companies, the competitive customers and the business environment in which they work; are deeply involved in business and know how to identify the most effective solutions that define performance (Sousa & Moco, 2017).

The manager is the most important factor in motivating an employee to have exceptional achievements. All that a manager needs to do to make it possible is to be good, modest, with proper motivation, have principles and values and have ideals to build something valuable. Therefore, all who are or will become managers must understand that people work with pleasure if there is a quality relationship with their manager and whether the organization is defined by correct rules and rules with realistic goals. All managers should be aware that the main cause of employee dissatisfaction is the "incompetent manager", mediocrity and self-confidence by showing that he is superior and arrogant. This only leads to the blocking of professional development and of self, but also of the whole organization (Yukl, 1998).

There are a lot of leadership models that emphasize different skills and competences. Leadership involves a very complex set of interpersonal, technical and intellectual skills. A leader may also need leadership training to form a wider picture of the issues on which his success depends (Drucker, 2000). The following profiles are just an attempt to break down the multiple aspects of leadership into a more basic, accessible, and easy-to-understand range of skills. These profiles can provide a starting point in the discussions with the client, indicating to the two interlocutors what leadership issues should be addressed and improved (Koestenbaum, 2006). Burns (2003) presented, on the basis of analyzes made previously by Max Weber, the difference between transactional leadership and transformational leadership. He found that if transactional leadership is represented by bureaucracy and money-making work, in contrast, transformational leadership is based on charismatic leaders and convincing by their attitude towards collaboration.

The approach proposed by Hersey (2009) shows that effective leaders are able to adapt their leadership styles. The main criterion leaders follow in adapting their style is, in this model, the maturity of the followers. This maturity is given by two criteria: the ability to accomplish the tasks and the confidence that they will succeed. This theory was formulated in 1969 and did not escape criticism, some authors questioning the clarity of the concept of maturity of subordinates. However, we must not lose sight of the fact

that the theory of the two authors opened the way for a better surprise of leadership and group relations in the act of leadership. The theory also emphasizes that the leader's sacrifice is to create favorable conditions for subordinates to increase their maturity. Following we shall provide a brief description of the four leadership styles. *Delegating style* - which allows the group to make decisions on tasks, it is a style of behavior that emphasizes both the task and the human relationships. *Participatory style* - the leader transmits ideas and makes decisions about the direction of tasks, this is a style with a low emphasis on task and a great emphasis on interpersonal relationships. *Sales agent style* - implies that the leader explains the tasks in a convincing way and supports the employees, it is a style with an important emphasis on the task and on the inter-human relations. *Ordinal (imperative) style* - involves the transmission of tasks; this is a style in which the realization of the task is important, while the less human relationships. The leader's work is to solve the complex problems and to achieve the change, influencing the specific activities (Hersey, 2009).

The leader, however valuable and experienced, cannot personally include all the activities that the organization is currently running. In fact, as the practice of leadership proves, the performance leaders are competent people, with a strong personality and proven skills, with skills and habits specific to joint work. Behind a decent man - says a Chinese proverb, there are always other decent people. This is one of the explanations for achieving remarkable results by leaders: building a homogeneous team, deeply and consistently involved in the major issues of the organization (Bejinaru, 2010).

Conclusions

The complex issue of leadership has been a point of interest for more than a century, with specialists wishing to find out who they are capable of impressing their organizations and influencing their important activities. Leadership targets group work and team creation. Groups tend to have leaders, and leaders strive to create groups. In fact, if a person takes up a manager position, he is considered the leader only when his position is received as such by those who work with him in the company. Adair, shows that the concept of leadership can be explained by three needs of the working group: (1) to carry out a common task, (2) to manifest and function as a team and (3) to manifest as an individual.

Organizations require teams to set and then achieve their goals so that they can achieve their own goals. An increasingly widespread phenomenon is the use of multifunctional teams that bring together individuals from different teams to improve communication and decision-making. Organizations require teams to be agents of renewal, change, and even revolution. In order to change organizational goals and strategies, a team must have a clear plan of what it intends to achieve, and the plan must be articulated clearly and coherently, it must be flexible in terms of the opinions of others. In the case of teams, perseverance and participation are essential, but organizational conflict may also arise, in some cases the promotion of organizational change. The performance of virtual teams depends on a number of factors that are influenced by technology, such as the quality of communication relationships, task planning and group projects, coordination, development of a common understanding of the task, trust, team commitment and satisfaction, team identity development and conflict management.

Forming and asking teams to solve the core tasks of the organization proves essential in promoting a modern leadership. Today teamwork is increasingly seen as a major requirement for effective leadership as "leadership involves the team" (Kostenbaum, 2006). Finally, the leader must have a special ability to combine aggressive personal ambition, independence of thought and individual ingenuity with always cooperative thinking, communication, caring for others, joint efforts, people's motivation, desire to develop, and evaluation of the help given by each individual.

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KNOWLEDGE AND INFORMATION MANAGEMENT AND SHARING IMPACT ON COMPETITIVE ADVANTAGE

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Abstract. *The purpose of this research is to test the existence of a relation between knowledge and information management in competitive advantage and innovation. Using a questionnaire, we collected 209 responses from different types of organizations. This questionnaire allowed us to test the proposed conceptual model that analyzes the relationship between the competent ones of a knowledge management system: processes, human capital and information systems and the information sharing practices, knowledge acquisition and identification practices and information and knowledge storage practices, and the process of creating innovation and competitive advantage. The results did not confirm most of the assumptions tested, nor did the knowledge management practices statistically reveal a relationship with the creation of innovation and with the creation of competitive advantages. However, there was a significant statistical relationship between process factors, human capital factor, innovation and the creation of competitive advantages.*

Keywords: *knowledge management; information; innovation; competitive advantage.*

Introduction

This study deals with knowledge management in organizations. Nowadays, society tends to rely on knowledge and information sharing to create value for organizations (Grant, 1996). Through knowledge and information sharing, organizations become more competitive, not only by reducing costs but also by optimizing capabilities and resources in the production of products or services. Thus, organizations will be responsible for building models for the management of all the information and knowledge they have, which will need specific management (Grant, 1996). In Drucker's (1985) opinion, knowledge is the unique base that companies use to build competitive advantage. Firms should "adapt and update their knowledge to maintain their competitive advantage" (Liao et al., 2017, p.1432).

One of the purposes of this work is to analyze the processes used by companies to promote the exchange of information and the creation of knowledge and value for the

organization. Therefore, the main goal is to understand the importance of information and knowledge shared in the organization in order to create innovation and competitive advantage.

Literature review

Currently, the opinions regarding the emergence of the vision of a knowledge-based enterprise development are consensual, agreeing that it is a fundamental strategic asset (Grant, 1996). If previously the company's wealth was strongly associated with tangible factors such as financial capital and physical structures, nowadays the main source of wealth and competitiveness seems to be knowledge. As Tsai (2001, 1003) claims, "An organization is a repository of knowledge". In the same vein, Argote and Ingram (2000) talk about reservoirs, because companies keep knowledge for future use. Knowledge management involves maximizing and leveraging the potential of the organization's human resources (Ponchirolli & Fialho, 2005).

Knowledge management is a systematic process that generates information, data and new knowledge so that it might be organized and used in the most correct way by companies. Only this process brings knowledge to the right people at the right time, this time will be needed for taking better decisions and to find better resolutions for recurring problems in the company's activity (Allameh, Abedini & Ahmad, 2012).

According to Maier (2007), the main goals of knowledge management are to provide cost reduction; improvement in communication and in external knowledge acquisition, cooperation and distribution. It also increases productivity; as well as the speed of innovation; and the new business development - this way reducing the risks taken by the company, (i.e. improving the ability to react according to the constant change in markets and the loss of valuable knowledge for the company. Consequently, improving stakeholder satisfaction, improving the quality of services and, when appropriate, improving response time (Santos, 2011). There is, therefore, a close relationship between knowledge management and competitive advantage (Hamel, 2002) and between this and innovation.

Knowledge management

The process of knowledge management and sharing is the result of a context that facilitates the creation and dissemination of this knowledge (Nonaka, 1994; Davenport & Prusak, 1998).

A knowledge and information management system is a set of procedures that aim to collect, create, absorb, use and distribute information and knowledge, which leads to the creation/improvement of the learning process in an organization. Tsai note that it is not only about absorbing knowledge, but gaining knowledge access (Tsai, 2001). In fact, "[i]n order to prevent imitation or duplication by competitors, most enterprises generally acquire new knowledge from a unit outside the organization or learn new knowledge introduced from a unit outside the organization and then integrate the new knowledge in order to develop knowledge that belongs exclusively to the organization" (Liao et al., 2017, p.1432), in a multiunit organizations, other units can be a source of new knowledge too (Tsai, 2001).

The management and sharing of knowledge are based on three fundamental dimensions: people, processes, and systems. Knowledge management and sharing lead to the creation of knowledge, which in turn creates innovation, altering existing processes and creating organizational competitiveness.

Identification and acquisition of knowledge

According to Rollet (2003), the knowledge identification process is based on the planning and constant monitoring of knowledge and information management initiatives.

Organizations tend to focus on the past and present in terms of knowledge management, which is a frequent mistake (Fahey & Prusak, 2004). The most correct posture is to direct and prepare the position of the organization for the future. According to Rollet (2003), the process of knowledge management allows the organization to have an orientation towards the achievement of its strategic goals, which contributes to the incensement of organizational competitiveness. "Through the acquirement of new knowledge and the updating of existing knowledge, an organization can have better learning and innovation performance and thus develop a sustainable competitive advantage" (Liao et al., 2017, p.1432).

Davenport (1994) refers to the importance of determining the information and knowledge needs by a company, and Mcgee and Prusak (1994) point out the importance of the organization's perception of information and knowledge necessities in order to make the organization competitive. As Bierly et al (2000, in Bou-Llugar & Segarra-Ciprés, 2006, p.101) defend "Success does not necessarily go to the firms that know the most, but to the firms that can make the best use of what they know and know what is strategically most important to the firm".

It is important to bear in mind the relevance of knowledge identification in an organization, as well as its retention, capture, and analysis (Probst, Raub & Romhart, 2002). The same authors consider that external knowledge can be acquired through relationships with clients, by competing with other companies, suppliers, and others. It is important to note that information and knowledge can also be obtained internally.

H1: There is a positive relation between the practices of identification and acquisition of knowledge and knowledge management practices.

H2: There is a positive relation between the practices of identification and acquisition of knowledge and innovation.

H3: There is a positive relation between the practices of identification and acquisition of knowledge and organizational competitiveness

Innovation and competitive advantages

Knowledge creation and sharing influence innovation leads to competitive advantage (Mcadam, 2000). Internalization by the organization's tacit and explicit knowledge produces new knowledge that leads to constant organizational learning, and this leads to innovation that gives the organization a sustainable competitive advantage (Meso & Smith, 2000).

There are, therefore, conditions to foster knowledge creation such as the existence of a climate of innovation within the organization (Nonaka & Takeuchi, 1994), this factor will encourage the generation of a set of organizationally sustainable competitive advantages. Obtaining information and knowledge through internal and external means is a source of competitive advantages (Davenport, 1994).

H4: There is a positive relation between innovation and competitive advantages.

Retention of knowledge

Retention of knowledge is related to the integration of internal and external knowledge in the organization, avoiding the loss of knowledge (Rollet, 2003). The competitive edge in knowledge retention process, according to Birkinshaw and Sheehan (2002), comes through the organization's ability to access information and knowledge also in qualitative terms, increasing the failure of competitors trying to copy it. For these authors, gains will also be achieved in terms of organizational competitiveness.

The retention of knowledge to Probst, Raub, and Romhart (2002) depends on the retention of knowledge by identifying through documents, information and most important experiences observed in the environment of the organization. McGee and Prusak (1994) report also the importance of storage, classification, and authentication of information and knowledge. So, this must be inserted in the organization's production process, so that it can be superior to its competitors and gain competitiveness and competitive advantages.

H5: There is a positive relation between the practice of storing information and knowledge in the organization and its organizational competitiveness.

H6: There is a positive relation between the practice of storing information and knowledge in the organization and innovation.

H7: There is a positive relation between the practice of storing information and knowledge in the organization and knowledge management practices.

Sharing of Knowledge and Information

Knowledge sharing processes are important to increase the exchange of knowledge and information among members of the same organization (Rollet, 2003). Knowledge sharing has a positive effect on the creation of innovation which will expand to organizational competitiveness. Macgee and Prusak (1994) consider essential the treatment and dissemination of knowledge and information, in order to homogenize the treatment of knowledge and information according to the needs of the recipients.

Davenport (1994) refers to the importance of sharing information and knowledge according to organizational needs. McGee and Prusak (1994) point out the importance of elaborating strategies to capture, treat and share knowledge to satisfy organizational needs, as well as highlight the importance of analyzing, distributing and disseminating information, sharing it and also sharing knowledge according to the organizational needs of the company and the members of the same organization and use of it as support for the decision-making process.

This process leads to the transformation of something that is isolated, such as information or knowledge, into something that the organization can use in the productive process and as a source of value creation and competitiveness (Probst, Raub & Romhart, 2002).

H8: There is a positive relation between knowledge sharing practices and information and organizational competitiveness.

H9: There is a positive relation between knowledge sharing and information practices and knowledge management practices.

H10: There is a positive relation between knowledge sharing and information sharing practices and the creation of innovation.

Knowledge management, innovation, and competitive advantages

There is a set of the complex relation between knowledge management and the creation of competitive advantages by the organization.

If there is a knowledge management system in an organization, this system will allow a competitive advantage to be obtained by the organization, through the identification of threats to the organization, reduction of reaction times and through an improvement of the process strategic planning and analysis, there is support for the decision-making process and promotion of innovation and creation of new products (Davenport, 1995; Meso & Smith, 2000; Nokata & Takeuchi, 1997). There is also the advantage of perceiving market trends in a proactive way - this capacity will implement a value creation strategy for the organization and for the customers, but will not be used by competitors, because of the fact that it is difficult to imitate.

According to Edwards (2011), knowledge management results from the relation between three factors: people, processes, and technology. Correct process management is essential for effective knowledge and information management.

H11: There is a positive relation between knowledge management practices and innovation.

H12: There is a positive relation between knowledge management practices and competitive advantages.

H13: The process factor positively influences the competitive advantage of the organization.

H14: Process factor influences positively the creation of Innovation.

H15: The process factor influences positively knowledge management practices.

H16: The human capital influences positively the organization's competitive advantage.

H17: The human capital actor influences positively the creation of innovation.

H18: The human capital actor influences positively knowledge management practices.

H19: The technological systems actor influences positively the competitive advantage of the organization.

H20: The technological systems actor influences positively the creation of innovation.

H21: The technological system influences positively knowledge management practices.

Hence presents the proposed model (Figure 1) which seeks to answer the research question – Is internal diffusion knowledge and information in organizations a factor of creation of competitiveness organization?

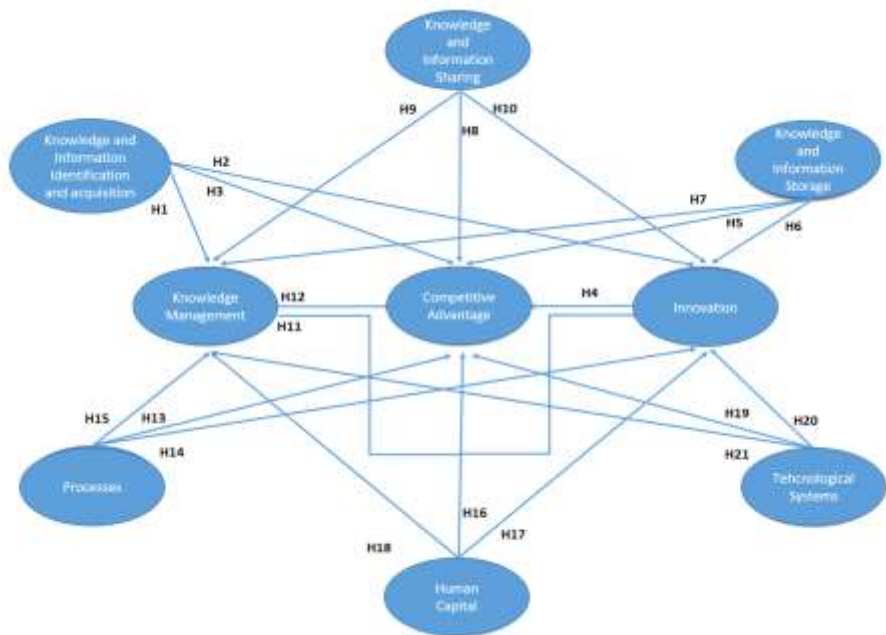


Figure 1 - Knowledge Practices and Competitive Advantage

Research methodology

Table 1 - Structure of the Questionnaire

QUESTIONS	Subgroup	
8	Firm characterization	
4 – Likert Scale	Knowledge Management - PGC	MacGee and Prusak (1994)
10 – Likert Scale	Knowledge identification and acquisition - PAIC	Davenport (1995)
9 – Likert Scale	Processes – FP	Fonseca (2006)
8 – Likert Scale	Human Capital - CH	Probst, Raub and Rombart (2002)
5 – Likert Scale	Technological Systems - FST	Fonseca (2000)
6 – Likert Scale	Knowledge and acquisition Storage - PARIC	Edwards (2011) MacGee and Prusak (1994)
6 – Likert Scale	Knowledge and Information Sharing - PPCI	Davenport (1995)
3 – Likert Scale 4 – Likert Scale	Competitive Advantages - VC	Sigalas (2013) Own elaboration
9 – Likert Scale	Innovativeness - I	Uzkurt, Kumar, Kimzan an Sert (2012)

We opted for Structural Equation Modeling (SEM), Zwickler, Souza and Bido (2008) reporting that the SEM is a set of instruments that allows the combination of a structural model and a measurement model, both being evaluated simultaneously.

Results

There were 327 responses, 209 valid answers, all answered by members of the organizations that participated in the decision-making process.

In terms of company size, in the sample 19.1% of the organizations, it had more than 250 employees; 21.8% of the responses between 51 and 250, and the majority (59.1%) less than 50; most companies (39.1%) had a turnover lower than 2,000,000€, 28,2% between 2,000,000 € and 10,000,000 €, 15% between 10,000,000 € and 50,000,000 € and 17,7% with a value of more than 50,000,000 €. We found that most businesses are SMEs.

36.8% of the companies belong to the manufacturing industry, 12.3% for scientific and technical consulting activities, 9.5% for financial activities and insurance, 9.1% wholesale and retail trade; 8.6% in other services activities, 5.9% in construction, and 17.80% in other sectors of activity.

Measure model validation

Table 2 – Confirmatory Factorial Analysis

	Alfa de Cronbach	CR	AVE
PGC			
VC	0,919	0,935	0,675
PIAC	0,921	0,934	0,591
FP	0,923	0,937	0,623
FCH	0,918	0,933	0,635
FST	0,933	0,952	0,832
PARIC	0,873	0,904	0,615
PPCI	0,957	0,965	0,823
I	0,904	0,922	0,575

To validate the model, we calculated Cronbach's alpha, CR, AVE, and R2. The PGC construct was not subjected to these tests because it is a formative variable. All scales have indicators above the required.

Interpretation and discussion

The estimation was done through the Bootstrapping calculation, due to this calculation; we obtain a large set of random subsamples, resulting from an original data set, which supports the PLS model, allowing the same statistical significance of the variables (Hair Jr., Hult, Ringle & Sarstedt, 2016).

Table 3 – Bootstrapping Results

H1-There is a positive relation between the practices of identification and acquisition of knowledge and knowledge management practices	pvalue=0,000 T=3,607 Not Rejected (5%)
H2-There is a positive relation between the practices of identification and acquisition of knowledge and innovation	pvalue=0,128 T=1,526 Rejected
H3-There is a positive relation between the practices of identification and acquisition of knowledge and organizational competitiveness	pvalue = 0,752 T=0,316 Rejected
H4-There is a positive relation between innovation and competitive advantages	pvalue=0,000 T=5,030 Not Rejected (5%)
H5-There is a positive relation between the practice of storing information and knowledge in the organization and its organizational competitiveness	pvalue=0,324 T=0,988 Rejected
H6-There is a positive relation between the practice of storing information and knowledge in the organization and innovation	pvalue=0,037 T=2,093 Not Rejected (5%)
H7-There is a positive relation between the practice of storing information and knowledge in the organization and knowledge management practices	pvalue=0,226 T=1,213 Rejected
H8-There is a positive relation between knowledge sharing practices and information and organizational competitiveness	pvalue=0,968 T=0,040 Rejected
H9-There is a positive relation between knowledge sharing and information practices and knowledge management practices	pvalue=0,686 T=0,404 Rejected
H10-There is a positive relation between knowledge sharing and information sharing practices and the creation of innovation.	pvalue=0,123 T=1,546 Rejected
H11-There is a positive relation between knowledge management practices and innovation	pvalue=0,730 T=0,345 Rejected
H12-There is a positive relation between knowledge management practices and competitive advantages	pvalue=0,628 T=0,485 Rejected
H13-The process factor positively influences the competitive advantage of the organization	pvalue=0,037 T=2,087 Not Rejected (5%)
H14-Process factor influences positively the creation of Innovation	pvalue=0,513 T=0,654 Rejected
H15-The process factor influences positively knowledge management practices	pvalue=0,021 T=2,318 Not Rejected (5%)
H16-The human capital positively influences the organization's competitive advantage	pvalue=0,004 T=2,902 Not Rejected (5%)
H17-The human capital actor positively influences the creation of innovation	pvalue=0,216 T=1,238 Rejected
H18-The human capital actor positively influences knowledge management practices	pvalue=0,790 T=0,266 Rejected

H19-The technological systems actor positively influences the competitive advantage of the organization	pvalue=0,794 T=0,261 Rejected
H20-The technological systems actor positively influences the creation of innovation	pvalue=0,677 T=0,417 Rejected
H21-The technological system positively influences knowledge management practices	pvalue=0,944 T=0,07 Rejected

Taking into account the values obtained in T-Statistics and P-Value, it is verified that only the hypotheses H1, H4, H6, H13, H15, and H16 are statistically relevant, i.e. those with T-Statistics values greater than 1.96, in the same way, the P-value is less than 0.05.

Using the literature studied, it would be expected that knowledge management practices would have an influence on innovation and, directly or indirectly, on competitive advantage. But these were not found in this study. Meso and Smith (2000) consider that an organizational system of knowledge management is the result of the interaction between technological infrastructure, organizational infrastructure, corporate culture tacit knowledge, explicit and people. They also consider that the practices of knowledge management create new knowledge that leads to innovation and the consequent creation of competitive advantage on the organization part.

The effect of the human capital factor on innovation is also not statistically significant. Although human capital is referred in the literature as the main factor contributing to innovation, in practice we have verified that the relation between knowledge sharing and information practices and the relation between the human capital factor and innovation is not statistically significant. So, as there is no sharing of knowledge and information, it is perfectly normal and consistent with the literature, that human capital does not have a significant effect on innovation. Moreover, knowledge sharing implies codification, transforming tacit knowledge into explicit knowledge, which is easier to imitate and more difficult to protect (Bou-Llusar & Segarra-Ciprés, 2006).

The human capital factor and the process factor have a statistically significant effect on the competitive advantage; however, the technological systems factor has no statistical impact on the competitive advantage of the organization. One possible explanation for this fact is that advances in the field of technology in organizations might provide competitive advantages to that certain organization. Due to this, the advantage can be reduced or eliminated as systems can be easily replicated even when protected by copyright, patents, and licenses. Meso and Smith (2000) report that competitive advantage becomes sustainable when current and potential competitors are unable to imitate the strategy and resources of the company that holds the same competitive advantage. However, information systems can be easily imitated and improved and, for that reason, they will not constitute a sustained source of comparative advantage. In opposition to the human capital, that is inimitable and carries unique characteristics.

We can infer from the obtained results that the process factor works as an inter-mechanism between the knowledge management practice and the competitive advantage - this conclusion is consistent with the literature regarding this subject.

In fact, Edwards (2011) considers that the organization should give greater relevance to the process factor, since this represents the way in which the organization and people give use to the technological factors, both being essential for the process of knowledge management and, consequently, for the process of creation of competitive advantages.

Information storage practices have a statistical influence on the competitive advantages of organizations, albeit through their influence on innovation. Edwards (2011) states that the human capital factor and the process factor have a direct impact on the competitive advantages, being supported by repositories or by the existing knowledge systems in the organization. Following the same order of ideas, Mcgee and Prusak (1994) mention the importance of storing, classifying and authenticating information and knowledge. According to this, it should be inserted into the production process of the organization, in order to be able to excel before their competitors and increase the competitiveness of the company and their competitive advantages. In this study, this relation is not presented directly as in the sample selected for the study, the practices of information and knowledge storage do not have a statistically significant effect directly on the competitive advantages, but have, on the other hand, a statistically proven effect in the variable innovation.

Knowledge is worked and transformed into material available in printed material or knowledge bases, which have a positive effect on the creation of innovation, supporting the statistically significant relation between practices of information and knowledge storage and innovation. It is relevant the direct statistical proven influence that human capital has on the competitive advantages of an organization which comes in line with Edwards opinion (2011). The OKA model (2006) claims the importance of human capital is a more qualified learning process, based on training and providing knowledge and information with the purpose of improving the company's performance

It is to consider that the factors process and the identification of practices and knowledge acquisition have a statistically significant influence in the practice variable knowledge management and this correlation confirms what was already expected. For Davenport (1995), information and knowledge management are defined as a set of structured activities that include how companies can obtain, distribute and use information and knowledge.

It should be admitted that, in most organizations, only people and technology stand out, excluding other factors of extreme importance (Edwards, 2011). It is necessary to keep in mind that the process is the way in which organization inserted people use the technology with relevance in the practices of knowledge management. Argote and Ingram (2000, p.164) note that "people play the most critical role in the success of technology transfer. The unequivocal contribution is proven by the statistical significance of the hypothesis that relates these two variables (factor processes and practices of knowledge management).

Conclusions

The purpose of this study was to understand if there was an effective relationship between knowledge management practices and information and the creation of competitive advantages by organizations.

The results of this study do not confirm that, in general, knowledge management components have a positive effect on innovation and competitive advantage. Only the variables human capital factor, process factor and innovation have a statistically significant relation with the creation of competitive advantages. This reinforces the idea that "human may be the most difficult to imitate" (DeNisi, Hitt & Jackson, 2003, p.4). As far as innovation is concerned, only the practices of storing information and knowledge in the organization have a statistically significant influence in this factor. Through the process of knowledge and information storage practices, we classify the type of knowledge and information that the organization holds and where it is located in order to manage, organize and integrate it. This type of tool supports the strategic decision of a company, transforming data into information and knowledge, leading to the creation of innovation and comparative advantages, according to Choo (2006). This author states that in an organization, the storage of the information captured and created in files and databases through different information systems will facilitate the sharing of knowledge retrieval and information relevant to it.

The process factor is important since it constitutes the bridge between human capital and technology.

To point out the positive effect that human capital factor has in competitive advantage should theoretically be the most important thing in the process of knowledge management, being the largest source of knowledge and information within an organization. However, this hypothesis was not confirmed statistically. The valuation of the human resources of an organization is a propelling factor in the creation of organizational competitiveness, in such a way that it provides the human resources with greater information and knowledge to perform their functions and to create added value to the organization they are part of

Another conclusion of the study is that innovation is a factor propelling the creation of the competitive advantages process. In the model created, the knowledge management practices, which are a mediator variable, have a direct relation with the creation of innovation which, in return, has a direct relation with the creation of competitive advantages. Despite the fact that the relation between knowledge management practices and the creation of innovation, or the relation between knowledge management practices and the creation of competitive advantages, have not been statistically proven.

Based on this study, organizations should invest in the developing of their knowledge management systems, as well as an appreciation of its employees by encouraging training, learning, personal and professional development and integration reviewer on the process of creating new knowledge. Only after completing this process, the organization is capable of differentiating itself from competitors, by creating new products and services and by improving existing ones resulting from the organizational innovation process.

Thus, creating new processes, new technologies and a growing improvement in the skills and qualifications of the human resources is not enough to support the process of creating knowledge and information. It is essential to implement an organizational culture that fosters the storage and the sharing of knowledge and information. Since knowledge and information are increasingly seen as a valuable resource for organizations and for all the economy, the potential for knowledge and information enhance and creation is virtually unlimited.

The present study presents some limitations that limit the obtained results. That way, it is suggested as pertinent in future investigations to improve the method of collection and measurement of data, as well as to increase the size of the sample. Another limitation to be pointed out is related to the variables of the proposed conceptual model, as this is a very complex issue other variables must be included and study.

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AWARENESS CREATION ON E-BANKING FRAUD PREVENTION: A KNOWLEDGE MANAGEMENT PERSPECTIVE FOR E-SECURITY AND CUSTOMER RELATIONSHIP BUILDING

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Abstract: *E-banking, also known as electronic or Internet banking, has become a prevalent mode for online and internet-based transactions. However, modern databases, online information and knowledge sharing, and increased access points for e-banking transactions opened opportunities for sophisticated fraudsters to perpetrate and abuse customers in their social, cyber and physical worlds. The intensification in cases of fraud presents tremendous challenges for the banking sector to caution, educate and inform customers on cybercrime because it reflects the synthetic and integrative use of the interaction between resources which include the fraudster's intelligence abuse in the social world, the abuse of knowledge resources and technology in the cyber world and the abuse of resources and trading tools in the physical world. Most studies focus on the detection of fraud patterns through tapping in data warehouses of third-party or by using data mining programs to identify fraud patterns, specifically credit cards, computer intrusion and mobile communication or first-party fraud when a legitimate customer knowingly betrays the bank. This study focuses on the prevention of fraud that falls into two main categories, namely: phishing/vishing/SMishing and malware practices (any activity of payment fraud where fraudsters gain access and uses customer' accounts for their own unlawful financial benefit); and identity theft (gaining access to or opening new accounts in the customer's name). The main premises of the research problem are built on the fact that a lack of studies exists to investigate the use of proactive communication through the three typologies of knowledge management to create awareness and educate customers on e-security measures and prevention of e-banking fraud where the move towards (co)liability should not impede but enhance customer relationship building. The research is conducted through a qualitative research methodology and the subject under study was the website of the South African Banking Risk Information Centre (SABRIC) purposefully sampled. The three concurrent cyclical flow of activity of the data analysis interactive model was used in the research. An abductive approach was used to report on the findings based on descriptions and interpretive comments relating it to and drawing on the theoretical thrusts identified. Main findings suggest, inter alia, the importance to proactively educate customers on how to protect themselves before they fall, victim, the importance of visibility on security measures, methods and standards for e-banking, and the move towards a (co)liability policy and shared responsibility process.*

Keywords: *Knowledge management; knowledge sharing; e-banking security; fraudulent e-banking transactions; customer relationships.*

Introduction

Despite the continuous efforts of the financial industry to increase consumer awareness on fraudulent e-banking transactions, the dominating lack of clarity about when precisely clients have acted negligently by denying to refund them has become problematic, which can lead to a demand for better e-security to ensure customer relationship building. According to Mhamane and Lobo (2012), e-banking has become a prevalent mode for both online and Internet-based transactions resulting in an intensification in cases of fraud associated with it. It provides fraudsters with more opportunities to attack customers, especially because they are not physically present to authenticate transactions and might even facilitate organized attacks (Barker, 2016). The results of a study conducted by Carminati et al. (2015, p.176) highlighted the significant growth of e-banking frauds, fueled by the underground economy of malware. According to them, Internet banking frauds are difficult to detect because the fraudulent behavior is dynamic, spread across different customer profiles and is dispersed in large and highly imbalanced datasets (e.g. weblogs, transaction logs, spending profiles). These results set the scene for this study to investigate the need for proactive communication and education of customers to create awareness on the prevention of fraudulent e-banking transactions through knowledge management (KM) and knowledge sharing to caution and inform them on the move towards (co)liability in cases of neglect. The dynamics of e-banking transactions in a virtual environment is not a narrow issue that only applies to online communication. Although recent research focuses strongly on fraud detection measures and patents (Leite et al., 2018, p.333), limited research is conducted on fraud prevention. Consequently, the purpose of this study is to test a conceptual framework developed from a combination of different viewpoints to identify and discover different types of frauds and to examine how Africa's trusted financial crime risk information center leveraging on strategic partnerships used their website as one way for fraud prevention by conveying information following fraudulent e-banking transactions. to proactively manage and/or prevent customers to fall victims to these fraudulent actions. Specifically, the study focuses on the way in which KM, through change agents or communication 'experts', can create a positive effect towards e-banking transactions through the control of messages in fraud prevention. For the purpose of this study "fraud prevention describes the security measures to avoid unauthorized individuals from initiating a transaction on an account for which they are not authorized" (Kovach & Ruggiero, 2011, p.166).

The paper is structured as follows. Firstly, a synopsis of the theoretical underpinning based on an extensive literature review is presented with a specific focus on fraudulent e-banking transactions, customer (co)liability, e-security and customer relationship building. Secondly, the theoretical research framework is proposed. Thirdly, the methodology, data analysis, and results are presented. Finally, a discussion of the main results based on the knowledge management typologies which can be used to manage and control fraud prevention are described.

Key concepts

For application purposes, the key concepts of interest to this study are as follows:

Fraudulent e-banking transactions

Fraudulent e-banking transactions are among the most money-spinning types of cybercrime today. According to Van der Meulen (2013, p.713), "the increased sophistication of attacks has complicated prevention and detection efforts, which in turn has allowed their success to proliferate". This has increased the financial burden on both the service providers and the customers where the latter are running increasing legal risks of being exposed to financial losses due to neglect. Although the general assumption is that customers are not liable and that banks refund the financial losses of victims of Internet or e-banking fraud, the banking industry is moving towards customer liability and/or co-reliability. Jansen and Leukfeldt (2015, p.31) emphasize the need to educate customers to avoid fraudulent schemes. According to Andrews and Boyle (2008, p.60), the main inhibiting factors for many forms of transactions which affects customer relations, are that of perceived risk, e-security, trustworthiness, and privacy, especially in Internet banking, which influences customer's perceptions and behavior to adopt or reject these offerings. Various viewpoints exist on perceived risks depending on the predefined perspectives of the researchers to reflect the particular context under examination. Because the purpose of this study is to examine the move towards (co)liability, the focus will be on proactive communication through the website on possible risks of fraudulent transactions and preventative measures. According to Edwin Agwu (2018, p.187), the main concern for banks is a reputational risk which can lead to loss of valued customers, loss of efficient employees, smeared reputation from frauds, customers might shy away to protect their own risk and loss in future cash flows. For the customer, the perceived risk defined by Sathy (1999, p.326) as "the security and reliability of transactions", is the risk of losing money through fraudulent transactions or that personal information might be misused (Drennan, Sullivan Mort & Previte, 2006). It is posited that proactive communication through knowledge sharing can negate potentially these negative risk consequences to enhance customer relationships by taking away the uncertainty for customers and banks by simultaneously making discussions on clarity and constancy obsolete.

Customer (co)liability

Due to the increase in fraudulent banking transactions, banks are starting to expect more from customers in response to years of awareness campaigns and argue that they count on a certain level of awareness that can be used as a vehicle to transfer the liability from the side of the bank to the customer. This is hampered by two concerns. Firstly, the lack of clarity about the qualification of gross negligence and care which can be open to interpretation. To address this concern, banks argue that the specificity of a warning allows for the transfer of liability to the customer. In other words, if perpetrators use a 'known' attack of which clients were warned against and are successful, then the customer acted negligently and should be liable. This leads to the second concern of consistency, causality, and reasonableness where the liability can be circumstantial (for example if any form of social engineering was absent, lines of liability not specified, the burden of proof for customers and banks, etc.). One line of liability which clients agree to in terms of use by opening and subsequently using the account is the installation of anti-software (usually provided by the bank online free of charge). In addition, ignoring the warnings of malware and phishing/vishing/SMishing by clicking on links and responding to emails and mobile communication are serious fraud threats, but the inclusion of more specific terms of use might reduce the lack of clarity and consistency

since banks will then be more transparent about their expectations. (Van der Meulen, 2013).

E-security

Yousafzai, Pallister and Foxall (2003, p.849) defines security as a threat which creates "circumstance, condition, or event with the potential to cause economic hardship to data or network resources in the form of destruction, disclosure, modification of data, denial of service, and/or fraud, waste, and abuse". In the context of e-banking, threats can be made either through network and data transaction attacks or through unauthorized access to the account by means of false or defective authentication. Perceived security then is the customers' perception of the degree of protection against these threats. Studies suggest that the greatest challenge to the e-banking sector will be to gain the trust of customers over the issues of privacy (personal information) and w-security (interception). According to them, financial institutions can build mutually valuable relationships with customers through a trust-based collaboration process. This is particularly true in the case of e-banking where there is a physical separation between the bank and the customer, circumstances are difficult to predict, and the relationships are difficult to monitor. Furthermore, websites can be counterfeited, online identities can be forged and electronic documents can be falsified. Another concern is the lack of adequate regulatory control which leads to the customers' perception that their personal information may be used without their knowledge during or after navigation. Therefore, it is argued that a trusted financial institution will take steps toward the development of institution-based trust associated with the Internet infrastructure and reducing the environmental risk associated with a focal transaction.

Customer relationship building

The Web, specifically the Internet, offers financial institutions the opportunity to build relationships with their customers and stakeholders and can be used to offer diverse information on a variety of information and services, including information on fraud, and to correct misinformation. Despite the growing importance of proactive communication on websites, the research found that websites are limited in terms of communication with customers and employees in fraud prevention, but emphasize the importance to use it as an additional means to and not replace the use of traditional media (Greer & Moreland, 2003). Although no consensus has been reached in the literature on the specific dimensions of sustainable relationships, they are generally considered as a higher order concept encompassing different inter-personal aspects (Larghi et al. 2015, p.18). More recent empirical studies suggest that sustainable customer relationships encompass qualities such as mutual trust, satisfaction, and commitment (Lages, Lages & Lages, 2005, pp.1040-1048) to address perceived risk.

Theoretical framework

The accelerated capacity of e-banking transactions and the Internet can either empower a customer or counteract the threats posed by the increasingly fragmented media landscape. One way to counteract this is to engage with customers through proactive communication and knowledge management by incorporating safety and security messages on the website to warn and reassure customers of prevalent fraudulent transactions. Authors like Gonzàles-Herrero and Smith (2008, p.145) point out that the Internet either acts as a 'trigger' caused by rumors, hacking, copycat websites, web

security breaks and all forms of cyber-terrorism/cyber crooks; or a ‘facilitator’ as an agent that accelerates messages to provide new knowledge. Consequently, it is argued that the knowledge management theory, one of the most prominent theoretical approaches to study online communication, is one way of facilitating messages for fraud prevention. One of the key discourses of the knowledge management paradigm is that embodied, tacit, implicit and narrative knowledge are important phenomena and fundamental to all human knowing (Nonaka & Takeuchi, 1995) because it allows for the transformation, sharing and processing of knowledge in four different forms: socialization, externalization, combination, and internalization (Nonaka & Takeuchi, 1995; Barker, 2016). If it is argued that the KM paradigm presents a way to proactively manage and control the messages which are acquired, transferred and assimilated to ensure that knowledge is created, distributed and shared (Nonaka & Takeuchi 1995; Lee et al., 2013).

The starting point of this study is therefore evidenced in the processes of KM as a comprehensive approach to online communication in general, and in this paper particularly with regard to proactive communication for the prevention of fraudulent e-banking transactions. A conceptual framework explains, either graphically or in narrative form, the key constructs, and variables or factors that need to be studied and the presumed interrelationship between them (Miles, Huberman & Saldanha, 2013). For the purpose of this study, a graphical conceptual framework is presented based on the current version of the researcher’s map obtained from a comprehensive literature review and the important variables identified in the qualitative research. Figure 1 proposes a conceptual theoretical framework for e-banking fraud prevention and (co)liability through proactive communication.

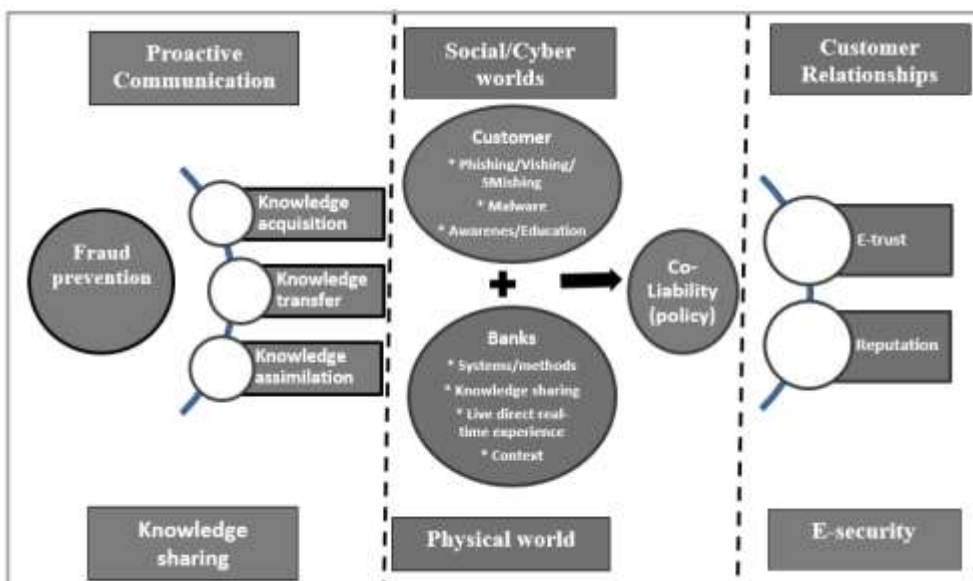


Figure1. Conceptual framework for e-banking fraud prevention and (co)liability through proactive communication

The focus in this conceptual framework is on fraud prevention using the three typologies of knowledge management to communicate with customers proactively. In this context, knowledge acquisition refers to the provision of instructing information on the website to customers when a new fraudulent action is identified and/or to remind them of existing methods and procedures. It encompasses data gathering and mining, as well as knowledge construction based on the discovering of new knowledge. Three main types of messages should be constructed: basic facts about fraud; updating of existing information and facts; and provision of new information and messages to prepare customers for what to expect and how to react to it. This is usually done through a Security Centre website and anti-fraud software pop-ups, to warn customers when they access their accounts and detailed links to cover the broad spectrum and context of fraudulent transactions. Knowledge transfer is necessary to move into creating and adjusting the communication messages by posting various messages and linking customers to websites for direct real-time interactions and by sharing information to ensure them of the safe and secure use of online transactions. Examples of possible real-time fraudulent transactions should be included on various websites and links to transfer this knowledge to the customer. Knowledge assimilation should be substantiated through the control and management of the messages in the pre, present and post stages of fraudulent actions by presenting methods and procedures to ensure safe e-banking transactions, providing informal and formal settings for interaction (for example hotlines and online links), stating company practices to address fraud and the context in which it is managed and controlled. This is usually corroborated through linking of customers to the Security Centre, Online Fraud Updates, media releases, campaigns, general security messages (formal or informal), and detailed methods, practices, and procedures to address it proactively and reactively.

From this theoretical perspective, it is argued that the knowledge management paradigm offers the opportunity to manage and control proactive communication and knowledge sharing (the convenience in assessing information through information and knowledge collection and knowledge donation) as a significant antecedent to address reputational risks and innovation performance. This is done through systems, methods, prompts, direct real-time experiences, etc. to educate, train and create awareness by customers to prevent third-party fraudulent transactions by means of these typologies through a series of messages and links to assure customers of safe and secure online transactions. It is further posited that these typologies should be used consistently and continuously to create awareness on fraudulent e-banking transactions in the social, cyber and physical worlds of both the customer and the banks. Customers should be educated to create awareness on phishing/vishing/SMishing and malware fraudulent banking transactions and identity theft to prevent these actions. Through constant prompts, customers should be made aware of existing and/or new fraudulent transactions to ensure that the concept of (co)liability becomes a crucial concept in the prevention of fraudulent e-banking transactions. The creation of e-security and e-trust will then lead to sustainable customer relationships to build loyalty and maintain or enhance the reputation of the organization.

Research methodology

This research was conducted through a qualitative research methodology which was conducted in the natural setting of the subject under study and focused on unexplored processes (Babbie, 2007; Chambliss & Schutte, 2006), in other words, the real online

web site available to all users; and entailed a qualitative content analysis of websites on the prevention of fraudulent e-banking transactions and e-security based on the identified and characterized theoretical typologies as indicated in Figure 1. The subject under study was the South African Banking Risk Information Centre (SABRIC) who, on behalf of the banking industry, caution the public on banking crimes through proactive communication and knowledge sharing on their website. SABRIC is a Non-profit Foundation formed by the four major South African banks and has 23 Member Banks to support the banking industry in the combating of crime. SABRIC'S clients are South African banks and major CIT companies with the main business to detect, prevent and reduce organized crime in the banking industry and to co-ordinate inter-bank activities aimed at addressing organized bank-related financial crime, violent crime and cybercrime through the creation of public awareness and deducting the public to protect themselves and acts as a nodal point between the banking industry and others, in respect of issues relating to these crimes.

The measuring instrument employed was therefore qualitative research through a case study-based analysis of the website on fraudulent e-banking transactions of SABRIC selected through a purposive sampling as they present most financial institutions in South Africa, was willing to participate in the research, information of the website was easily accessible, availability of information, the right to use information obtained through data mining, etc. The criteria were derived from a comprehensive literature review and based on the conceptual framework and examined data collected on how SABRIC used their website as one way to manage and control messages in a three-year period (April 2016 to April 2018) before or after incidents of fraudulent e-banking transactions and/or security measures were put in place for the prevention of fraud.

For the purpose of this paper, the four concurrent cyclical flows of activity identified by Miles, Huberman and Salanda (2013) have been used. Firstly, data collection was aimed to investigate the use of proactive online communication to ensure the control and management of fraudulent e-banking transactions. The data gathered was information on preventative measures posted on the SABRIC website during the specified time period and by printing available and accessible pages that were primarily associated with information about the prevention of fraudulent e-banking and/or e-security and safety of online transactions. Secondly, data condensation was used as the process of selecting, focusing, simplifying, abstracting and/or transforming the data that appear in the full body of the selected website information releases in terms of the theoretical criteria and framework (Miles, Huberman & Salanda, 2013). Thirdly, data display was used to organize, compress and assemble the information that allows for the systematic and powerful displays of conclusion drawing. Lastly, drawing and verifying conclusions reflects the interpretation by means of noting patterns, explanations, casual flows, and propositions. These components are interwoven before, during and after data collection to make up the general domain called 'analyses'. The data displayed included all media releases, videos, campaigns and safety measurements on fraudulent e-banking transactions. In order to determine the cumulative number of fraudulent-related messages posted by SABRIC on the website, the researcher conducted a post hoc analysis of the sites' contents. Included in the analyses were additions and deletions of individual company generated messages (for example media releases from the agent or expert). The material printed included fraudulent e-banking transaction specific pages and links to additional information (campaigns, media releases, and videos). Internal validity has been addressed through consistent evaluation of the website addressing the

concepts under investigation. This study also addresses validity through the question of generalization by using the typologies indicated in Figure 1 as generally apparent in knowledge management and proactive communication that can be used in comparative studies in future.

Data analysis

Data was analyzed through an iterative process using coding of data to identify typologies of initial concepts, identify integrative concepts applicable to all the subjects under study and selective coding to reduce it into emergent themes. The researcher also applied the concept 'lurking' as a non-participative observer trying to understand the meaning transferred to the customers through the three components KM and focused only on asynchronous communication (communication with people through a one-to-many approach at different times). During the specified time frame the website monitored resulted in the following main message constructions and links on e-banking fraud prevention as indicated in Table 1.

Table 1. Message construction of e-banking fraud prevention

Proactive communication through KM and sharing	Message constructions on e-banking fraud prevention	Number
Videos	Cybercriminals are watching you ATM card fraud Carrying cash safely Phishing/vishing Sarah adventures videos	6
Campaigns	We need your help! Small favor, big return (May 2018) Banking Industry launches protection of personal information campaign (May 2017) Keep your money safe this Festive Season (November 2017) SABRIC warns consumers to beware of phishing and malware (June 2016)	4
Media releases	SABRIC Report: Credit card fraud has risen by 1% (April 2018) SABRIC lauds special meeting on cash-in-transit heists (May 2018) Release on card fraud stats 2017 (April 2018) SABRIC & Nelson Mandela University join forces in the fight against cybercrime (March 2018) Money matters matter (March 2018) Ponzi & Pyramid schemes (March 2018) Ngcobo station attack (February 2018) Be careful! Criminals are targeting your Stokvel payout this Festive Season (December 2017) SABRIC: Safe banking over the Festive Season (November 2016) Don't let criminals get their hands on your money – carry cash safely (October 2016) Get rich quickly? (September 2016) SABRIC cautions women to be alert on dating sites and social media platforms (August 2016)	15

Proactive communication through KM and sharing	Message constructions on e-banking fraud prevention	Number
	Wise Up and Watch Out for Schemes and Scams (July 2016) SABRIC encourages bank consumers to take care of their Cybersecurity (April 2016) You could be sharing too much personal information on social media, SABRIC warns (February 2016)	
Stay Safe (Security center)	Safe banking awareness (links to scams)	18

The video focuses mostly on warnings of cybercrime, ATM card fraud, cash safety and phishing/vishing. The campaigns tried to create awareness on a wide range of fraudulent activities, but also on the importance to protect personal information (identity theft), money safety and phishing and malware practices. From the 15 media releases postings on the website in the monitored period of time, the following types of messages were posted: safe banking (5), cybercrime/security (4), Get-rich schemes (2) and Cash-in-transit heists (2). This is graphically presented in Figure 2.



Figure 2. Types of messages in the media releases

From Figure 2 it is clear that prevention measures for safe banking were most prevalent, especially to keep money safe, followed by cybercrime and security where customers are warned about identity theft, the use of social media and dating sites (in other words to keep personal information safe). One example is that of the CEO of SABRIC who said in their latest media release: "Criminals will use these techniques in the hope of tricking recipients into disclosing their personal information on bogus online platforms or on spoofed websites. And all it takes is a few duped individuals to make phishing a profitable business for cybercriminals." SABRIC (2018). In terms of the 'stay safe' website, each of the scams is identified and each of these links provides detailed information on these scams and safety tips on how to prevent fraud.

Table 2 presents the results in terms of the three typologies of knowledge management to ensure that knowledge sharing takes place.

Table 2. Data analysis in terms of the typologies of knowledge management

Typology	Components/ criteria	Variables/results
Knowledge acquisition	Technical (website): data gathering and mining knowledge construction	Wise up. Watch out. (important information on SABRIC) Beware! Skelm is lurking this Festive season. Stay Safe – keep your money safe with these tips Detail information on the banking scams and fraudster statistics All third-party frauds have visual links and each cover a broad spectrum of fraud and safety measures. Messages constructed based on existing data and fraudulent transactions Information not yet prevalent: cryptocurrency fraud and 'SMishing' but has been included in a new media release
Knowledge transfer	Proactive Organizational Communication (messages): create direct real-time interactions sharing of information	Communication through the creation and sharing of detailed messages through direct real-time interactions on the home page Real examples of scams with visual links to give proactive communication messages and information on each of the following scams Card fraud Details of what counterfeit card fraud is What is 'card not present' (CNP) fraud? Lost card fraud Stolen card fraud Account take over fraud Not received issued card Important tips to avoid card fraud ATM What is ATM's (card skimming, swapping cards, ATM shoulder surfing and trapping of cards inside ('Lebanese' loop) Do's Don'ts Tips on protecting your pin Tips for protecting your cash Telephone numbers for reporting ATM-related incidents Internet banking Details on how to using pin and password correctly Make sure you've logged on to your Bank's authentic Internet banking website Is your own PC secure? Tips for using your card safely on the Internet Cell phone banking The safe way to use it as it relies on encrypted SMS messages or secure WAP connections Important notes 419 Scam What is it? Some indications that this could be a 419 scam (if it sounds to be good to be true it is) General trademarks of a 419 scam

Typology	Components/ criteria	Variables/results
		What you should do when you received a 419 scam through letters, emails, fax Changing banking details scam: Definition and discussion of the scam How to prevent becoming a victim of this type of fraud What can you do as a victim? Identity theft What it is What can criminals do with your personal information (assume your identity to access funds, acquire retail or bank accounts, defraud insurance, medical aid and UIF) What is personal information (ID, passport, driver's license, salary advice, municipal bill or other account statements, bank statements) Deposit and refund scams How does it occur? How to protect yourself Money laundering (limited information) Tips to safeguard yourself Carrying cash safely Tips to avoid being a victim of cash robberies for individuals, business, saving clubs and 'stokvels' Phishing What it is(emails) Modus operandi ('spoofed' website) Tips to avoid becoming a victim E-mail hacking Symptoms of a possible compromised email address (spams, unknown emails, etc.) What to do if you suspect your mailbox has been hacked How to prevent email hacking Cybercrime What it is (criminal act) Tips to avoid cyber-crimes Cybersecurity Mobile devices and tablets Software management Connectivity Behavior (tips) Schemes and scams Fraudulent change of bank account details scam (modus operand and awareness tips for consumers) Deposit and refund scams (modus operandi and awareness tips) Dating and romance scams (modus operandi, how victims get defrauded and how to avoid being a victim of online dating scams? (tips) Classified/holiday scams (modus operandi and how to protect yourself) Phishing (modus operandi and awareness tips)

Typology	Components/ criteria	Variables/results
		Telephonic technical support scams (modus operandi and awareness tips) Get rich quick scams (what it is, modus operandi and signs to look out for) Safe banking awareness Mobile banking (prevalent modus operandi through social engineering tactics to trick victims to disclose mobile login details and then conduct a fraudulent SIM swap on this number and safety tips) Internet banking (prevalent modus operandi through phishing using malware to infect the victim's computer and gain sensitive information and passwords and safety tips) Cheques (prevalent modus operandi and safety tips) – see cheque fraud Bank cards (prevalent modus operandi by stealing genuine cheques and dip them into chemicals to removing writing or forge signatures on blank cheques; and tips for cardholders) ATMS (prevalent modus operandi and skimming – mounted, Lebanese loop, card swapping – and safety tips) Money laundering (prevalent modus operandi to avoid access to pay funds into customer's accounts through rewards and tips to safeguard yourself) Festive season scams (prevalent modus operandi to trick customers and safety tips) Vishing What it is (fraudster phone as a bank official or service provider using social engineering skills to manipulate them into disclosing confidential information)) Tips to protect yourself Cheque fraud What it is (cheque interceptions, substitution of genuine issued cheques with fraudulent ones and cheque washing) Look out for ... Tips to protect yourself What else to do to keep cheques safe The way you make your cheque payable can protect you How does crossing your cheque protect you? When accepting a cheque make sure ... Be cautious when you notice the following on a cheque ... Important notes Detailed messages created. Sharing of information through examples of fraudulent emails and direct real-time interactions.
Knowledge assimilation	Human (customer):	The homepage includes warning of fraudulent transactions. Prominent and visual links to all scams

Typology	Components/ criteria	Variables/results
	methods/procedures to link customers informal/formal setting for interaction company practices to address the crisis context	Media and News (press releases) Partners Stay safe (updated details on each fraudulent banking action and latest scams) Contact details General security messages in informal and formal settings. Detailed methods, practices, and procedures provided to customers to ensure security in informal and formal settings. A clear indication of practices to address both proactively and reactively fraudulent online transactions. Clear contextualization of messages

Findings and critical analysis of results

A critical analysis of the results of the proactive communication and knowledge sharing on the website of SABRIC to prevent fraudulent e-banking transactions revealed that the contents of the website closely applied the three typologies of knowledge management identified in the literature review. It is indicative that effective and proactive communication through KM can contribute to manage and control messages for the prevention of fraudulent e-banking transactions to ensure e-trust, loyalty, e-security and a positive reputation of the institution to enhance customer relationships. A summary of the main results in terms of the three typologies are presented as follows:

Knowledge acquisition was evidenced through providing instructing information on the website to customers on how to keep money safe with detailed information on the banking scams and fraudster statistics, visual links to each spectrum of fraud and safety measures, accurate information and messages based on existing data and fraudulent transactions on how to take pro-active action based on data gathering and mining, as well as knowledge construction. Three main types of messages that were obtained through data mining and constructed were noticeable: basic facts about fraudulent e-banking transactions; updating of existing information and facts, and provision of new information and messages to prepare customers for what to expect and how to react to it. This was verified by the establishment of a 'Stay Safe' security web site and detailed and visual links to cover the broad spectrum and context of fraudulent e-banking transactions.

Knowledge transfer was apparent from the move into creating and adjusting the communication messages once the immediate impact of the fraudulent e-banking transaction wears off by posting various messages and linking customers to websites for direct real-time interactions and by sharing information to ensure them of the safe and secure use of online transactions. Examples of possible real-time fraudulent transactions on each link were explained in terms of the modus operandi of criminals, what the scam is, how customers should prevent or address it if it happened, numerous safety tips, etc. to ensure transfer of this knowledge to the customer.

Knowledge assimilation was substantiated through the control and management of the messages in the pre, present and post stages of fraudulent e-banking transactions. This is evidenced in the following: the home page includes warnings to fraudulent

transactions, provide prominent and visual links to all scams, access to media and news (press releases), details on the partners, easy access to the main link to stay safe (updated details on each fraudulent banking action and latest scams), contact details, general security messages in informal and formal settings, detailed methods, practices and procedures provided to customers to ensure security in informal and formal settings, clear indication of practices to address both proactive and reactive fraudulent e-banking transactions with a clear contextualization of messages. These links not only presented methods and procedures to ensure safe e-banking transactions but also provided informal and formal settings for interaction (for example Facebook and Twitter although it was not included this study), stating company practices to address fraud and the context in which it is managed and controlled. This was corroborated through linking of customers to 'Stay Safe', general security messages (formal through media releases or informal through videos), and detailed methods, practices and procedures to address it proactively and if needed, actions to correct actions reactively.

The results of the analysis indicated that the bank definitely complied on all accounts and that most of the criteria of each typology of the knowledge management paradigm were adhered to. Furthermore, it is argued that due to proactive control and management of messages, customers were assured through various means of the safe and secure use of online transactions. Within each of these typologies, the 'expert' initiated messages to react, warn and update customers (proactively and reactively) and included real-time examples and the modus operandi of fraudulent emails, SMS's and scams. The messages were made available quickly and immediately after incidents of fraudulent e-banking transactions became evident (whether through asynchronous media like media releases, links, emails, etc. or synchronous media like Facebook, Twitter, etc.), were factual, and assured customers of security and safety measures applied by the bank throughout. This is in line with the arguments based on the literature review that initial response to fraudulent e-banking transactions should be quick, consistent, open, sympathetic and informative to create awareness and educate customers on e-security and to enhance customer relationship through the three typologies of KM to ensure knowledge sharing. Furthermore, one main link to the 'Stay Safe' was (and still is) evident, visually prominent and easy assessable on the home page. This 'Stay Safe' had 18 main links to each of the fraudulent e-banking scams and fraudster activities with the main aim to 'keep your money safe'. Although the fraudulent e-banking transactions scam (SMishing) was not included on this link, it was mentioned in the link to media and news where they provided the latest press releases on new scams and/or other e-security knowledge and information. For example, the latest press release said: "SABRIC would like to remind bank clients to always be on the lookout for Phishing, Vishing and SMishing scams ... to make conscious decision to institute good habits to avoid becoming victims ..." (SABRIC, 2018, p.1). Although 'cryptocurrency' (like Bitcoin) was not prevalent either, it could partially be considered under 419 Scam which warns that 'if it sounds to be good to be true it is'. However, due to the vast number of these scams, research is ongoing.

From the above, it is argued that the website messages were organized around the main types of messages identified in Table 1 and if correlated to the typologies in Table 2, it is clear that overlaps exist which means that it is indicative that KM can be used as a theoretical starting point to manage and control the different types of messages to create awareness, educate consumers and share knowledge and information to ensure the prevention of fraudulent e-banking transactions and to enhance e-security and

customer relationships. Generally speaking, the opening website page of SABRIC not only reflected immediate and proactive communication on 'Stay Safe' of the 18 scams, but also provided a direct link to 'Who we are' which includes the staff, vision, values and mission statements highlighting the need to view crime as a shared responsibility and collective priority for customers and public-private partners which can be seen as a first step towards (co)liability; media and news (press releases, campaigns, downloads and videos); a link to 'Our partners' which include the four major banks who initiated this NPF, but also identified the 23 financial partners; and lastly a link to 'Careers' at SABRIC itself which is self-explanatory.

From the knowledge obtained about the indicators of encryption or secure online transaction systems, it can be argued that SABRIC can be seen as having a strong reputation and positive image because of the factual information on e-security and safeguard practices on the website. Messages varied from a general description of the scam and details on how to prevent becoming a statistic. Most of the information also featured in the media releases, thus offering multiple connections from dual locations on the website. Furthermore, visual links were established on each security website with detailed information on possible schemes and information on what to do.

From the above, it can be contended that the bank was consistently proactive, used frequent informative messages, included factual information and knowledge sharing messages to assist customers, provided contact details and assured them continuously of the safe and secure use on online transactions. The vision, values, and mission of SABRIC clearly indicate their commitment to crime prevention through proactive communication and the move towards shared responsibility and (co)liability. The use of the 'Stay safe' link is an example of proactive communication and knowledge sharing to reassure and warn customers of fraudulent e-banking transaction and e-security measures through knowledge management as a change agent. Furthermore, they assured customers that if they use the information on these links, there will be safeguards in place which will enhance e-security (e-trust and loyalty) to enhance customer relationships and SABRIC's reputation to act as perceived risk relievers. This could influence perceived risks and e-security positively from a knowledge management paradigm where the agents are regarded as 'experts' in the field who provides reliable and valid knowledge about indicators of encryption or insecure e-banking transactions contributing further to its reputation.

Finally, the most significant attribute was the identification of fraudulent e-banking transactions as a dangerous and real criminal activity and the importance of proactive communication to manage and control the messages in the social, cyber and physical worlds of customers. SABRIC maintained the same basic format of its web site and frequently updated the messages and links. Although the move towards (co)liability is prevalent, it is suggested that a clear policy is needed to apply it consistently and transparently. However, because the bank introduced new messages about the long-lasting effects of fraudulent e-banking transactions and the vast number of new scams, it can be argued that the bank did apply reactive communication in the acutest phase just after the scam became evident (González-Herrero & Smith, 2008, p.151).

Conclusion and implications

By undertaking a KM approach, the study examined proactive communication and knowledge sharing through KM to control messages on fraudulent e-banking transactions. Although this can often result in the construction of opposing viewpoints, it is argued that a way to ameliorate this tendency is to promote recognition of the scams to alleviate concerns about the safe and secure use of online transactions

Although the main limitation is that qualitative research through a single case with one institution was conducted, the findings of the study provide insight into the importance of proactive communication on the prevention of e-banking security to ensure continued and positive customer relationships. The next step is to develop a knowledge management strategy for SABRIC to address perceived risks, enhance customer relationships and ensure a positive reputation of the bank. It is recommended that further quantitative research be conducted to obtain a deeper understanding and accounts of the influence of control and management of messages on perceived risk, which was probably pre-eminent by Lee et al. (2013, p.870) who said: "The most influential construct among the KM practices is the knowledge sharing dimension".

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SHOWCASING DIGITIZATION AS THE BACKBONE OF KNOWLEDGE AND SHARING ECONOMY IN ROMANIA

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Abstract. *By means of a case study, we are showcasing how digitization has reshaped the transportation industry concerning renting-like services. The evolution of mobility services starts from taxis, car renting, goes to ride-sharing and, ultimately, arrives at car-sharing services. The present paper will introduce an instance of car-sharing and renting service which is called Pony Car Sharing. Car sharing, house-sharing, equipment-sharing are all instruments of the sharing/network and collaborative economy, which has started to gain academic and practice traction, but all this would not have been possible unless for the existence of the Internet. The Internet is constantly empowering consumers all over the world by making them more knowledgeable and granting them access to make more informed decisions. The second part of the paper uses qualitative research and is dedicated to a case study that analyses Pony Car Sharing company, in the context of sharing and knowledge economy, from the business model canvas perspective: key partners, key activities, value proposition, customer relationship, channels, customer segments, revenue streams and costs. The findings reveal that there is no legislative support for the sharing economy and that implementing such a business model requires substantial efforts from the business owner. Nevertheless, investments in educating the customers are not expendable.*

Keywords: *digitization; knowledge economy; sharing economy; digital skills; business; impact.*

Introduction and literature review

According to Jansen (2017, p.2), we are dealing with a-yet-to-come Golden Age of Information that is characterized by the cheap (and sometimes, even free) knowledge transfers, need of customers to belong to (virtual) communities (serial networkers) and increased individualization embedded in the high customization demanded by customers. Ultimately, these elements create altogether “a fertile ground for unlimited innovation”, an innovation which can ideate economic, social, environmental and political types of value (Paunescu, 2014). On the other hand, in order to ensure there is a corresponding reaction to such requirements, organizations need to assimilate to their business strategies concepts reflecting authenticity, involvement, and innovation. The new emerging business models will reflect the use of non-linear intangibles giving rise to new thinking models and patterns (Bratianu, 2009, 2017a, 2017b, 2018).

Therefore, this tech breakthrough results in the redesign of organizational processes and structures that call for brand-new strategies to exploit other sources of competitive edge a company might possess. This paradigm shift is questioning the way current

businesses are being conducted and advances the adoption of new business models for ensuring sustainability. Empirically speaking, the importance of business models overrides the importance of industry classification indicators providing more reliable financial forecasts (Weill & Ross, 2004). Business models, beyond representing a useful tool for investors, lenders and other stakeholders, can be used by companies to provide insights on the results of IT applications (Hedman & Kalling, 2003) and to leverage technology in order to derive economic value (Chesbrough & Rosenbloom, 2002; Chesbrough, 2010). Hadzimustafa (2011) posits that higher levels of economic development can be attained with the involvement of highly qualified personnel and efficient technology transfers in the context of enhanced knowledge generation in both commercial companies, NGOs and umbrella organizations (Zbucheau et al., 2017, 2018). In the same vein, Johnson et al. (2008) investigate how different industries can be reshaped by new business models and stimulate growth.

We are witnessing a new era in which products and services come to be widely distributed via multiple channels. The network economy, as well as the knowledge economy, resorts to intangible resources such as knowledge and the emotional knowledge (Bratianu & Orzea, 2013) to find solutions to different problems, and transforms them into smart products and processes that require efficient use of resources and therefore increased sustainability.

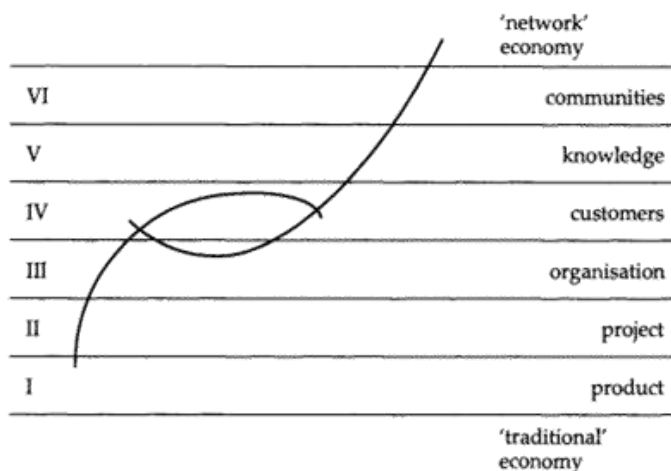


Figure 1. Sigmoid-curve
(Source: Jansen, 2017, p.10)

In order for companies to maintain competitiveness on the local, regional and global market, Jansen (2017) has come up with Sigmoid curve tool (from traditional to “network economy”) (Figure 1) to assess the adequateness of companies’ current business models that can be found at the interplay of suppliers, customers and network partners.

Knowledge economy consists of the creation, distribution, and use of knowledge and information (OECD, 1996), and it represents one of the leading sources of wealth establishment (Vesela & Klimova, 2014). Powell and Snellman (2004) regard knowledge economy as “production and services based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance, as well as rapid

obsolescence" (p. 199). As opposed to traditional economy, the knowledge economy is characterized by a higher emphasis being placed on the intellectual capabilities than on tangible resources (Bratianu, 2011; Hadad, 2017a, 2017b, 2017c, 2018; Bejinaru & Iordache, 2011). Knowledge is a strategic resource (Bolisani & Bratianu, 2017) that plays an extremely important role in the life of developing countries (such as the case of Romania) and is contributing to the improvement of the local economy (Dima et al., 2018) inasmuch as innovative clusters can be a solution to the economic development of the same category of countries (Dan, 2011, 2012).

There are four components/pillars that underlay the knowledge economy: 1) An economic incentive and institutional regime (EIR) that provides good economic policies and institutions that allow for efficient mobilization and allocation of resources and stimulate creativity and incentives for the efficient creation, dissemination, and use of existing knowledge; 2) Educated and skilled workers who can continuously upgrade and adapt their skills to efficiently create and use knowledge; 3) An effective innovation system of firms, research centers, universities, consultants, and other organizations that can keep up with the knowledge revolution and tap into the growing stock of global knowledge and assimilate and adapt it to local needs; 4) A modern and adequate information infrastructure that can facilitate the effective communication, dissemination, and processing of information and knowledge (ICT) (Chen & Dahlman, 2005; World Bank, 2009, 2012). According to Tapscott (2014), the knowledge economy is a digital economy.

Now, that Digitization has become part of everyone's life and digital technology has altered most fields of activity and industries (Cao et al., 2018) such as transportation (Uber, Taxify), communication (all sorts of messenger applications and social media platforms), accommodation (Airbnb), medicine (telemedicine), production (3D printing), etc., it is clear that the tech disruption/destruction might have started from the very intersection of mobile phones, personal computers, and the Internet (Topol, 2013). One byproduct of digitization is the concept of a shared economy. According to World Economic Forum (2018), sharing economy is inviting economic actors (companies) to reassess and rethink their businesses and revenue models: focus on access rather than on ownership, design and turn products and services into actual experiences, and cater to the hyperpersonalisation need of the customer. As every new concept, sharing economy finds itself at the crossroads from a legal standpoint since very few countries have specially designed laws to foster it (Demailly & Novel, 2014). A crucial role in harnessing the sharing economy is played by the public authorities that, next to practitioners and researchers, can identify the most viable models and design methods to support them through: a) enhanced visibility and communication campaigns; b) fundraising and incubators; c) adapting regulations to embed new models (idem); d) implement best practices.

Research methodology

The present paper employs mainly qualitative research. The first part sets the theoretical ground for the knowledge economy, sharing economy and digitization, whereas the second part showcases how a 21st-century car sharing rental company works. The main objective of the paper was to illustrate how a company works within a newly established framework and which are the challenges it faces. We employed qualitative research since the phenomenon that is being investigated is a very recent

one and there is not enough available data in order to measure its spread and conduct quantitative research. Therefore we opted for an in-depth analysis of a company that acts in the sharing and knowledge economy in order to gain more insight on how such a company works, which are the challenges it faced throughout its existence and illustrate its business model through the lenses of the business model canvas designed by Osterwalder and Pigneur (2010) and we will address the following: key partners, key activities, value proposition, customer relationship, customer segments, key resources, channels, revenue streams, and cost structure. The paper uses both primary and secondary sources of information. The primary sources are represented by the small confirmatory interviews conducted with the kind help of two employees: Ms. Diana Otelea (Brand Manager) and Ms. Mihaela Simionescu (Customer Service Coordinator); whereas the secondary sources of information came from the official website of the company, official company documents, and other press related articles. The main limitation of the paper is that it illustrates only one stance of sharing and knowledge economy and that it does not allow for further inference.

Case study: Pony Car Sharing

Company description

Pony Car Sharing is a 100% Romanian private capital owned company, founded in 2015 as the first and biggest car-sharing service in Romania. Since it activates in the car sharing service, the company represents an actor in the sharing economy.

Pony Car Sharing was set up following the example of the car rental CAR2GO German company headquartered in Ulm, that later extended in Europe and the United States (www.car2go.com). Pony Car Sharing is a business-to-consumer (B2C) car-sharing company in which customers can rent the vehicles the company owns.

The company has 38 employees and a turnover that classifies it as a small business. Since it started, the company has not incurred any profits as it can be inferred from Figure 2. This is a normal consequence of an investment in assets that is to return in several years. The company started its activity in Cluj, and later, in 2017, it began to set up an additional headquarter in Bucharest.

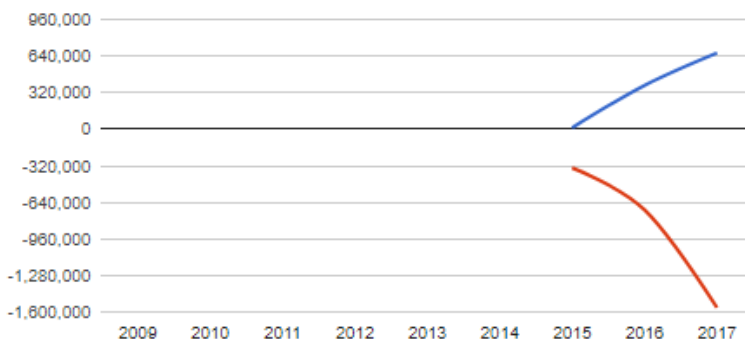


Figure 2. Pony Car Sharing – Turnover (blue) and Net Profit (red)
(Source: Lista firme, 2018)

The company owns a fleet of 80 cars in Cluj-Napoca and 40 (going on 80 by the end of 2018) cars in Bucharest (VW, Mercedes, Smart fortwo, Smart forfour, Mini One, BMW i3; both on gas and electric; manual or automatic) and they are uniformly distributed over the surface of the two counties. The rental services of the company are available through the GetPony app (which was improved to services such as book/reserve a car, fuel the car or buy prepaid unit packages to get a different kind of discounts). The fleet of the company is eco-friendly (electric cars and EURO 6 cars).

As we are discussing the need of hyperpersonalisation of the customers, the company insisted on getting customer feedback on how to improve the services, app or how the company works and embedded the feedback in the new offers.

The services of the company can very easily be accessed. The customer needs to download and install the GetPony app which is freely available on GooglePlay and AppleStore, register their ID and driver's license, provide a valid bank account and, then, they can rent whichever vehicle is suited for their own needs. The car gets unlocked with the help of the app, and it can be picked up from a location on the map, driven all around the country and dropped off at a different location within the designated operating area.

Business model canvas

The business model canvas was designed by Osterwalder and Pigneur (2010, 2013) and represents a strategic management planning tool meant for developing and documenting new or existing business models. The present section will develop the main building blocks of the business model canvas by portraying the case of Pony Car Sharing company, with a specific focus on key partners, key activities, value proposition, and customer segments. The elements of the canvas are interconnected and, at times, they might be overlapping.

Key partners. This section describes the network of partners that the company has in order to optimize the business model, reduce the risk or acquire resources. Pony Car Sharing has initiated a significant number of partnerships belonging to entertainment, culture and lifestyle brands in order to attract customers. The key partners or network is one of the most important sections of the business model canvas in the case of knowledge and sharing economy business because it accounts for the need of the customer to belong to a network or community as identified in the literature review.

The first and most important collaboration was the one with the three famous music festivals: UNTOLD, Electric Castle and Mioritmic. The partnership took the shape of a barter in which the company's fleet was branded with the logos of the festivals and a special print, there were organized contests in which the customers could win free entry to the festivals or Pony discounts, and VIP parking spots for the company's fleet (Simionescu, 2018). Additionally, pop-up prizes were placed strategically in the cars for the users to find: portable speakers or picnic blankets. Another marketing move that was taken was to display a Pony car inside the festival operating area and turn it into a photo booth.

Among the various initiated collaborations was the one developed with TedX when Pony Car became the official transportation means for the invited speakers and TedX conference tickets were offered for Pony customers through contests. Moreover, all the

conference participants were offered discount vouchers. A similar collaboration was developed with TIFF (Transylvanian International Film Festival), the difference being that during the breaks, the cinema would run a short Pony Car commercial. The company concluded other valuable partnerships with the fashion industry (V for Vintage), Meron coffee shop (to be associated with a routine people have), and with a yoga studio. All these partnerships could be categorized as strategic alliances between non-competitors which resulted in invaluable increased brand awareness, attracting new customers to try the service of the company, acquire new customers and it fine-tuned the company to the adjacent needs of the customers.

Key activities are the most important things a company does to ensure the functionality of the business model. The main key activity of Pony Car Sharing is renting cars to natural persons (B2C) and they plan to include a Business-2-Business (B2B) service as a reaction to the various requests they got from different corporations requiring such services for their own employees under special terms and conditions. This new activity might prove to have a positive impact on the traffic in Bucharest and on the levels of pollution.

Value proposition has the role to describe the products the company offers that create value for a specific customer segment. The best description of Pony Car Sharing value proposition is their headline: "Rent your car straight from the street, using your phone. Without any contract. Without warranties. Without extra charges", because it underlines the advantages it has as compared to the competitors. Pony Car Sharing is the first car sharing service in Romania and it has the first mover advantage. It satisfies the need for mobility of the customer by helping him/her share, contributes to traffic jam reduction, and pollution. For the company, the Internet of Things innovation allows for the transfer of data through the Internet and Bluetooth technology by means of a device (smartphone or tablet) and the company fleet that has tracking boxes installed on every car which control the main operations. The app receives data from the tracking box constantly updating the map with the location of the cars, fuel levels, kilometers, reviews of last customers, color and type of transmission in order to keep the customer updated in real time. The services are available to customers under two conditions: a) the customer should be at least 21, and b) he/she should have their driver's license for at least 1 year. These two conditions were commonly agreed with the insurance company.

Customer relationship Pony Car Sharing establishes both personal and automated relationships with the customer with the purpose of acquiring and retaining new customers. The Customer-service department is in charge of the relationship with the client that is maintained through e-mail, phone and post office. *Customer segments* The main customer segment of the Pony Car Sharing is represented by Millennials who are permanently up-to-date with any new tech releases, active and curious, with a different attitude regarding the sense of ownership as compared to past generations, keen on urban mobility, not owning a car. Millennials are also the early adopters of the company's services.

Key resources are in this case tangible resources (the fleet of cars in Bucharest and Cluj-Napoca), and intangible resources (the app and data it generates). Other key resources include the human capital that plays a crucial role in interacting with the customer and helping to acquire him/her. *Channels* describe how the company communicates with and reaches its customer segments to deliver the value proposition. The company

reaches its customers through the previously described app by means of user accounts; therefore, Pony Car Sharing does not use any intermediaries in relation to its clients.

Revenue streams are established in tight connection to the key activities and each of them should be able to generate a source of revenue. The company tries to acquire and many as possible recurring clients by means of subscriptions and price discounts and Pony units. For example, the services can be acquired by minute, day, subscription, etc. *Cost structure* The main costs incurred by the company were related to initial investment, the acquisition of the fleet and its maintenance, fuel, salaries, development, and maintenance of the app, insurance, etc.

Conclusions and implications

The present paper has contributed to the existing literature in the field of knowledge, knowledge management, digitization, and business models. In the first part, it has laid the theoretical framework of the business case study to be assessed in the practical part of the research. The purpose of the paper was to showcase an instance of the knowledge economy business model in the context of digitization in Romania. The findings revealed that Pony Car Sharing represents an example of good practices. The present paper could help legislators develop a framework for the knowledge and sharing economy so that this and similar companies could benefit from specialized support consisting in free parking lots or investment in infrastructure for electric cars, and the list may continue. One lesson learned is that partnerships between non-competitors could have a positive influence on increasing brand awareness by associating with different well-established brands. A different challenge from the legislation was to educate the customers and provide them with accurate information in order to understand how the company works, what the service means, which are the benefits of using the service, and which are the major differences between the company services and traditional car rental service.

Disclaimer

Product or corporate names may be trademarks or registered trademarks and are used only for identification and explanation without intent to infringe.

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INTELLECTUAL CAPITAL REPORTING – A LONGITUDINAL STUDY OF MICROSOFT ANNUAL REPORTS 1998-2017

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Abstract. Many empirical studies concentrate on the intellectual capital reporting practices around the world. Studies confirm the rising importance of intellectual capital disclosure and its key categories by the publicly listed entities in promoting corporate governance and better flow of information for the stakeholders what subsequently improves general stock market transparency. Although there is a plethora of studies of intellectual capital disclosure in terms of: practices, techniques, methods and international comparisons there is a gap among prior studies in respect of longitudinal research. This gap derives partially from the fact that there are not that many publicly listed companies that report extensively over a longer period of time. As a consequence, main motivations of undertaking the research in the proposed paper are: the importance of the topic and the above-mentioned gap in the literature. The aim of the paper is to examine the extent and quality of intellectual capital reporting of one company (Microsoft) over a period of 20 years from 1998 to 2017. In order to enable comparability with previous studies, proposed research was based on the framework initially developed by Guthrie and Petty (2000). Achieved results suggest that IC disclosure during 20 years is rising in terms of extent and quality, what is observed within all of IC categories, however the trend is relatively weak, due to large fluctuations (mostly in the case of relational capital). The most significant growth (despite variations) was observed in terms of relational capital, which appeared also to be the most frequent IC item reported, mostly due to: brands identification and depiction, corporate reputation and proactive customer approach, including their perception by the firm in the context of shaping the future strategy. Structural capital was named as second most often disclosed IC category, mostly due to intellectual properties descriptions. Human capital information contained mostly data on total employment, remuneration and employee stock option plan. In addition, IC reporting was mostly found in factual (verified) form rather than narrative (unverified). The research methods adopted for this study are: content analysis and tools of descriptive statistics. As a source of data annual reports were utilized.

Keywords: Intellectual capital disclosure; intellectual capital reporting; publicly listed companies; stock exchange; annual report.

Introduction

The notion of intellectual capital (IC) is widely recognized and analyzed. Although there have been numerous studies conducted on IC measurement and management, still there are certain doubts in the literature, especially in the field of IC reporting. Theory suggests that there could be distinguished three incentives for companies to disclose their IC. First, to be better perceived by the labor market and hence more attractive to individuals with higher skills and experience. As a result, companies may gain in the long term competitive advantage because of better human assets employed

(Bukh, Nielsen, Gormsen & Mouritsen, 2005). Second, to help the companies to focus on certain business areas because of reporting it (Stewart, 1997). And third, enterprises that disclose their IC could provide more insight into the firm and thus resolve uncertainty what may lead to the share price increase (Edvinsson, 1997; Lev, 2001).

The aim of the study is to analyze the extent and quality of IC reporting on the sample of one of the largest IT company (Microsoft) within a 20-years period of time. As Habersam, Piber and Skoog (2013) state, developing more insights into IC reporting practices is relevant because, it can show how content and structure of IC disclosure changes over time and organizational routines are being reshaped. Moreover, as argue Guthrie, Ricceri and Dumay (2012) there is still a place for practice-based research on technical and social processes organizations use in practice to construct disclosures. Proposed study is unique in this sense, as most of the research of IC relates to no more than five years, so there is an urgent need to capture the IC reporting practices in business entities over a longer period of time. This approach is not always possible due to numerous reasons (the most important one is lack of publicly available and reliable data). However, the study by Campbell and Rahman (2010) on the sample of Marks & Spencer provides an insight into the IC disclosure of British retail company over 31 years. Proposed study in this paper is based on the assumptions and methodology utilized by Campbell and Rahman (2010). Chiucchi (2013) points out that the findings from case study help understand how enterprises introduce IC accounting processes that internally mobilize IC. In fact, proposed study is a case study research on IC disclosure.

Consequently, the research question being asked is:

RQ: What is the extent and quality of IC disclosure by Microsoft during 1998-2017?

The research methods adopted for this study are: content analysis and tools of descriptive statistics.

The structure of this paper is the following: section 1 is introduction, section 2 provides the literature review on IC and prior research. Section 3 sets out methods used in the study. Section 4 outlines the results and discussion which is followed by section 5 pointing to conclusions and limitations of the study, along with the future lines of research.

Previous studies on IC disclosure

Early IC disclosure research focused primarily on establishing definitions, IC classifications and reporting frameworks (Sveiby, 1997; Bontis, 2003; Goh & Lim 2004). Once established, studies started to concentrate on the extent and quality of IC disclosure (Bontis, 2003; Xiao, 2008; Yi & Davey, 2010; Singh & Kansal, 2011), factors influencing IC reporting (Bozzolan, Favotto & Ricceri, 2003; Pablos, 2003; Wang, Sharma, & Davey, 2016) and effects of IC disclosure (Guimon, 2005; Dumay & Tull, 2007; Gerpott, Thomas & Hoffman, 2008). However, as suggest Cuozzo, Dumay, Palmaccio and Lombardi (2017) research on IC disclosure was maturing up until 2012. Between then and 2017, only two new models have been proposed (Abeysekera, 2013; Bini, Dainelli & Giunta, 2016). One of them deals with integrated reporting (Abeysekera, 2013), which provides a new opportunity to understand the interplay between intellectual capital and physical resources what is often missing in IC studies. Melloni (2015) points that integrated reporting is beginning to receive much traction in IC disclosure research.

In turn, longitudinal studies on IC reporting among firms are relatively rare and do not provide unambiguous conclusions. Research by Bukh et al. (2005), Sujan and Abeysekera (2007), Abeysekera (2008), Kamath (2008), Sonnier, Carson and Phillips (2008), Oliveras, Gowthorpe, Kasperskaya and Perramon (2008), Striukova, Uneman and Guthrie (2008) and De Silva, Stratford and Clark (2014) state that there is a growing trend in IC disclosure among companies, however its magnitude differs according to the study. In turn, Firer and Williams (2005), Singh and Kansal (2011), Mat, Hooper & Olesen, (2012), Dumay (2016) and Sharma and Kaur (2016) found that in fact there is no growth of IC reporting in the longer period of time or there can be even observed a negative trend in the extent and quality of IC reporting over years. Above-mentioned studies have been conducted mostly in developed countries: Denmark (Bukh et al., 2005), USA (Sonnier et al., 2008), Spain (Oliveras et al., 2008), New Zealand (De Silva et al. (2014) and Australia (Sujan & Abeysekera, 2007). Some studies analyzed IC reporting practices in developing nations, such as: Sri Lanka (Abeysekera, 2008) and India (Kamath, 2008; Sharma & Kaur, 2016). Most IC content was disclosed in narrative form, whereas the predominantly reported IC component appeared to be relational capital. However, it should be noted that among these studies there has not been utilized a unified research framework, hence cross-study comparability causes significant obstacles. Moreover, another important shortcoming of them is a relatively short period of analysis (lack of longitudinal observations).

Methodology

Sample selection

Microsoft, a well-known global IT company has been chosen for the study. There are two reasons behind that. First, Microsoft is a company which is intuitively associated with high IC level, hence its reporting practices should be studied. However, to the best author's knowledge, there has not been conducted any analysis of this kind on Microsoft so far. Second, as the aim of the research was a longitudinal study of IC reporting, Microsoft is one of the few enterprises to provide necessary documents covering required period of time.

Utilized source of data

The research compares the annual reports issued by Microsoft between 1998 and 2017. Abeysekera and Guthrie (2005) stated that annual reports are adequate tools to measure and compare IC between enterprises, however, some authors claim that the relevance of annual reports as data source is diminishing and they suggest to uncover new and interesting sources, such as IPOs prospectuses or social media activity (Krippendorff, 2013; Garanina & Dumay, 2017; Pisano, Lepore & Lamboglia, 2017). This approach is understandable, as Dumay (2016) and Schaper, Nielsen and Roslender (2017) found companies often abandon dedicated IC reports and resign from disclosing IC in annual reports. However, as the proposed study is a longitudinal insight into IC reporting practices, annual reports were the only media capable to contain historical data. For this reason, other possible sources of data on IC, such as: CSR or Integrated reports had to be excluded due to not long enough existence. Similarly, IPO documents and others (news, press releases) are created only intermittently. In addition, corporate

websites are not suitable for the nature of longitudinal study. As a result, annual reports were chosen as the most appropriate documents for this study.

Method

Content analysis was adopted as a research method. Content analysis is defined as a technique for gathering data (Abeysekera, 2008). The aim is to codify qualitative and quantitative data into pre-defined categories in order to receive quantitative scales of different levels of complexity (Abeysekera, 2008; Dumay & Cai, 2015). Moreover, content analysis is a desk-bound activity with easy access to data and, because it involves mainly research time, it is cost effective (Ousama, Fatima & Hafiz Majdi, 2011). Moreover, thanks to technology more state-of-the-art research processes can be developed, so more volumes of text can be analyzed, which adds to the reliability and quantitative generalization of findings (Dumay, 2014). However, it should be mentioned that content analysis has some limitations. Dumay and Cai (2014) identified three fundamental problems: the subjectivity of disclosures, their unit of analysis and their weighting/quality. Another major problem is the interdependence on companies (enterprise willingness) to report certain items. Moreover, there also has to be the assumption made that information provided by the companies are reliable. According to Dumay and Guthrie (2017), because of information asymmetry associated with agency theory, managers will normally keep valuable IC information secret unless it benefits them economically. However, despite these arguments, according to Guthrie and Petty (2000), Schneider and Samkin (2008) and Yi and Davey (2010) content analysis is perceived to be empirically valid in social sciences, intellectual capital disclosure and in the reporting fields of accounting research.

A coding spreadsheet was created and information on IC was introduced. Double check of coding was employed to eliminate coding errors.

IC reporting framework

Due to the two reasons: comparability with previous studies and subjectivity of the content analysis, IC reporting framework initially developed by Guthrie and Petty (2000) was adopted in this study, which has been widely recognized and in many studies utilized (April, Bosma, & Deglon, 2003; Goh & Lim, 2004; Steenkamp & Northcott, 2007). Based on the framework, IC is captured in three major categories (structural, relational and human capital) and 17 sub-categories (six sub-categories within structural capital and relational capital and five within human capital). Detailed presentation, including indicators of each of the sub-category has been shown in table 1. Some indicators were adjusted to the specifics of the industry of the studied firm.

Table 1. Categories and definitions of intellectual capital reporting
(Source: Campbell and Rahman, 2010)

Categories	Indicators
Structural capital	
Intellectual properties	Patent, Trademark, Copyright, Internet domain name, Design
Corporate culture	Vision, Mission, Code of ethic, Code of conduct, Code of practice, Principles of operation

Categories	Indicators
Management philosophy	Create value to shareholders, Sustain growth, Listen to customer, Protect environment and Caring society
Management and technological process	Control stock, Quality control, Performance appraisal
Information and networking system	Computer network, database, software, network, hardware, intranet, server etc.
Infrastructure	Portfolio of properties, stores modernization and refurbishment, floor extension, machine, plant
Relational capital	
Financial relationships	Relationship with shareholders, bankers and other fund suppliers
Brands	Brand, Sub-brand, Range of product and services name, Market shares, Product awards
Customers	Customers named, Customer loyalty, Customers trust, Customers feedback, Customers services, Customer satisfaction, No. of customers, Customers segment Customers convenience such as better software
Distribution channel	Supply chain, Business network, Development new stores across regions, Delivery system, Marketing and advertising, Carry out market research, Online selling, Web catalogue, Promotion activities/strategies
Business partnering	Franchising, Licensing, Collaboration, Outsourcing, Suppliers, External expert/consultant, Government, Local authorities, Media/press
Corporate reputation	Company name, Sponsorship, Community involvement, Environmental protection measures, Social responsibilities. Any activities that could raise company name
Human capital	
Employees	Employee profile, Employee equity, Equal opportunities, Employee safety, Employee relationship, Employee representation, Employee welfare, Employee recognition, Compensation plan, bonus, better pay, Duties and responsibilities, Employee good attitude, Employee morale
Training	Vocational development, Career development, Induction program, In house training, Recruitment, Employee assistance program, Continuing education for employee, Any state of being trained
Education	Bachelor, Master, PhD, Professional qualification
Work related knowledge	Seniority, Experience, Expertise

Categories	Indicators
Innovation	Development new product, Research and development, New technology, Creative marketing strategy, Add new product line

Unit of analysis

First step of the study was the extent of IC disclosure by category and sub-category. In order to preserve comparability with previous studies, mostly with the study by Campbell and Rahman (2010), this research was based on the analysis of themes including IC information. A theme, according to Holsti (1969), is a single assertion about some subject and the most useful unit of analysis. Themes are not bound by grammatical unit such as word, sentence or paragraph but rather they refer to clusters of words with different meaning or connotation that, taken together, refer to some theme or issue (Weber, 1990). Theme approach not only enables researchers to better capture the IC content, but also eliminates the risk of misclassifying given information.

To better reflect coding practices employed in this study following sentence has been used as an example:

"We invest in a range of emerging technology trends and breakthroughs that we believe offer significant opportunities to deliver value to our customers and growth for the company." (Microsoft annual report 2017, p. 20)

Because of the adopted Guthrie and Petty (2000) framework this sentence was coded as holding two separate IC sub-categories.

"We invest in a range of emerging technology trends and breakthroughs"

was coded as reporting about innovation which is part of human capital, while

"...that we believe offer significant opportunities to deliver value to our customers and growth for the company."

was perceived as a comment about customers' convenience which is a matter of relational capital.

Such coding practices required more effort, however are in line with the previous studies and enable deeper IC disclosure analysis.

IC reporting quality

Second step of the study was the assessment of IC reporting (quality of IC disclosure). Among different approaches utilized in many studies this research, similarly to Campbell and Rahman (2010) adopts two-dimensional IC disclosure quality evaluation, meaning that IC reporting can be classified as: narrative or factual. Narrative description refers to the managerial perception and tends to be expressed in terms of awareness, belief, cognition, estimation or sense-making (Mezias & Starbuck, 2003). Perception disclosures are unverified and possibly unverifiable (Campbell & Rahman, 2010). In turn, factual information is typically expressed as something that has actually happened or something that is expressed in a proven or verifiable manner. Beattie and Thomson

(2007) argued that information is considered as fact if it is verifiable. Consequently, following sentence was coded as perception (narrative).

"It is equally important to evolve our culture - becoming more customer-obsessed across all our products, focusing on leading indicators like usage, and ensuring Microsoft continues to be the best place for smart, curious people to do great work." (Microsoft annual report 2014, p. 3)

At the same time following sentence was coded as factual information.

"During fiscal years 2014, 2013, and 2012, research and development expense was \$11.4 billion, \$10.4 billion, and \$9.8 billion, respectively. These amounts represented 13% of revenue in each of those years." (Microsoft annual report 2014, p. 13)

Results and discussion

Table 2 depicts the results of the study in terms of the extent of the long-term disclosure of IC in annual reports with the categories breakdown. A total of 2637 themes have been captured in 19 annual reports.

Table 2. Intellectual capital reporting themes (Source: own study)

Year	Structural capital	Relational capital	Human capital	Total
1998		58	12	96
1999	28	80	22	130
2000	19	81	18	118
2001*	N/A	N/A	N/A	N/A
2002	28	94	17	139
2003	37	86	15	138
2004	22	94	24	140
2005	27	87	27	141
2006	28	88	28	144
2007	28	97	28	153
2008	28	105	27	160
2009	22	99	28	149
2010	19	73	35	127
2011	25	88	31	144
2012	31	65	28	124
2013	26	69	22	117
2014	26	82	23	131
2015	36	93	22	151
2016	36	107	27	170
2017	43	128	27	198
Total	535	1641	461	2637
Share	20,30%	62,20%	17,50%	

Notes: *Due to technical problems annual report for 2001 was not available on the company website.

The most often reported IC category in all consecutive years was relational capital (1641 identified themes in total), followed by structural capital (535 themes) and human capital (461 themes). During 1998-2017 there was observed a rising trend in IC disclosure. These findings, in terms of growing extent of IC disclosure and relational capital as the predominant category of IC are in line with previous studies by Bukh et al. (2005), Sujan and Abeysekera (2007), Abeysekera (2008), Kamath (2008), Sonnier, Carson, and Phillips (2008), Oliveras et al. (2008), Striukova et al. (2008) and De Silva et al. (2014). However, Campbell and Rahman (2010) observed more rapid IC disclosure increase (106% growth in the case of Microsoft and 675% in the case of Marks & Spencer).

Microsoft relational capital was mostly disclosed in the form of: brands, customers' orientation, corporate reputation and distribution channels. Second most reported IC theme was structural capital, followed by human capital, which appeared to be the least disclosed IC category, which stays in contrary to almost all previous studies, with the only exception of Bozzolan et al. (2003) on the sample of Italian firms. However, latest study referred to single year only. Changes of IC categories during the studied period are presented on figure 1.

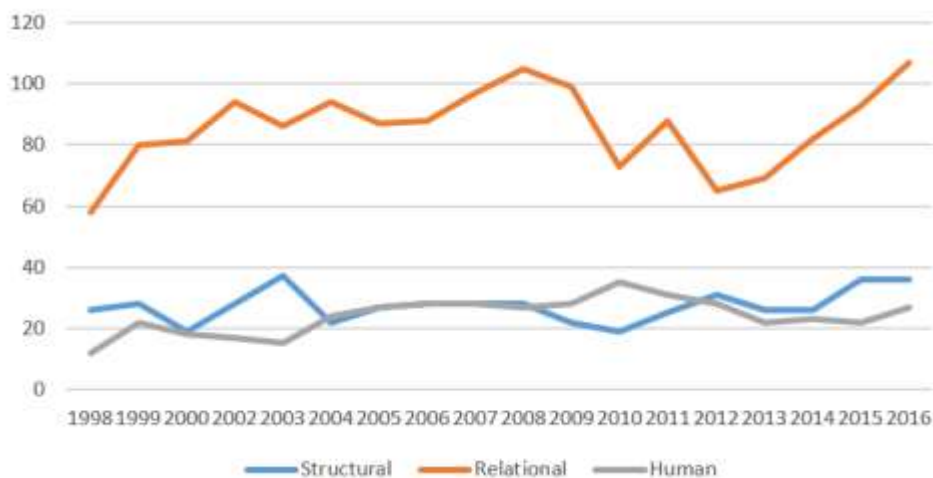


**Figure 1. ICR categories trend
(own study)**

Largest growth was observed in the case of relational capital; however, the trend was not linear. Significant decreases were observed in 2010 and 2012. Similar phenomenon was found in the case of structural capital disclosure (in 2004 and 2010). Human capital reporting longitudinal changes could be described as moderate. Most often reported IC sub-categories with the division into decades was shown in table 3.

Table 3. Top five most frequently reported IC sub-categories (Source: own study)

Rank	Period 1 1998-2007	Period 2 2008-2017
1	Brands (RC)	Brands (RC)
2	Intellectual properties (SC)	Corporate reputation (RC)
3	Customers (RC)	Intellectual properties (SC)
4	Corporate reputation (RC)	Employees (HC)

5	Employees (HC)	Customers (RC)

In general, reported IC sub-categories were mostly part of relational capital. In period 1 (1998-2007) and period 2 (2008-2017) information about brands was the most frequent item disclosed, followed by intellectual properties (period 1) and corporate reputation (period 2). This is understandable, as Microsoft is a technological company with plethora of different products introduced into the market. Similar trend was observed by Campbell and Rahman (2010) for Marks & Spencer but only in their latest analyzed period (2000-2009). What is interesting, within a decade Microsoft stressed the importance of corporate reputation (increase from rank 4 to rank 2), what is related with the observed increasing awareness of the firms to be socially responsible. However, in the case of Microsoft increase of reporting of the themes related to reputation derived from the rising number of litigations, mostly due to patent infringements and antitrust law claims. This explains also high rank of disclosing themes related to intellectual properties, what was not observed in the case of Marks & Spencer. However, similarly to Marks & Spencer, among the top five reported IC sub-categories there was a relatively often disclosed information on employees (number, salaries, stock-option plan and general perception), as part of human capital.

In order to gain insights into the quality of reporting, study in this paper included the assessment of the disclosed information (figure 2).

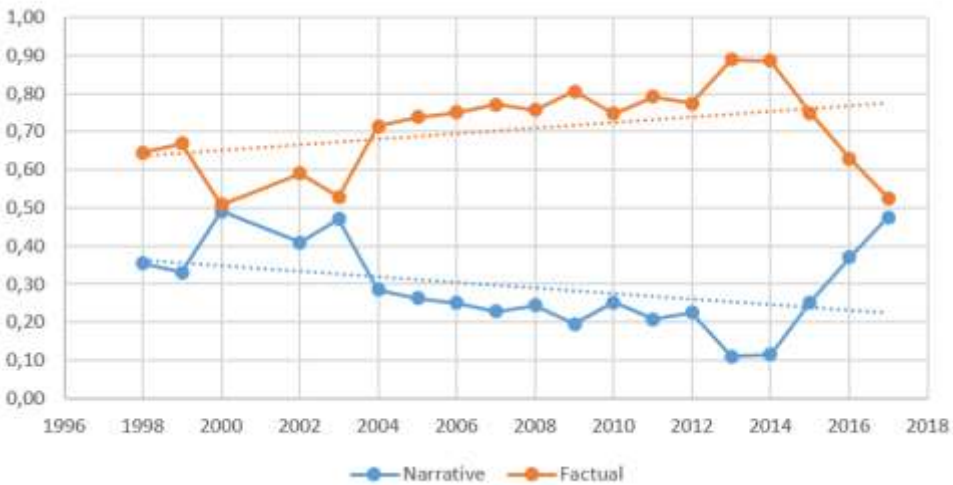


Figure 2. Narrative vs. factual information proportion (own study)

IC was predominantly reported in factual forms, with these making up to 90% (2013 and 2014). Lowest differences were found in the early studied years (1999-2003) with almost equal values found in 2000. This stays clearly in contrary with the results of Campbell and Rahman (2010), who stated almost ideally inverse disclosure (narrative IC disclosure outranked factual one in all studied years). In general, a slightly rising trend of factual information may be identified (strong one was observed during 2004-2014). However, after 2014 rapid decline in factual reporting was found in favor of narrative nature. It should be noted that narrative-driven nature is usually found in the front-end of annual report (letter to shareholders) which is written by the CEO of the

company. Thus, one of the possible explanation of that surprising (against the trend) phenomenon is the fact that in 2014 the CEO of Microsoft has changed, hence the way of addressing main goals and achievements of the company may have transformed just because of the personal shift. Research showed also different distribution of the form of IC sub-categories. Three structural capital sub-categories (corporate culture, management and technological process, information and networking system) and three human capital sub-categories (training, education and work related knowledge) were reported only in a narrative form throughout the entire studied period what means that these IC sub-categories are difficult to verify. Surprisingly, in terms of relational capital, none of its sub-categories was reported only in narrative form. In this sense, relational capital was much better disclosed in terms of reliability with the highest scores observed in terms of: brands, corporate reputation and customers. Substantial conclusion is that Microsoft IC reporting credibility has significant potential to be improved.

Important contribution of the study is also identification of two patterns in Microsoft longitudinal IC reporting. First, the core of information on IC being disclosed in annual reports throughout the studied period was relatively stable and similar. Following themes: corporate mission and vision, customer segmentation, distribution channels, brands recognition, litigations, stock option plans and R&D investments appeared in all documents, and their wording was almost the same. Second, in some annual reports there have been found IC themes appearing occasionally only in the given document. These were: executive officer incentive plan (2009), AAA rating (2009), joint ventures (2011), consumerization of IT (2012) and people orientation (2015). Disclosure of them may have derived either from: implemented actions (2009 – executive officer incentive plan in order to boost employee productivity, 2015 - joint ventures with Nokia and Yahoo,), favorable financial situation against the global financial crisis (2009- AAA rating) or trend recognition (2012 - consumerization of IT).

Conclusions

To the researcher's knowledge, this is the first study that analyzes the extent and quality of IC, IC categories and IC sub-categories reporting practices by Microsoft over long periods of time. Based on the adopted methodology, results suggest that IC disclosure is rising not only as total value, but also within each of IC categories, however the trend is relatively weak, due to large fluctuations (mostly relational capital). Study found that the most significant growth (despite variations) was observed in terms of relational capital, which appeared also to be the most frequent IC item reported, mostly due to: brands description, corporate reputation and proactive customer approach, including their identification importance in shaping the future strategy. Structural capital was identified as second most often disclosed IC category, mostly due to intellectual properties descriptions. Human capital information (least frequent reported) contained mostly data on total employment, remuneration and employee stock option plan. Besides, another contribution of the research is that IC disclosure was mostly found in factual (verified) way rather than in narrative (unverified).

Study provided valuable insight for regulators, practitioners and stock market analysts in terms of corporate reporting practices and through its practice-based evidence, for the future development of IC theory in general. Results have also implications for policy makers and standard setters for rethinking of inclusion of IC disclosure in annual reports as compulsory items. As a result, the quality of information would improve what

will enable various stakeholders to better value the firm. Subsequently, this will contribute to the relevance of the market efficiency hypothesis.

Clearly study has its limitations. A natural extension of this paper would be to explore IC disclosure on the larger sample over a longer period of time. Equally important would be to identify determinants of the extent and quality of disclosure of each IC sub-categories. Employment of other sources of data would provide additional value into the study as well.

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KNOWLEDGE MANAGEMENT IN THE DIGITAL ERA

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Abstract. *Knowledge management research is increasingly dynamic and complex, reflecting the cross-disciplinarity of this field. Knowledge management, meaning knowledge creation, acquiring, deposit, analysis, transfer etc., is tightly related to data technologies, to digitalization of organizations, with digital technologies. The present research highlight the importance of technologic infrastructure in knowledge management, showing how previous studies considers this more a logistic issue. Relevant relationships such as the between knowledge management and big data, artificial intelligence, smart technologies, apps, as well as innovation are not so present in the existing literature. Digital infrastructure and technology provide the basis for connecting to artificial intelligence, as well as to natural human intelligence. The relationships with human decision-making processes have to be deeper investigated, as well as the impact on human and organizational behaviors.*

Keywords: *knowledge management; digitalization; digital transformation; big data; artificial intelligence.*

Introduction

Although knowledge management is a relatively young direction of research, due to its interdisciplinary implications and practical relevance for all types of organizations, the literature in the field increased exponentially. This is reflected in the growing number of conferences and publications dedicated to the field. Some of these journals are among the top rated by Clarivate Analytics (former Thomson Reuters – ISI), which reflect the importance and the complexity of this field.

Most of the studies associated with this domain are related to the economic environment – where, not by chance, the concept originates. To better understand the specific evolutions in the theory and practice of knowledge management we recommend the following publications: Kakabadse, Kakabadse and Kouzmin (2003), Anand and Singh (2011), Becerra-Fernandez and Sabherwal (2014), Bratianu (2015); Omotayo (2015), Cerchione, Esposito and Spadaro (2016), Massaro et al. (2016); Hislop, Bosua and Helms (2018).

Especially during the past decade, the attention of knowledge management researchers extended towards nonprofit organizations and public organizations (Garlatti et al., 2014; Massaro, Dumay & Garlatti, 2015; McEvoy, Ragab & Arisha, 2017). The research

on knowledge management in the context of public organizations goes in several directions: management style/leadership; organizational culture & intelligence; organizational development and innovation; technology; intellectual capital; knowledge sharing; stakeholder management (Pinzaru, Zbucea & Vitelar, 2018). As easily observed the relationships between knowledge management and technology (Butler et al., 2008; Cong & Pandya, 2003; Janowski, Pardo & Davies, 2012; Wiig, 2002) are very relevant to better understand this field.

The more recent research on knowledge management in nongovernmental organizations (Buheji et al., 2015; Hurley & Green, 2005; Rath, Given, & Forcier, 2016; Tatham, & Spens, 2011; Zbucea & Leon, 2015) shows that knowledge management helps an NGO to be more flexible, to relate better to the needs of stakeholders, to better satisfy the needs of their beneficiaries, etc.

Knowledge transfer, both inside the organization and outside, is key to successful management of all types of organizations. Transfers of knowledge between departments could lead to increased effectiveness across the organization. External knowledge could be integrated into internal processes for increased performance and better relationships with stakeholders and partners. Knowledge management is increasingly important for all sorts of organization because it positively influence the competitive advantage and business performance (Argote & Ingram, 2000; Zack, McKeen & Singh, 2009; Lee et al., 2016; Kianto, Hussinki, & Vanhala, 2018), but also because it is in line with the new vision on business – strategies as platforms rather than pipelines (Van Alstyne, Parker & Choudary, 2016).

Knowledge management, meaning knowledge creation, acquiring, deposit, analysis, transfer etc., is tightly related to data technologies, to the digitization of organizations, with digital technologies. The current research highlights the importance of technologic infrastructure in knowledge management but approaches it more like a logistics issue (Butler et al, 2008; Cong and Pandya, 2003; Janowski, Pardo and Davies, 2012; Wiig, 2002). Therefore, the present paper aims to understand better the relationships between Knowledge Management and Digital transformations.

Digital transformations and the impact on business management

All types of organizations are implementing the digital change. Again, the academic literature is more focused on business context, followed by the public one (for instance e-government or smart cities). Less attention is given to nongovernmental organizations, although they are eager to take advantages of the facilities offered by the digital era (Zbucea & Leon, 2015).

What is digitalization? Despite the continuous presence of the concept in a professional environment and the actual evolutions in the economy and society, one can observe that the academic research covers only partially this concept. The business environment is already embracing the digital transformation. For instance, an SAP study developed in 2015 already showed not only the profound transformation of businesses due to the digital economy, but also that 86% of the respondents considered the transformations beneficial for their organizations, and 70% said that digitalization presents more opportunities than threats (SAP, 2015).

Digital era imposed a digital economy – meaning that the tendency for most organizations is to use exclusively digital information in a hyperconnected system (Tapscott, 2015). This evolution influences all managerial processes, including knowledge management, as well as marketing strategies, customer relationship management, the way products/services are provided and sold, employment practices, as well as other business processes (see a brief review in Pinzaru, Zbucnea & Vidu, 2016). Among these transformations, the decision-making processes – starting with the collection of data and storing of knowledge, going through their analysis, to how and when the decision is released – are influenced (Kurti & Haftor, 2015; Loebbecke & Picot, 2015; McAfee & Brynjolfsson, 2012).

A very important consequence of digital transformations, with a strong impact on business practices, is the big data (Crişan, Zbucnea & Moraru, 2014; Günther et al., 2017; Loebbecke & Picot, 2015; McAfee & Brynjolfsson, 2012). Big data is an important asset for an organization but it also implies numerous challenges. Some of the questions associated with it are: What to collect? How to use it? Do we have the necessary competent employees? Big data encompasses large quantities of knowledge, but mining it is a complex process, which is not only related to the organization but also to the public – privacy and trust are the most evident. Therefore, the management of this knowledge is a complex endeavor.

Jed Cawthorne (2015) analysis how knowledge management strategies applied to data and big data contribute to the development of actionable insights (Figure 1). This process is mediated by tacit knowledge existing in the organization, by previous experience, and by formal processes coded in business intelligence. Both tacit and explicit knowledge are galvanized for better decision-making and producing added value.

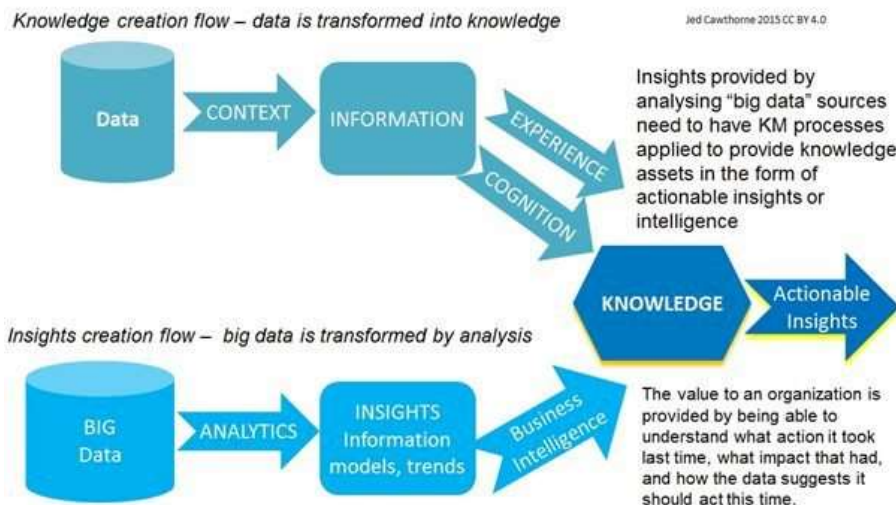


Figure 1. Knowledge management and big data. Source: Cawthorne, 2015

Business models have changed in this context. The impact of digitalization is complex, blurring the lines between organizations. It facilitated a new form of economy: sharing

economy. This multifaceted form of business is intertwined with knowledge management (see various aspects in Vătămănescu & Pinzaru, 2017).

Knowledge management and digital technologies

When we think to the digital era, inevitably, words such as ITC, smart devices, the internet, IoT (Internet of Things), digital infrastructure pop-up in our minds. This is quite natural because the processes associated with the digital economy are not possible without all this new universe. Therefore, it is fully explainable that the academic literature on knowledge management highlights the importance of ITC infrastructure.

Several publications on knowledge management highlight the importance of technology for effective KM strategies (Butler et al, 2008; Cong & Pandya, 2003; Gold, Malhotra & Segars, 2001; Janowski, Pardo & Davies, 2012; Marwick, 2001; Wiig, 2002). Technology facilitates the obtaining, the storage, the transfer, as well as the analysis of knowledge. Adequate infrastructure involves also designing a knowledge architecture, and it is a precondition for effective knowledge management (Gold, Malhotra & Segars, 2001). Since the beginning of the discussion, the accent was put on explicit knowledge (Marwick, 2001).

Technology is not only a storage of knowledge. New technologies ensure dynamic and timely use of knowledge. We talk about complex platforms, multi-purposeful, wide knowledge management system infrastructures (Lee & Hong, 2002). We also stress that not only IT infrastructure but also other organizational factors stimulate knowledge creation (Chou, 2005).

Nevertheless, studies show that technology and an ITC infrastructure are not enough for effective knowledge management. One of the main factors to be considered is the organizational culture (Alavi, Kayworth, & Leidner, 2005; Park, Ribi re, & Schulte Jr, 2004; Zheng, Yang, & McLean, 2010). It influences all processes associated, including knowledge transfer and actual effective use. The communication culture within organizations is also relevant for the effective use of digital platforms for more effective knowledge management (Bratianu, 2015).

Another aspect to be considered is that both explicit and tacit knowledge are transmitted today via online apps. A simple example to consider: organizing and networking are increasingly digital – this would not be possible without various apps. These ensure dynamic capabilities which ensure new opportunities for organizations, both large and small. Cloud computing is another transformation which influences the way knowledge is managed. Both apps and cloud computing positively influence knowledge management (Sultan, 2013; Zbucnea & Leon, 2015).

The IT infrastructure and technologies associated with knowledge management practices might also influence innovation within organizations. More interaction, fast and personalized access to information and knowledge, as well as creative analyzing techniques, might lead to increased creativity and innovation (Carneiro, 2000; Du Plessis, 2007). On the other hand, literature also stresses risks related to formalism and decreased creativity related to strict procedures and control of knowledge sharing (Swan, 1999), as well as a two-sided relationship between knowledge management processes and innovation (Teixeira, Oliveira, & Curado, 2018). Nevertheless, the latest

development of IoT provides a stimulating environment for knowledge management, innovation, and co-creation (Santoro et al., 2017). We draw attention that, at least for now, humans are the most proficient agents in knowledge creation (Bolisani & Bratianu, 2018), but technology and artificial intelligence have given a boost to this process.

Artificial intelligence and knowledge management systems and strategies

Many managers consider that artificial intelligence is positively transforming their organizations, by enhancing business processes (Davenport & Ronanki, 2018). Three main areas are identified when considering the interferences of artificial intelligence with business: *automating business processes, gaining insight through data analysis, and engaging with customers and employees*. All these areas involve knowledge management.

Nevertheless, business representatives see the impact mostly on functional aspects: better products, less work-force etc. Only two aspects related to knowledge management are highlighted: make better decisions – 35% and capture and apply scarce knowledge where needed – 25% (Davenport & Ronanki, 2018). Knowledge management systems are at the base of dynamic learning processes, and artificial intelligence determines intelligent decision-making.

At the base of artificial intelligence in knowledge management would be the existence of knowledge warehouses (Nemati et al., 2002). They would provide a platform for intelligent analysis, which will enhance the knowledge spiral: tacit knowledge sharing across the organization, tacit to explicit knowledge conversion, explicit knowledge leveraging to new knowledge, and learning by conversion of explicit to tacit knowledge (Nemati et al., 2002).

Artificial intelligence could be used to better understand the competition and the environment, being part of the competitive intelligence system by developing learning platforms for businesses and organizations. A systematic review of the academic literature shows that together knowledge management and competitive intelligence lead to better decision making and competitive advantage (Shujahat et al., 2017). They have a positive impact on developing mission statements and long-term objectives, they contribute to evaluating both the internal and external environments, they help to better design and evaluate strategies.

Despite the general optimism, artificial intelligence has not proved to be so effective. The reasons are diverse, such as the difficulty to integrate it in business processes (Miller, 2018), high costs related to complex implementation and lack of expertise, etc. (Davenport & Ronanki, 2018). Another important aspect to mention is that technologies are immature, and people are indispensable for effective outcomes. One significant example in this context is the chatbot. Although chatbots are increasingly popular and they have improved continuously, their evaluation and use are still discussed (Radziwill & Benton, 2017).

Conclusions

Both theory and practice show that ITC infrastructure is very important for effective knowledge management. This supports not only knowledge storage and sharing, but especially the latest digital transformations and intelligent devices allow for co-

creativity and innovation, for more complex exploitation of knowledge for the benefit of an organization and its stakeholders.

The most considered connection between knowledge management and the digital transformations is related to the technological infrastructure used by knowledge management strategies. While ITC platforms are vital for managing explicit knowledge, they are not the only aspects to be considered. On one hand, we observe dynamic capabilities (such as apps) that continuously influence the knowledge management processes, including by better management of both tacit and explicit knowledge. On the other hand, human factors such as communication practices and organizational culture are key for maximum exploitation of these technological/digital platforms.

While the ITC platforms connected to knowledge management strategies are very important for effective implementation, more attention should be given to the digital environment – apps, IoT, chatbots, etc. – and mostly to the human factors. Digital infrastructure and technology provide the basis for connection to the artificial intelligence, as well as to natural human intelligence. The relationships with human decision-making processes should be deeper investigated, as well as the impact on human and organizational behaviors.

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MARKETING AND CONSUMER BEHAVIOR

BRAND ASSOCIATIONS IN THE MIND OF THE CONSUMER

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Abstract. *Branding is the science as well as the art of managing the associations of the consumer's mind with a brand and the public's memories of that brand. The brand is positioned at the intersection of the following key terms: differentiation, innovation, context, creativity, uniqueness and interest/attraction. We know that the success of the long-term relationship of the consumer with the brand is conditioned by the combination of brand associations in the mind of the consumer. We have approached the issue of identifying the specific brand associations to the Alexandru Ioan Cuza University. This method of building brand conceptual maps is an important tool in brand management decisions. It provides the opportunity to know how information is stored in the mind of the consumer as well as the system of relationships within the consumer's mind. The main purpose of this paper was to construct two conceptual maps of associations for the Alexandru Ioan Cuza University brand for consumers and non-consumers of the brand by synthesizing the maps of individual associations made by each respondent as well as highlighting the main differences between the two conceptual associations maps made. The aim of the paper was to identify two sets of associations created by the Alexandru Ioan Cuza University brand in the minds of the consumers and non-consumers and to identify the intensity of the general feeling expressed towards the brand by the two categories.*

Keywords: *brand associations; brand conceptual map; brand equity; brand image; brand knowledge.*

Introduction

The issue of defining the concept of brand is becoming more and more current and increasingly studied (Datculescu, 2006, pp.58-76). Despite its importance (Myers, 2003), few methods of identifying and compiling brand maps have been developed so far (Punj & Moon, 2002), research methods developed focusing only on identifying brand associations in the mind of the consumer but not aggregating them into a network (Henderson, Iacobucci & Calder, 2002). It would be useful to remember here two methods of interest in developing brand maps such as ZMET (Zaltman's Metaphor Elicitation Technique), a method that uses qualitative techniques to identify the main

brand associations in the mind of the consumer, then through in-depth interviews discoveries of the links between these associations (Christensen & Olson, 2002). The second method - the construction of analytical maps, implies first to discover the brand associations in the mind of the consumers, and secondly, analytical methods and algorithms reveal the links between these associations (Henderson, Iacobucci & Calder, 1998). In this context, the identification and determination of the network of associations that intervene in the mind of the consumer (Campbell, 2002, pp.208-218) as a result of the branding strategy is the main pillar in consolidating and crystallizing the image, as well as in creating a business identity like a business card (Keller, 1998, pp.56-59).

The identification and measurement of these associations is the main concern of brand managers (Cărmădă, 2009, pp.39-41). Existing methods are more accessible to sociology and psychology practitioners rather than to marketers, as these associations are conditioned by cognitive processes in the minds of consumers (Brandt & Pahud de Mortanges, 2011). One of these methods, which has been simplified to make it accessible to marketing specialists, is building brand conceptual maps using the set of brand associations in the mind of the consumer (Joiner, 1998, pp.311-317). These maps are the visual representation of the associated consumer words with the brand, but also the way they are interconnected (Roedder et al., 2006).

We have approached the issue of identifying the specific brand associations to the Alexandru Ioan Cuza University. This method of building brand conceptual maps is an important tool in brand management decisions. It provides the opportunity to know how information is stored in the mind of the consumer as well as the system of relationships within the consumer's mind (Schnittka, Sattler & Zanker, 2012). The method of building brand conceptual maps incorporates two other methods, simplifying them so that they can be applied on larger samples and without the need for specialized training of interviewers. Being relatively new, this method is not yet widely used on the Romanian market, from where comes the challenge of its approach in this paper.

Literature Review

Nowadays, the brand becomes the most important component of the company's assets, as the top assets become intangible, namely the company name, the logos, the customer base or the patents. A survey conducted in 2000 shows that for the top twenty companies in the world, only 20% of their resources were tangible, the rest being intangible, including brands (Danciu, 2004, pp.17-19).

Creating a brand involves communicating a brand image in such a way that the target group of the brand will form a set of associations related to that brand. Thus, the brand equity concept has become an increasingly updated and important topic in marketing management. Despite the increased interest in this topic, little research has been carried out to investigate both the nature of brand associations and their effect on consumer behavior.

Among the few studies carried out, a large part of them deal with this subject from a theoretical perspective, without carrying out either quantitative or qualitative research (Keller, 1993, 1998). Keller (1993) presents a conceptual model of brand equity from the perspective of the individual consumer. As for brand associations, he synthesizes

more research results, including the psychological field, conceptualizing various dimensions of associations. Associations are presented as a component part of the brand image that along with awareness of brand existence will constitute the brand awareness degree. Keller also offers a broad classification of types of associations, deals with their dimensions, but also provides implications for their measurement.

Joiner (1998), applying methods used in psychology and education to determine the cognitive structure, but also on the basis of previous research in the field of mind functioning, proposed a conceptualization model of brand associations called the Concept Map. Within this method, associations are seen as nodes that are linked by paths or relationships. Respondents who participated in the research were asked to write the associations they have in mind on a sheet (related to a particular subject/brand) and to relate them to each other by means of lines that represent the relations between them.

Low and Lamb (2000) deal in a different way conceptualizing brand associations, referring to three dimensions: brand image, brand attitude, and perceived quality.

Another study, which this time only deals with the brand image, was developed by the Spanish authors Belen del Rio, Vazquez and Iglesias (2001). Their research explores brand associations based on the functions or benefits that consumers associate with the brand. In particular, these functions are measured by four dimensions: warranty, social identification, status and personal identification. The article also studies the influence of these four dimensions on the consumers' desire to pay a premium price, to recommend the brand or to buy other related products from the same brand.

As a follow-up to the model built by Joiner, the authors Roedder, Loken, Kyeongheui, and Monga present the model of building conceptual brand maps. According to them, the developed methodology is a way of identifying brand association networks. Unlike Joiner's method, this model involves selecting and building a conceptual brand map based on the associations made available, while also mentioning the intensity of links between associations.

Brand maps or graphic representations of associations are important from the perspective of understanding the links and relationships between brand associations. Brandt and Pahud de Mortanges (2011) use the same research methodology as the one presented above, but this time it's about a product, not a service like the original model. Brandt and Pahud de Mortanges which also target the model of building conceptual brand maps. The research once again validates the model, confirms improvements to the methodology, and extends the scope to city brands.

The main concern of brand managers is to understand and manage the set of associations generated by a particular brand. Thus, the authors Till, Baack and Waterman (2011) have attempted to develop a methodology for identifying these associations that is also accessible to brand managers in terms of ease of application. As a result of applying the proposed method, managers gain a clear and complex vision on the associations generated by the managed brand or the competitors' brand, being able to visualize them in a strategic brand association map.

Roedder, Loken, Kyeongheui and Monga (2006) introduced the model for building concept maps of brands, which is an important approach to measuring brand image from brand association perspective, also offering implications regarding the intensity and uniqueness of brand associations. This model does not offer, instead, techniques to measure the importance of brand associations. This was brought to the original model by authors Schnittka, Sattler and Zenker (2012). They are developing a new methodology called Brand Association Network Value (BANV), which quantifies the overall value of the association network.

Koll and von Wallpach (2013) present the results of two large-scale studies for a product, namely for a service that involves conceptualizing consumer responses. The findings show that a higher degree of association will generate more positive responses from consumers. It also identifies why overlapping associations are not a necessary condition for generating consumer responses. This finding is inconsistent with the managerial practices that attach great importance to the degree of overlapping of brand associations.

In conclusion, the analyzed literature offers a fairly broad spectrum of possibilities to approach brand associations. At the same time, the different dimensions explained do not provide a well-defined conceptual framework, leaving room for future research.

For the research which we will use onwards, we will use the model conceptualized by the authors Roedder, Loken, Kyeongheui and Monga (2006), namely the construction of Brand Concept Maps (BCM), as it provides a structured framework research, it exemplifies and specifies the tools and instructions to follow, and many of the subsequent research is based on this model.

Methodology

Research problem

This research seeks to identify brand associations specific to the Alexandru Ioan Cuza University. Using the identified associations, a conceptual map of representative brand associations for Alexandru Ioan Cuza University will be built for both consumers and non-consumers starting from their individual brand association maps.

Purpose

Designing two conceptual maps of brand associations for consumer and non-brand consumers by synthesizing the maps of individual associations made by each respondent, as well as highlighting the main differences between the two conceptual maps of associations made.

Objectives

O1. Identifying a set of associations created by the Alexandru Ioan Cuza University brand in the minds of the consumers (students of Alexandru Ioan Cuza University) and non-consumers (the students of the four other state universities in Iasi).

O2. Identifying the intensity of the general feeling expressed towards the Alexandru Ioan Cuza University brand, both by consumers and non-consumers.

The research was conducted in two stages:

I. Stage of deduction of associations (elicitation)

II. Stage identifying brand conceptual maps

Tools and methods of research

The first stage was designed to identify a set of major brand association for Alexandru Ioan Cuza University, and then to be used in the second stage of the research. The method used in this step is a qualitative one, having the interview guide as a tool. It was composed of a single open question, ("What associations do I remember when thinking about the Alexandru Ioan Cuza University brand?"), because through this open question the main consumers of the brand - the students, have the possibility to verbalize any associations come to their minds. This stage was intended to provide a wider range of associations, but not just those associations that appear first in the mind of the consumer (also called "top of mind").

The next set of associations of the Alexandru Ioan Cuza University brand was identified at this stage:

Table 1. List of brand associations resulting from the first stage

No.	Associations	Frequency	Representative associations
1	Projects / presentations / teams / suit	24	Projects
2	Exams / grids / backlogs / grades	22	Exams
3	College / FEAA / Law / Geography	20	Colleges
4	Bachelor / Master / PhD	19	Levels of studies
5	Colleagues / friends	19	Colleagues
6	Professors	17	Professors
7	Seminars / courses	17	Courses
8	Students / Studentship	17	Students
9	Reputation / quality / reliability / responsibility / sobriety / popularity / performance	15	Reputation
10	AIESEC / LSE / Asdmark / ELSA / ATRAG / volunteering	14	Student organizations
11	Copou/Copou park	14	Copou
12	Partial / session / evaluation	13	Session
13	Scholarship / budget / fees	13	Scholarship
14	Erasmus / international cooperation / international	13	International
15	History / age / tradition	13	Tradition
16	Home / Emporium / "At the whale" / campus	13	Student campus
17	Library / books / course support	13	Library

No.	Associations	Frequency	Representative associations
18	University / top university / one of the best universities in Romania / the first university in Romania	13	The first university in Romania

As we recorded a wide variety of associations, and most importantly because of this, the occurrence of associations did not satisfy the criterion of 50% of appearances, we used the grouping of associations in lexical fields, as can be seen in the table above (table 1). From each field, we extracted only the most representative associations, as can be seen in the last column of the table.

This research aims to identify both positive and negative associations to make research more complex. The negative associations identified had frequent occurrences much lower than the 50% threshold, however, we have decided to introduce these associations as well. These were selected by the most frequently mentioned criteria (table 2).

Table 2. List of negative associations included in the research

No.	Negative Associations	Frequency
1	Stress	24
2	Sleepless nights	22
3	Boredom	20
4	Headaches	19
5	Anger	19

The second stage was also a qualitative research carried out through 100 personal interviews, using the interview guide as an instrument. At this stage, the respondents were asked to make a conceptual brand map for Alexandru Ioan Cuza University using the associations made available, which we selected in the first stage. To this end, we developed a plan that contains the associations identified in the first stage.

Respondents were asked to select a set of associations they considered as specific to Alexandru Ioan Cuza University. Having an example of a conceptual map of associations, respondents built their map of associations for Alexandru Ioan Cuza University. A mandatory condition in making these maps was to establish links between associations by drawing simple, double or triple lines between them (single lines - weak link, double lines - medium intensity link, triple lines - strong link).

Volume and structure of the population

The volume of the population for the first stage was made up by the students of the Alexandru Ioan Cuza University, especially from the final years or the master, as they are the main consumers of this brand and after 3 or 4 years of study they managed to form a rather clear attitude regarding this brand capable of generating competent and relevant associations. A number of 25 respondents were investigated, as this is considered the optimal and sufficient number for this stage according to the research model identified in the specialty literature.

For the second stage, the population is represented by the students in the Iasi university center, which are registered in the five state universities. The universities were contacted to get the total number of students from each one, as well as their number in terms of gender. These accessible data for 2014 were then processed using the quota sampling method, so we obtained the number of students depending on the gender to be interviewed:

- Alexandru Ioan Cuza University of Iasi: 30 women, 15 men;
- Gheorghe Asachi Technical University of Iasi: 8 women, 20 men;
- Grigore T. Popa University of Medicine and Pharmacy in Iasi: 10 women, 6 men;
- Ion Ionescu de la Brad University of Agricultural Sciences and Veterinary Medicine from Iasi: 4 women, 4 men;
- George Enescu University of Arts in Iasi: 2 women, 1 man.

It can be seen that the sample targeted 54 women and 46 men, which we chose depending on the university. Since the sample consisted of students, their age was between 18 and 27 years of age.

Students from private universities in Iasi are not part of the population of this research, as we can say that they benefit from other types of services, with specifications other than those specific to the public education system.

Research results

In order to achieve the objectives of this research, it is opportune to first and foremost show how we encoded the data obtained during the interview. From each individual association map we extracted the following information:

- The presence of the 23 brand associations.
- The type of lines (single, double, triple) linking to each other or to the brand.
- The level at which the associations were placed (Level 1 - Directly Linked to the Brand, Level 2 - Linked to Level 1 Associations and so on).
- The position of associations (overriding or subordinate).

Calculating the indicators

Using the encoded data, we performed several calculations that are needed in the process of building brand conceptual maps (Bruner & Hensel, 1996, pp.67-83). Thus, we have calculated the following indicators for both consumers and non-consumers:

- A. The frequency of mentioning brand associations represents wherever an association appears in the respondents' maps. For example, "Session" is the association most commonly mentioned by brand consumers. The relative frequency is the percentage value of the frequency of the brand association.
- B. The number of interconnections represents how many times an association is connected with other brand associations. In the specialty literature, interconnectivity is presented as an important element in assessing the degree of centrality of a component within the general association system. For example, the highest value of this indicator belongs to the "session" association. Frequently mentioned associations that have a high number of

interconnections are those that will be considered primarily when selecting base brand associations.

The next three indicators are needed to determine the level at which the associations will be placed within the conceptual maps, directly related to the brand or indirectly.

- C. The frequency of mentioning first-level associations represents how many times associations have been placed on individual maps that are directly related to the brand.
- D. The first-level association report is the percentage ratio between the frequency of the first-level associations and the frequency of the associations.
- E. The type of interconnection indicates how often associations are placed over (overdrive) or under (subordinate) other associations within individual maps. For example, brand consumers not only frequently referred to the association of "projects", but they also placed it most often over the other associations (in the case of 14 individual maps).

The brand conceptual mapping procedure

In designing conceptual brand maps for consumers and non-consumers of Alexandru Ioan Cuza University we followed a five-step process that respects the recommendations of the research model identified in the specialty literature. In table 3, we briefly outlined the main aspects of the two conceptual brand maps.

Table 3. Rules for compiling brand conceptual maps

Steps	Indicators	Rules
1. Selecting core brand associations	The frequency of mentioning associations	The inclusion of associations that have been referenced in at least 50% of the individual maps.
	The number of interconnections	The inclusion of associations that have been mentioned in at least 40% - 49% of the individual maps, if the maximum plus the minimum divided by two of the indicator minus the number of interconnections is equal to or higher than the one of the key associations previously selected.
2. Selection of first level associations	The frequency of mentioning first level associations	The ratio of the frequency of mentioning the associations of the first level to the frequency of mentioning associations - at least 50%.
	The ratio of the frequency of mentioning the associations of the first level to the frequency of mentioning the associations	
	The type of interconnections	The inclusion of multiple overdrive interconnections as opposed to subordinate ones.

Steps	Indicators	Rules
3. Selection of lines for basic associations	The frequency of links between associations	Identification of the inflection point represents the equality between the number of different bindings and the frequency of occurrence of the links. The inclusion of links between associations that match or are larger than the inflection point.
4. Selection of lines for secondary brand associations	The frequency of links between associations	The inclusion of associations that are related to the basic ones, respecting the condition of the inflection point mentioned in the previous step.
5. Selection of line types (single, double, triple)	The average number of lines per link	Determination of the average number of lines for each link used in the previous steps, which will be rounded to the nearest whole number.

Thus, following the guidelines in the table above, we will continue to present the conceptual brand maps obtained for both consumers and non-consumers. The first purpose of this research is to build up the maps below (figure 1 and figure 2)

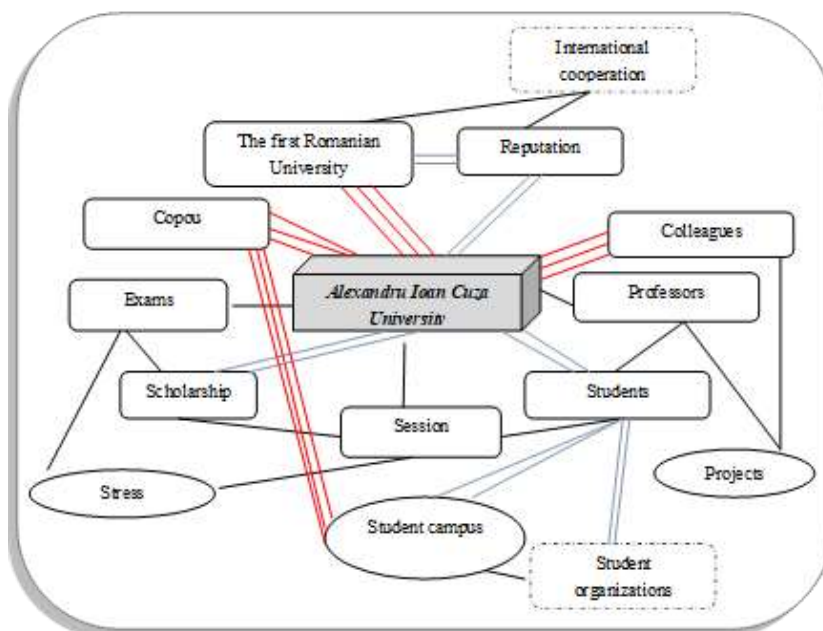


Figure 1. Conceptual brand map for brand consumers - students of Alexandru Ioan Cuza University

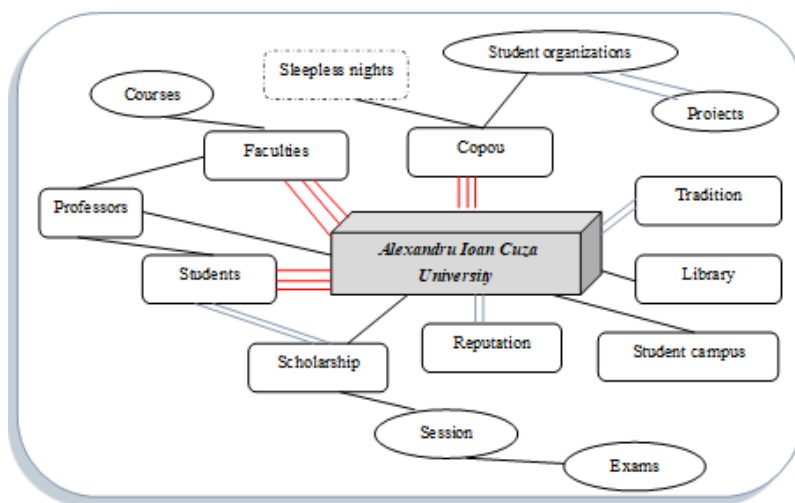


Figure 2. Brand conceptual map for non-brand consumers

Considering the second purpose of this research, we have verified the existence of significant differences between the intensity of the general feeling expressed by consumers and non-consumers towards the Alexandru Ioan Cuza University brand. To this end, we analyzed the answers provided by respondents to Section IV of the interview guide, namely the question: "Indicate on a scale from 1 - extremely negative to 10 - extremely positive what are your feelings about Alexandru Ioan University Cuza". The average consumer score was 7.78 ($M = 7.78$) and the non-consumer ratio was 7.44 ($M = 7.44$). It can be said that both the students of Alexandru Ioan Cuza University and the students from the other four state universities in Iasi have on average the same feelings for the Alexandru Ioan Cuza University, the average of 7.78 and 7.44 respectively, denotes positive general feelings towards the brand.

Conclusions

Branding is the science as well as the art of managing consumer brand associations between a brand and public memories about that brand. It can be viewed from the perspective of two extremes, as a set of well-defined components that can be influenced to achieve a certain result, or as a set of confusing and elusive images of the consumer's mind.

The importance of brand associations in the mind of the consumer, therefore, appears to be the key determinant in the long-term relationship of the consumer with the brand. Moreover, the identification and measurement of these associations represent the main objective of the managers in defining the brand communication strategy and the main purpose of this work.

The results of this research have generated two conceptual maps for the Alexandru Ioan Cuza University brand, which were achieved following a five-stage algorithm. We have found that both consumers and non-consumers have in mind the following set of common associations: Copou, Reputation, Students, Professors, Scholarship, Student Organizations, Student Campus, Exams, Projects, Session. While those specific to consumers are: Colleagues, International Cooperation, First Romanian University,

Stress, and Non-Consumers: Library, Courses, Faculties, Tradition, Sleepless nights. One of the causes of the emergence of more common but specific associations could be the availability of these associations for both groups, as it can be seen that they are not related to the specific consumer experience and are rather general, possibly they could be applicable to other academic institutions.

Analyzing the number of links between associations and their type, we have seen relatively higher values for the consumer map than for non-consumers. Thus, although the associations are similar, the relationship between them and their intensity is no longer the same. This increases the intensity of links, due to the multiple experiences of consumers with the brand and the higher degree of familiarity.

During the interview, the respondents were also asked about the intensity of their general expressed sentiment towards Alexandru Ioan Cuza University, being asked to give a score on a scale of 1 to 10 (1 - extremely negative, 10 - extremely positive). The average consumer score was 7.78, and the average of the marks given by non-consumers was 7.44, as it can be seen, there were no significant differences between environments. Both environments suggest positive general feelings towards the brand, which should be appreciated by the management of the institution, but it was also intended to increase this degree in the future.

Finally, assessing the degree of familiarity and previous experience with the non-consumer brand, we noticed that only 11% of the respondents did not visit any of Alexandru Ioan Cuza University's headquarters and 13% did not know or did not meet students/professors / employees of Alexandru Ioan Cuza University.

Intentional or not, it is certain that Alexandru Ioan Cuza University has formed a brand image in the minds of students through a group of closely linked associations.

Useful future investigation directions to be mentioned here would be: simplifying the way data is collected from the interview to the application of an investigation, incorporating into the method the variables that could measure the nature of the links between the associations and could explain the reasons for linking the associations in a certain way, but also testing whether this research can be done through a survey based on an online questionnaire.

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TRUSTING IN TRUSTLESS TRUST: BLOCKCHAIN INFORMATION STORAGE IN PRODUCT COMMUNICATION

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Abstract. *This study reports empirical results of a survey on consumer trust in trustless trust facilities provided by distributed ledger technologies, using the example of an app that obtains product-related information from a blockchain. We report results from 82 respondents who were familiarized with the features of the app under consideration. The novelty of this study is that we provide an assessment of consumers' trust regarding the concept of trustless trust. The relevance for practitioners arises from the abundance of quality certifications, eco-labels and product reviews that add confusion rather than orientation to consumer decision processes at the moment of truth (on- or off-line buying decisions) in combination with the increasing popularity of smart contracts, which can be used to store all the relevant information about product details and processing along the supply chain.*

Keywords. *Blockchain; Distributed Ledger Technology; Product Information; Smart Contracts; Trust; Trustless.*

A lie can travel half way around the world while the truth is putting its shoes on.

Introduction

Trust is an underlying determinant that 'participates' in many decisions that managers, employees and consumers make every day. Trust guides both conscious and unconscious choices and can be amplified by digital technologies (Falkenreck & Wagner, 2017). Trust is based on knowledge, using evidence from the past. Contrastingly, faith is based on the complete absence of evidence. The reference to the past explains the power of trust, but also its fragility (Rousseau et al., 1998). When there has been no negative history, no evidence actions, no rumors nor bad experiences, trust is built easily, and people perform more openly. However, such a state of information environment is unlikely (Decker, Scholz & Wagner, 2004; Scholz & Wager, 2006). Worsening the situation, more and more information is produced all over the world, forcing people to cope with a stream of real-time information and huge amounts of data (Ontrup et al., 2009).

Once trust has been broken or even damaged, it is highly difficult, if not impossible, to restore the previous level of trust within same circumstances. Being a powerful motivator, trust is a subject of intense interest to those who need people to make specific decisions. Often information is presented in a subjective way or even misrepresented (Scholz, Meißner & Wagner, 2006). Data manipulation has become a relevant problem

in modern world. For example, a solid proportion of peer-reviewed scientific studies cannot be replicated (Maxwell, Lau & Howard, 2015). The soundness of the information inputted is an important part of the decision-making process and directly influences the quality of the decisions made. The absence of reliable sources of truth and an increasing amount of data require that people spend more time in analyzing the information and making decisions. Unfortunately, time is a limited resource that cannot be produced. In order to make a decision in the same timespan as before, a person needs to handle increased information. People try to involve machines to make calculations and perform tasks involving logical reasoning tasks (Schwerdtfeger & Wagner, 2009).

Herein trust is defined as accepting risk in a relationship when there is no reliable information or limited information at all (Büttner & Göritz, 2008). By sharing trust, it is possible for the parties to any relationship to save resources that would be spent on investigation of information. This point is where blockchain technology enters and unfolds its potential for changing the situation. This technology provides a trust surrogate for the parties participating in the system by freezing information and sharing that frozen information (Glaser, 2017). Therefore, it is attractive in the absence of a single source of truth and a lack of reliable sources of information, particularly in cases when suppliers of products use misleading descriptions of product attributes (Amazon, 2018; Online Shopping Rights, 2018). Incorrect information can be intentionally provided or can be a result of an unintentional mistake. In both cases, consumers are at a disadvantage as they are not informed about the true product attributes. Information can be validated by evaluating labels (tags, packaging, manuals, etc.) or considering reviews provided by buyers or users. However, in both situations, consumers cannot be assured of obtaining reliable information. Particularly in online reviews, important details might be omitted to support individual opinions and experiences.

Disputed ledger technologies have the potential to overcome this shortage of reliable information. However, why and when people trust the information in a blockchain must be clarified for it to advance as a problem-solving technology. Despite the years that have already passed from the initial introduction of this technology and the prominence it gained through the Bitcoin hype, it still appears to be in the beginning stage of its life cycle (Gatteschi et al., 2018). Therefore, this study aims to investigate consumer trust and what people think of blockchain technology by using a prototype of distributed ledger-based tool. This prototype aims increase people's trust by retrieving information from the blockchain with a user-friendly interface and, thus, save consumers resources for better purposes. However, blockchain technology cannot assure the user that the information is correct. What can be assured is that the entries, transactions, and changes are consistent as they are decentralized and immutable. If the initial input was wrong and the correctness of the initial data has not been validated, then all further transactions related to this information are also unreliable (Teacy et al., 2006; Jøsang et al. 2007). For those customers who know what a blockchain is and what features this technology provides, the use of a blockchain should not increase trust as the blockchain itself would serve as a database and not a source of truth. On the other hand, for some customers the wording "blockchain technology" could be a sign of trustworthiness and reliability. The worldwide web is not a completely secure place to store information, an issue which has been demonstrated multiple times as instances of data leaks have become widely known. Blockchain is one of the technologies that are able to increase the level of security of the information on the web and return people's trust in the reliability of Internet-based data storage platforms.

The remainder of the paper is structured as follows: In the next section, we outline our research design and the sampling procedure. Subsequently, we describe the data set and outline the results. In last section, we provide a discussion of results and draw our conclusions.

Research design

In this study, we evaluate a tool that gathers the information about a product into a smart contract and provides this information to the customers. Customers receive only relevant information by applying predefined filters that have been individualized for each customer. The features of the tool are outlined in Figure 1.

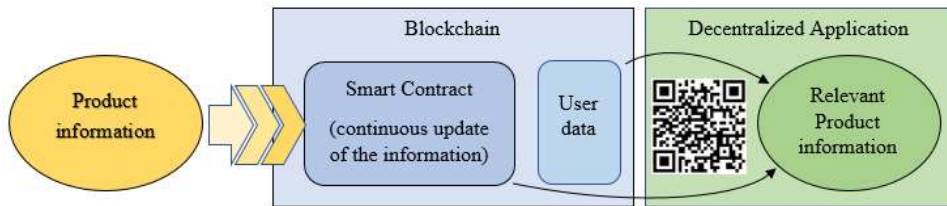


Figure 1. Product information flow, including the blockchain and decentralized application.

All the processes of each stage of the supply chain are written into this smart contract (Mik, 2017). In this way, all relevant product information is available for end-users. Some actions, according to the logic of the smart contract, trigger other actions. In this proposal, recognition of the product is realized using a QR code recognition system. This technology is widely used nowadays and is becoming more popular with time (Shin et al., 2012; Okazaki et al., 2018; Yang et al., 2017). This system provides several interfaces where information is inputted externally, but, by the system's design, the entire data flow related to a product happens in an automated manner without human interference. Thus, who has added which information when becomes traceable. However, only with the correct initial input can the advantage of the reliable infrastructure (i.e., the source code and hardware) unfold. This infrastructure allows processing and transferring of the information from one state to another without a loss of data or a breach of integrity. However, the interfaces can be considered as weaknesses because, at the input stages, data integrity depends on the participants.

Taking a user perspective, the application substitutes currently existing formats for presenting product information (tags, eco-labels, online reviews, etc.) with ones enriched with the features inherent in blockchain technology. Notably, combining user personal information with product information provides a unique quality of product feature-related information, reflecting the choices of the individual user at each stage of the supply chain schematically (Martens & Maalej, 2018). Figure 2 reflects the information flow process of the application. Simplification of the user interface will provide a better experience and faster acceptance of the tool.



Figure 2. Schematic representation of the process of user interaction with the product-representing QR code using a personal mobile device.

Consumer and public policy makers are becoming increasingly concerned about environmental issues, especially in food production and the supply chain (North et al., 2003; Zulauf et al., 2013). Studies across the globe have aimed at deriving information about consumer behavior related to healthy and environmentally friendly products (Chan & Lau, 2002; Thøgersen & Zhou, 2012; Pham et al., 2018; Uddin & Khan, 2018). Results support the idea that younger consumers are more concerned about green products and consume healthier food.

Data

Information gathered in a trust-related survey is likely to be influenced by biases. Trust is not a binary variable and, in many cases, trust is a derivative of the interaction of other factors. Nevertheless, various studies demonstrate that the results of a survey highly correlate with the results of experiments (Bellemare & Kroeger, 2007; Sapienza et al., 2013; Naef & Schupp, 2009).

This study builds upon an online survey using Google Forms conducted from May 11-17, 2018. Respondents received a link to a questionnaire and were asked to complete it. They had no time limits and could fill in the questionnaire from any device at any time they wished. In total, 82 people participated in the survey. Fifty-six percent of all respondents were male and 44 percent were female. The age of the respondents varied from 20 to 54 years, while the majority (61 percent) represented the age group 25 to 35 years.

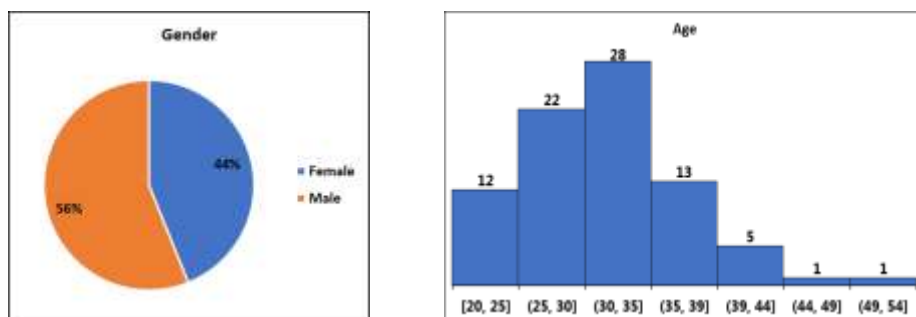


Figure 3. Demographic data of the respondents (gender and age).



Figure 4. Demographic data of the respondents (main occupation and country of residence).

As can be seen from the data concerning occupation, we gathered a sample of mainly working respondents (78 percent). The other 22 percent were spread between study, no current occupation, and other. Respondents lived in Germany, Uzbekistan, Russia, the United States, the United Arab Emirates, Latvia, Italy, France and Cyprus.

Results

The first two questions in the second section of the survey asked about the perception of one's own trustfulness with the question "Can you say that you are a trustful person?" and the respondent's trust in people surrounding him or her, with the question "Can you say that most people around you are trustworthy?" respectively. Only four people responded negatively to both questions. All the respondents who perceived themselves as not trustful and most of the people surrounding them as untrustworthy did not trust information published through social media, newspapers and TV.

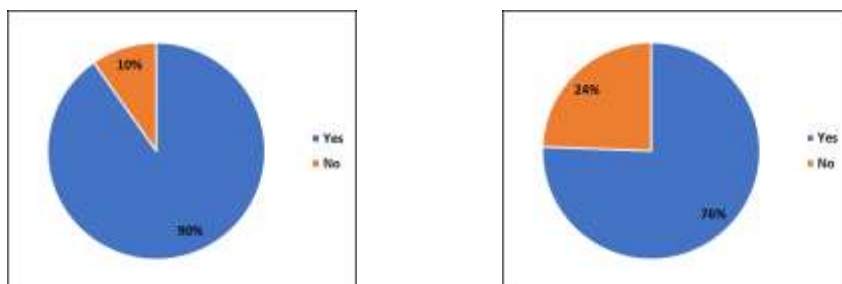


Figure 5. Answers to the questions "Can you say that you are a trustful person?" (left) and "Can you say that most people around you are trustworthy?" (right).

Despite the fact that most respondents perceive themselves as trustful and the surrounding environment as trustworthy, most indicated that they would behave cautiously with new products and new people, with 84 percent being cautious with new products and 79 percent with new people. We conclude that people tend not to trust something that is new to them. This finding is highly important for any innovation or novelty and vital for Internet-based commercial activity.

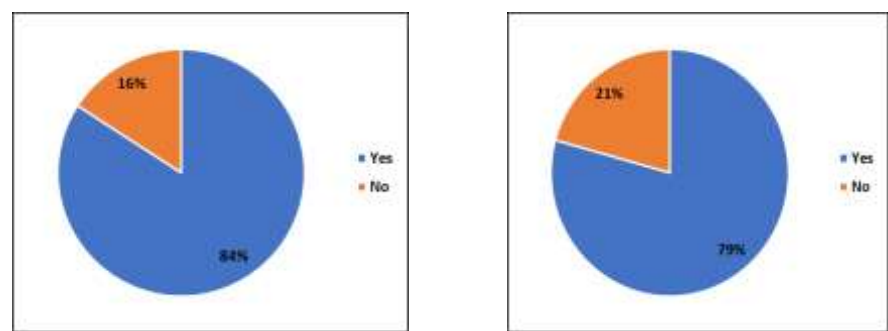


Figure 6. Answers to the questions “Do you agree with the statement ‘When buying a new product (food, clothes, home appliances, etc.), you have to be careful and cautious’” (left) and “Do you agree with the statement ‘When meeting new people, you have to be careful and cautious before trusting them’” (right).

The next set of questions was aimed at testing the extent to which consumers were interested in product description. Consumers products were split into five major groups. Respondents had to measure the frequency of their behavior on a scale from “always” to “never.” As seen from Figure 7, most people cared about information that described foodstuffs. According to the results of the survey, 80 percent of the respondents checked product description at least “sometimes,” which offers motivation to develop a reliable source of information, which will, in turn, be in demand by consumers.

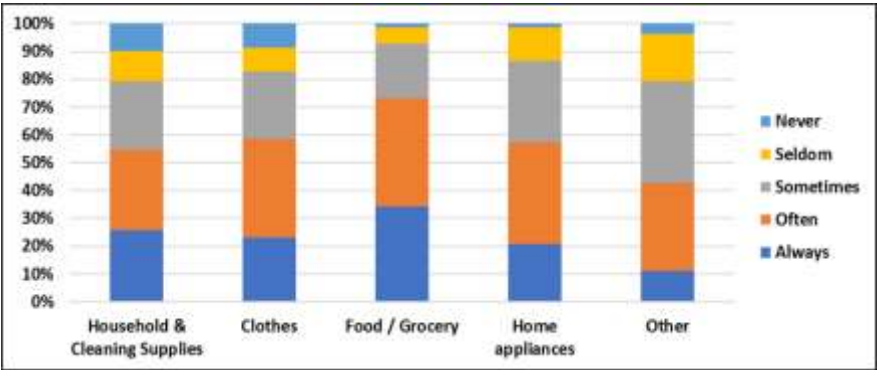


Figure 7. Frequency of product description check, by product groups

Most respondents trust information published in the scientific media or information based on research (Figure 8). Eighty-five percent of all respondents indicated that scientific media were trustworthy sources of information for them. Approximately one third of the respondents trusted official statistics from governmental authorities. Newspapers and TV are still trusted by 45 percent of the respondents, while social media proved to be trustworthy sources of information for 21 percent of the

respondents. Those who did not trust scientific sources of information also did not trust the information coming from other channels.

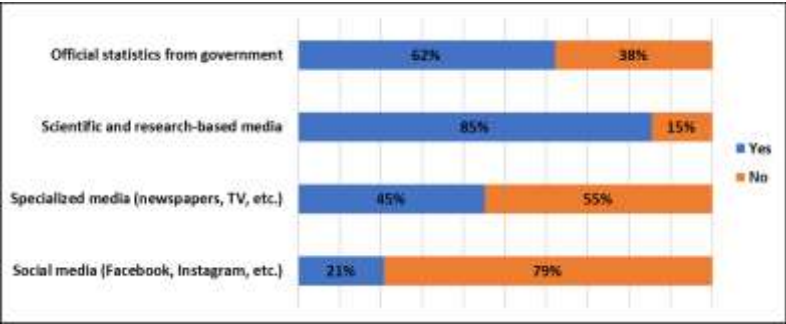


Figure 8. Trust in information by source

Despite the ubiquitous hype surrounding blockchain technology, 24 percent of the respondents had never heard about this technology. Smart contract technology was known by only 38 percent of all respondents. Approximately one half (53 percent) of those who knew about blockchain technology were aware of both technologies.

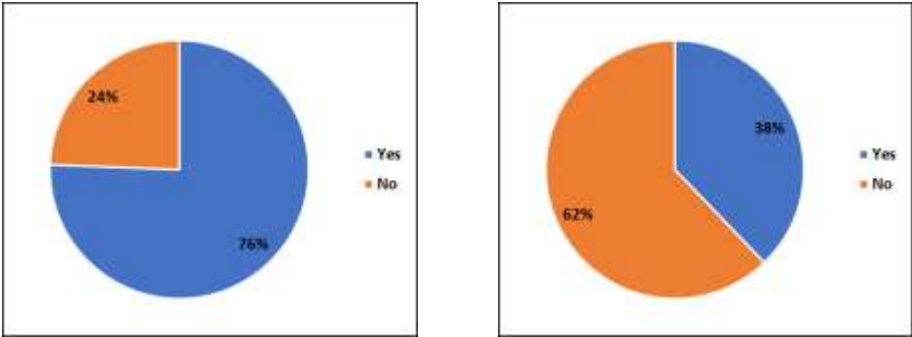


Figure 9. Respondents' awareness of about blockchain technology (left) and smart contracts (right)

The results of the survey correspond to the general statistics collected by Google, which are available online via the Google Trends service (Figure 10).

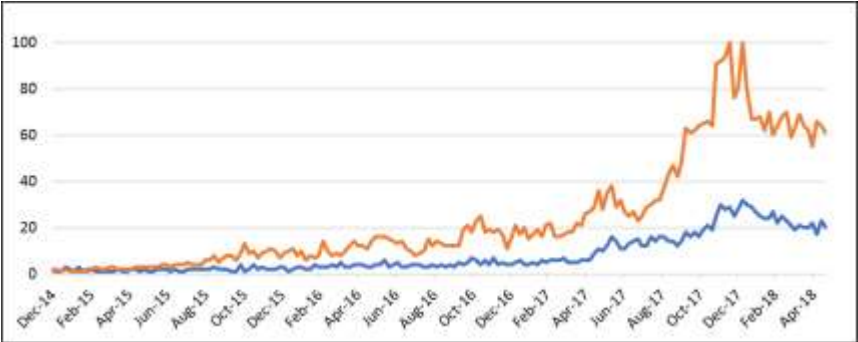


Figure 10. Relative amount of web search requests for 'blockchain technology' (orange line) and 'smart contracts' (blue line) for the past five years. Data source: <https://trends.google.com>

Those who replied affirmatively to the question about awareness of blockchain technology were then asked what the term blockchain technology meant to them and what features belonged to this technology. The highest number of respondents (48 percent) said that a blockchain was a sort of database, namely a decentralized database. The second (46 percent) and the third (37 percent) most popular answers represented a blockchain as a tool for transactions.

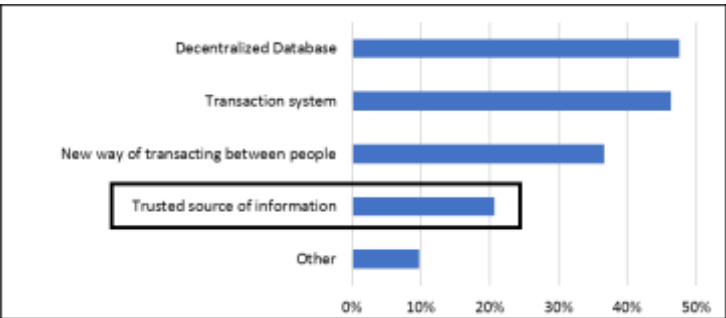


Figure 11. Proportion of answers to the question ‘What is a blockchain?’

The fourth most popular answer reported that a blockchain was a “trusted source of information.” Only 21 percent of all respondents considered a blockchain to be a source of information that they could trust. This option was included to see if people would ascribe this attribute to blockchain technology. Because of its design, a blockchain, by default, is not a trusted source of information. Erroneous information can appear and circulate in the system. In defining a blockchain as a trusted source of information and by crediting this feature to blockchain technology, people misunderstand the whole structure and purpose of the technology.

In the next question, respondents were asked to select the features that, to their knowledge, are provided by blockchain technology (Figure 12).

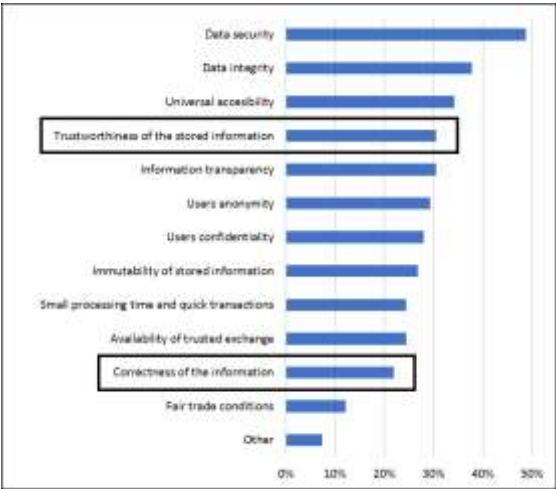


Figure 12. Proportion of answers to the question ‘Which features does blockchain technology provide?’

Notably, 30 percent of the respondents chose “trustworthiness of the stored information” as a feature of a blockchain. It can be assumed that, in general, people expect information to be trustworthy. Only 22 percent of the respondents also said that a blockchain provides them with correct information.

To evaluate the proposition that people value data correctness in digital information storage, the respondents were asked to measure the importance of different features of data storage systems (Figure 13).

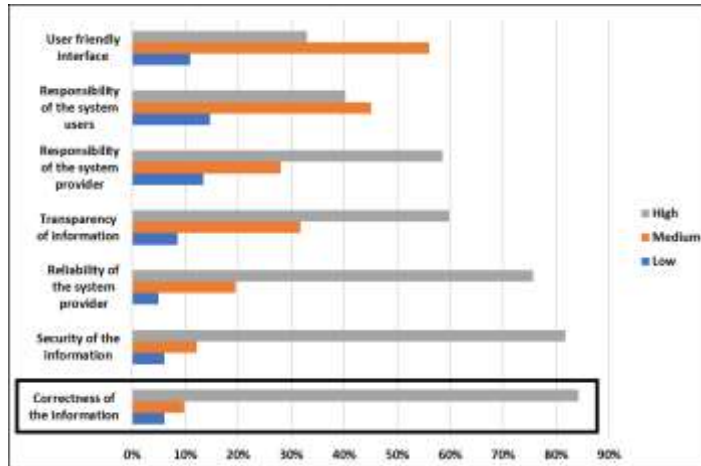


Figure 13. Importance of features of digital information storage systems

The top three features with the highest ratings were reliability of the service provider, security of the information and correctness of the stored information. The majority of respondents (84 percent) agreed that it is very important to them to have correct information in a database.

Consumers need an easy-to-use interface for obtaining information without going into the details of the blockchain technology. A set of two questions revealed the proportion of the respondents who used the mobile QR code scanner and how often people used that tool. QR codes are popular nowadays and are used for multiple reasons (Soon, 2008). For example, in many Asian countries, such as China, Japan, Korea, and Singapore, QR codes are integrated in digital payment systems and online banking. Approximately two thirds of the respondents have such an application on their mobile devices (Figure 14).

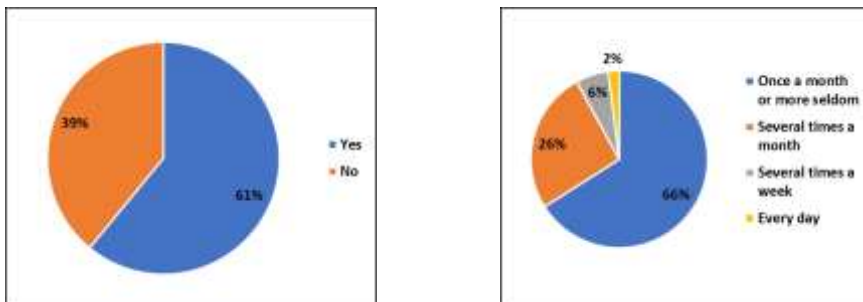


Figure 14. Proportion of respondents who have a QR code scanner on their mobile device (left) and the frequency of use of the QR code scanner (right).

Conclusion

The concept of trustless trust can seem credible using arguments that appeal to technology; however, it needs to be trusted by consumers. This study provides empirical evidence assessing consumers' trust in trustless trust. Notably, trust is perceived differently by people from different cultural groups. Considering the supply chains of consumer goods, particularly fashion or food items, consumers trust is affected by a dominance of unreliable information. A plethora of quality, environmental and working conditions-related labels adds confusion rather than orientation in a situation where a consumer has to choose. Considering this context, an important first result of this study is the finding that consumers report a need for information they can trust. Four out of five respondents reported that they are cautious when dealing with unknown products and persons with whom they are unfamiliar.

Blockchain technology is proposed to be a possible solution to increase trust and decrease the amount of resources spent on monitoring, control, investigations, etc. Blockchain technology enriches a database with features like immutability, integrity, and consistency, thus making the database more reliable and increasing trust in the data contained therein.

The listed features of blockchain technology are known by the specific people who deal with the data storing processes and the technology itself, but, on average, people are not familiar with the technology and especially with the features provided by the technology. Moreover, when it comes to a further development of the blockchain, namely smart contracts, even fewer people are familiar with this technology and know what it means.

For those who are aware of the existence of blockchain technology, the technology is not expected to ensure trustworthy information. The majority of those who know what blockchain technology is understand that there is no such attribute as trustworthiness and that the data in this type of digital storage system, as a result, lack a trustworthiness component.

At the same time, most of the survey's respondents replied that with regard to information storage systems (i.e., databases), the correctness of the stored data is of the highest importance. Combining these two findings, it can be concluded that a blockchain, despite its unique features, cannot serve as a source of a correct information and that many people understand and agree with this statement. Along with correctness of the information, data security was also very important to the respondents. Recent incidents of data breach have informed people that the Internet is not a safe place to store personal data and that there is a need for other solutions to this problem. A blockchain, according to the results of the survey and also information based on research, can be a solution to the problem of data security. Using cryptography and time stamping while storing the data make it hardly possible with current technologies to undermine protection and perform any sort of malicious act with the data stored in the blockchain. As with any technology, a blockchain has weaknesses; nevertheless, the way data is handled within a blockchain database is more secure compared to other existing data storage solutions.

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THE EFFECT OF CHOSEN FACTORS DIFFERENTIATING READINESS TO PROVIDE PERSONAL DATA IN M-COMMERCE

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Abstract. *Studies show that m-commerce markets have different characteristics in different countries. An e-questionnaire survey was used to gather opinions in three groups, totalizing more than 450 Poles, Ukrainians, and Romanians. An analysis was made of the impact of various measures of internet experience on decisions of potential consumers to disclose personal data when downloading paid or free mobile applications. Persons with higher internet experience (measured through length of internet use, length of use of a smartphone and living in a country with a higher e-readiness index) were found to be more likely not to download an attractive app to their smartphone, if a condition of downloading it for free was providing some of their (personal) identification data, in comparison with persons with low internet experience.*

Keywords: *m-commerce; m-application download; privacy; m-commerce in Eastern Europe.*

Introduction

M-commerce, defined as an independent channel for researching and making purchases online with the use of mobile technologies (usually smartphones), is still a new form of buying over the internet, and the value of purchases made this way is far lower than with the use of traditional internet connections. However, due to its dynamic development, m-commerce arouses the interest of both practitioners and researchers. Studies on trust-related barriers in m-commerce are widely conducted (Hew 2017), as not only is the situation in which m-buyers find themselves new, but internet users differ with respect to attitude towards privacy. Qualitative research in the US has recently shown (Hillman & Neustaedter, 2017) that hard (e.g. encryption) and soft (e.g. opinions of other consumers or brand) trust building factors are treated differently by users in the course of mobile purchases (Head & Hassanein, 2002); users are less concerned about the privacy of their data when purchasing in stores with well-known brands.

As buying patterns differ between markets (Zhang, Zhung, & Liu, 2012, p.1902; Akman & Rehan, 2016, p.771), this unexpected result needs to be verified on samples from other countries. A broader range of contextual factors that determine buying-decisions needs also to be analyzed, because readiness to provide information about oneself differs between contexts—as has been shown for e-commerce (Bansal, Zahedi & Gefen, 2016). Our text is a step in this direction. An e-questionnaire was conducted on three different

age groups from three countries—ca. 160 from Poland, 170 from the Ukraine and 130 from Romania. Chosen factors affecting the decision to provide personal data over the internet using mobile devices were analyzed for two situations specific for this kind of commerce: downloading a mobile application, either free of charge or for a payment.

The significance of m-commerce

There are many definitions of e-commerce and the differences between them focus not so much on the scope of using ICT in commercial transactions, as on kind of commercial activity. For instance, in its statistical analyses, Eurostat considers electronic trade to be the sale or purchase of goods or services by different entities—this includes ordering goods or services using computer networks, with on- or off-line payment and delivery, but does not encompass researching information, marketing or image building. One of the UN agencies defines e-commerce more broadly, to also include contact initiation between the potential buyer and seller; exchange of trade information; full cycle of IT care over the client (in this: search, presentation, choice, advice); sale of goods and services, both material and immaterial; financial settlements (every form—including electronic); managing the delivery process to the buyer or the address indicated by the buyer; and post-purchase care. Definitions of m-commerce are analogously differentiated; this, however, is not the only definition-related controversy in the area.

The scientific literature gives us three separate approaches to defining m-commerce (Groß, 2016; Woźniak, 2017; Woźniak & Zbucnea, 2018). Traditionally, m-commerce was defined narrowly as conducting commercial transactions with the use of a mobile device - thus as a part of e-commerce determined by the specifics of the appliance used. As in the case of e-commerce, then, it is possible to distinguish various stages of the commercial transaction and to define m-commerce as the use of a mobile device in any phase of the buying process (Chong, 2013). However, it makes sense not to limit the concept of m-commerce to making purchases using a mobile device, as it has been shown that a characteristic of m-commerce is the high frequency of client activity in preparing for transactions and then following them up (while closure is often done on a different device) (Gross, 2016).

The second type of definition highlights the specific situation created by the use of location-changing mobile devices, which broadens the scope of business models that can be implemented in e-commerce with the use of these devices. Two of the most characteristic new models relate to the possibility of developing services based on users' locations. A common type is commercial offers which sellers assume will be attractive to the user due to their geographical location, e.g. rebate offers directed to people who are near a service point. The second type of business model is based on informing and selling emergency services - such as information about the nearest bus leaving in the direction chosen by the user, or delivery of transport through an Uber-type service. In this case, the user initiates the search for a given service, and his/her physical location determines which potential suppliers that can implement it.

The third group of definitions emphasizes that smartphones have become a personalized media and communications center, permanently linked with the individual. This approach to m-commerce goes beyond the mobility of the appliance and the user's location. It lays stress on the adaptability of the smartphone to the user's individually characterized and specific needs during everyday tasks, and its permanent

presence in the user's life. The result is a highly individualized appliance that serves as a personal communication and entertainment hub (Gross, 2016), with content personalized through mobile apps that can give access to an m-store, or is simply attractive (e.g. sound signals or games). From the perspective of our interests, it is important that a significant proportion of programs that make the user's life more comfortable are downloaded without charge, and that users are aware of the fact that frequently the price they pay for such convenient apps is access to their personal data.

Retaining privacy in m-commerce

Obtaining information about the user (whether it be his location, or for instance the apps s/he has downloaded) gave the e-seller access to some aspects of the client's privacy. In m-business, the information that the user – with his/her specific transaction history – is in a given location, creates a business opportunity, which has a value and can be sold. The more information the m-supplier can obtain about this user, i.e. the more information about the person associated with this concrete appliance is disclosed, the more (a) the services offered may be tailored to the user's needs, but (b) the greater the intrusion into his or her privacy. This tension between benefits and risks for users is sometimes called the personalization-privacy paradox (Lee & Rha, 2016). It is used to show that different categories of users have different strategies for dealing with this situation, depending – among others – on how they perceive risk in given types of situations.

Several earlier studies have shown that trust is a factor which decreases a sense of risk in the m-buying situation (Lee & Rha, 2016). Indicators that inform the user of the e-store's credibility are a standard way in which m-commerce increases the trust of potential users. These may be divided into hard indicators which refer to transaction security (e.g. encryption), and soft indicators (e.g. other users' opinions), including those which give guarantees of privacy (Head & Hassanein, 2002; Hillman & Neustaedter, 2017). M-transaction security is understood as safeguarding the transfer of information against it being intercepted by third parties during interactions. As the m-buyer's physical space cannot be controlled, observation by third parties can go undetected and devices may be unreliable (e.g. batteries fail), such transactions carry a higher level of security risk (Groß, 2016). Privacy concerns relate to the control the user has over how this information is used—while it is being collected, and when it is stored and shared with others. It is understandable that both factors (concerns about security and privacy) are important barriers standing in the way of e- and m-buyers implementing transactions.

The m-trade market in Poland, Romania, and Ukraine

The patterns that m-trade follows have been verified to differ between countries, both as concerns scale, as m-consumer preferences. Specifically, m-trade grows rapidly on markets where – due to low access to traditional line internet access and other infrastructural determinants – e-trade is underdeveloped. For instance, m-trade in India takes second place in the world if one considers the share of m-trade activity in e-trade (over 70% in 2016) (Natarajan, Balasubramanian & Kasilingam, 2017), although most transactions are of a Cash-on-delivery type (Gupta & Arora, 2017, p.2).

Poland, Ukraine, and Romania, which all reformed themselves after the fall of the Soviet Union, are culturally similar to each other. The infrastructure for e-trade is, however, slightly better in Poland than in the other two countries, evidence of which are aggregated indices such as e-readiness, which in 2015 in Poland was higher by over 10%—this gave Poland 42nd place in world rankings. Ukraine took 64th place (upgraded from 75th place in 2012), and Romania 66th. The internet penetration in 2016 were 52% for Ukraine, 60% for Romania and 73% for Poland (<https://data.worldbank.org/indicator/IT.NET.USER.ZS>). The total value of e-trade turnover in 2016 was 8,1 billion Euros in Poland (with forecast 9,4 for 2017), and 1,17 billion Euros in Ukraine (with forecast 1,52 for 2017) and 2,05 billion Euro for Romania (with forecast 2,5 billion for 2017) (EuroCommerce, 2017). Individual purchases valued in euro are also higher in Poland (775 Euro) or Romania (784 Euro in 2015 per online buyer) in comparison with Ukraine (286 Euro). It should be remembered, however, that GDP per capita is far lower in Ukraine (c. 1,800 Euros per capita in 2016) than in Poland (c.11,400 euro) or Romania (c.8,8 000 Euro) (EuroCommerce, 2017).

Differences in levels of m-commerce development seem smaller than with respect to e-commerce as a whole. Data from the Central State Statistical Office for Poland, based on representative samples, shows that for ca.1/3 users, the smartphone is their tool for accessing the internet. 17% users finalized m-transactions in the last 3 months using a smartphone, while 41%—for some part of the e-shopping process. 25% buyers declare that they m-pay regularly, 49% declare they do this from time to time and 39%—regularly. Fairly common also is the use of several tools for accessing the internet (44% use a smartphone, 16% a tablet, 54% a laptop and 36% a desktop computer). 61% buyers declare that they commence e-transactions using a smartphone and finalize them using a different appliance.

For Ukraine, in November 2015, 34% internet users declared that they make e-purchases via a smartphone, and access to 3G data transfer was launched in February 2015 (Pachkovskyy & Maksymenko, 2016). In 2015 PayPal has done some research on the European mobile commerce, interviewed more than 17,500 consumers across 22 countries. It was found out that one in three online shoppers surveyed uses a smartphone to buy online. But this incidence varies significantly by country, and in Ukraine, 57% of respondents declared they have bought something by smartphone in the last 12 months, compared with 34% in Romania and 24% in Poland (<https://ecommercenews.eu/current-mobile-commerce-situation-europe/>).

Over the past few years, m-commerce has been on the rise in Romania (Zbucea, Vătămănescu & Pînzaru, 2015), and data shows Romania to be among the leading countries in terms of purchasing a product/service via mobiles. In March 2016, 42% Romanians stated that they have purchased online using mobiles, compared with the global average of 38% (Nielsen, 2016, p.6). Ukraine took next place, with 41%. In 2017 the figures were even higher, considering that mobile internet penetration was 85% for Romania, and mobile device traffic increased from 50% to 70% (Popescu, 2018). Studies show that online shops still need optimization for mobile, as mobile app conversion rates are higher than in the case of desktop websites.

Methodology of research

The goal of the study is to verify whether internet experience is a modifier of the strength of barriers to trust in m-commerce. It is understandable that several contextual conditions, such as the value of the sum in question, and hence indirectly, the negative consequences that a breach of trust may bring the buyer, modifies readiness to engage in commercial transactions. Readiness to disclose personal information should, therefore, depend on the sensitivity level of this information (Roghanizad & Neufeld, 2015), consistently with the Theory of Perceived Risk (Gross, 2016). The research question concerns the extent to which broad contexts (defined as the exchange of gifts or a purchase) and situational contexts (defined as obtaining an application from a company with a well-known brand or via an encrypted connection) modify this readiness to provide personal data of various kinds.

Readiness to disclose private data has usually been explained through trust in the e-shop, which restricts perceived risk of the negative consequences of one's activity—i.e., one of the two factors that determine a decision based on rational assessment (the other being perceived benefits). Recently, however, an experimental study where data was to be provided in return for a 20\$ coupon gift revealed the limits of this approach—subjects were shown to depend on their emotional evaluation of the seller, rather than to follow a rational model of decision-making (Roghanizad & Neufeld, 2015). The goal of our study is to check if receiving material benefits or the exchange of gifts are factors responsible for readiness to reveal personal data (a possible interpretation of the situation in this experiment). As Marcel Mauss (1925/1990) has stated, the situation in which gifts are exchanged creates a different set of attitudes than the context of buying and selling—it favors an attitude of reciprocating favors rather than maximizing benefits for oneself in the transaction.

The second aspect of our approach is that we focus on the exchange of apps which develop the smartphone's functions as a personal center for management, communication, and entertainment, and which are free. As has been shown, this segment of the m-market is based on creating a potential client of the user of the given application, and so income from providing the user with the app does not dominate in the sellers' business model. Users, however, are accustomed to the fact that obtaining an attractive application sometimes goes in pair with providing personal data, hence this situation is a good one for analyzing readiness to expose oneself to a threat to one's privacy in exchange for obtaining a gift with an attractive value.

The data we use in this text comes from a study conducted on 3 independent samples gathered using the snowball method. Subjects generally have a higher education (or were in college at the time) and lived in large cities (mainly Warsaw, Bucharest, and Odessa). In this way, we received a group of 158 Poles, 176 Ukrainians, and 126 Romanians, demographically differentiated.

The investigation aims to verify if internet experience, variously defined, significantly modifies readiness to provide personal data in four contexts: defining the situation as a gift or purchase, and being oriented towards security signals (ciphering) or well-known brand (i.e. security and privacy concurrently).

The questionnaire constructed for the study – besides a series of questions concerning the context of e- and m-purchases made – consisted of two groups of 3 questions each, characteristic of two situations: the first an exchange of gifts, the second a purchase with a discount and cafeteria with different types of personal data of different level of privacy treats based on (Roghanizad & Neufeld, 2015). The study used several kinds of internet experience indices, but this text refers to three operationalizations:

- Length of time the respondent owned a smartphone with internet access, as declared in responses to a direct question (in 2 groups: “4 years and over” as a long period, and “less than 4 years” as short).
- Respondents were classified as internet experienced if they responded “have used the internet for a long time” and as less internet experienced if they responded that they “have used the internet for a long time, but really frequently not for long”; “I use the internet, but not very frequently”; or “I use the internet if I need to, but I don’t feel too comfortable with it”.
- Representing a country with higher levels of technical and social ICT infrastructure was based on the networked readiness index <http://reports.weforum.org/global-information-technology-report-2016/networked-readiness-index/>. Poland takes 42nd place in world rankings, Ukraine – 64th, Romania – 66th, so we can assume that internet experience of people is higher in Poland and similar in the Ukraine and Romania (See Woźniak, 2015, for an explanation of the construction of the index).

Research results and discussion

Analyzing the declared behavior, one observes similarities, but both differences between the 3 countries. Table 1 shows that in a “gift” context the respondents from Poland are the least trustful – in all investigated situations: general website, well-known brand-website, and ciphered connection. The most trustful are, according to their own evaluation, the Romanians. These results are in line with the e-readiness index presented above. And do not correlate with the degree of internet penetration in the 3 countries. Therefore, the infrastructure seems not to be a determinant factor in m-commerce.

Table 1. Distribution of all positive responses together for submitting different types of personal data in the “gift” context – distributions of positive responses (Source: data from the study)

Item/All positive together	Poland		Ukraine		Romania	
Using a smartphone to download an app which you find attractive (chose one answer for each item: definitely yes; yes; rather yes; difficult to say; rather no; no; definitely no)						
I will give my e-mail address to get the attractive app for free	72	45.6%	98	55.7%	96	76.2%
I will give my full internet data– e-mail address and telephone number– to get the app for free	62	39.2%	69	39.2%	59	46.8%
I will give my postal and e-mail address to get the app for free	51	32.3%	63	35.8%	59	46.8%
I will give my credit card number and e-mail address to get the app for free	32	20.3%	60	34.1%	33	26.2%

Item/All positive together	Poland		Ukraine		Romania	
I will give my credit card number and full address data (including ID card number) to get the app for free	33	20.9%	35	19.9%	26	20.6%
I will withdraw from downloading the attractive app if it is necessary to submit any of my personal data	66	41.8%	27	15.3%	91	72.2%
Using a smartphone to download an app which you find attractive <u>from the website of a well-known brand</u> (choose one answer for each item: definitely yes; yes; rather yes; difficult to say; rather no; no; definitely no)						
I will give my e-mail address to get the attractive app for free	75	47.5%	79	44.9%	102	80.9%
I will give my full internet data- e-mail address and telephone number- to get the app for free	61	38.6%	97	55.1%	82	65.1%
I will give my postal and e-mail address to get app for free	53	33.5%	82	46.6%	68	56.7%
I will give my credit card number and e-mail address to get the app for free	33	20.9%	65	36.9%	37	30.3%
I will give my credit card number and full address data (including ID card number) to get the app for free	23	14.6%	36	20.5%	36	29.7%
I will withdraw from downloading the attractive app if it is necessary to submit any of my personal data	61	38.8%	25	14.2%	81	66.4%
Using a smartphone to download an app which you find attractive if you see that the <u>connection is ciphered</u> (chosed one answer for each item definitely yes; yes; rather yes; difficult to say; rather no; no; definitely no)						
I will give my e-mail address to get the attractive app for free	69	43.9%	68	38.6%	103	84.4%
I will give my full internet data- e-mail address and telephone number- to get app for free	60	38.2%	93	52.8%	86	71.7%
I will give my postal and e-mail address to get app for free	47	29.9%	79	44.9%	77	63.6%
I will give my credit card number and e-mail address to get app for free	33	21.1%	59	33.5%	49	40.2%
I will give my credit card number and full address data (including ID card number) to get app for free	28	17.8%	27	15.3%	44	36.1%
I will withdraw from downloading the attractive app if	56	35.7%	30	17%	81	66.9%

Item/All positive together	Poland		Ukraine		Romania	
it is necessary to submit any of my personal data						

Data above documents some differences between the respondents. For the Poles, there is little difference between the declared behavior in the 3 situations (common website, well-known brand website and ciphered connection). For the Ukrainians, both knowing the brand and having a ciphered connection make a difference. For the Romanian respondents, also knowing the brand counts, but especially having a ciphered connection influences the level of trust and disclosure. Results are a bit counter-intuitive. One would expect that brand trust would facilitate disclosure. The fact that the disclosure is not higher in well-known brands for most respondents suggests that brand trust does not necessary correlates with online commerce trust. The Global Survey on Internet Security and Trust (CIGI, 2018) shows that the security of personal data is a very important factor influencing commerce online. 22% of consumers worldwide would not buy online because of this aspect, while 52% are more concerned about security online- primarily because of cyber-criminality. Poland is the only country among the three which is included in the survey – and the figures show that 12% of the respondents are much more concerned, while 33% are somewhat more concerned about online privacy.

As expected, when asked to give the credit card number, or other information associated with the payment, the level of disclosures drops in all cases, with the Poles being, again, the most cautious. The Romanians are the most open to giving this information, especially if the connection is ciphered. Nevertheless, the Romanians are the ones who declared in a large majority that they would stop downloading any app if personal data is required (although also in the large majority they accept providing information such as postal address or mobile number for instance). This suggests that the significance of “personal data” is not the same among the three country groups. Another aspect to be considered is that it is likely that the Romanians are the ones less aware of security risks. Because of this, they react more when the risks are evident when asked explicitly about giving personal information. This aspect, as well the larger degree of disclosure, might be related to low digital literacy.

Digital literacy is related to the ability to use digital technologies, as well as with the knowledge about it, about the security aspects related to them. Therefore, we should see these results against a digital literacy index and other indicators related to it, such as the e-readiness index presented above in the paper. Mobile connectivity index 2017 (GSMA, 2017) shows that Poland has the highest ranking – 72.71 (consumers’ readiness – 86.25). The digital economy and society index, which considers only EU countries, also places Poland ahead of Romania, with a score of 0,43 – ranked 23, while Romania is ranked 28 (last in the EU) (EDPR, 2017). Also, the New Media Literacy index places Poland ahead of Romania, with 55 points versus 38 (OSI, 2018).

When investigating the same aspects in a buying context, we observe similar answers. The interest to buy does not significantly change the behavior, for most respondents. There is more openness to give credit card information but to a small degree. This is, no doubt, related to the understanding that buying online could not be done without disclosing some information.

Item/All positive together	Poland		Ukraine		Romania	
I will give my e-mail address if it is the condition to buy the app	75	47,8%	94	53,4%	101	82,1%
I will give my full internet data- e-mail address and telephone number- if it is the condition to buy the app	66	42%	87	49,4%	88	71,5%
I will give my postal and e-mail address if it is the condition to buy the app	54	34,4%	69	39,2%	79	64,2%
I will give my credit card number and e-mail address if it is the condition to buy the app	30	19,1%	27	15,3%	53	43,1%
I will give my credit card number and full address data (including ID card number) if it is the condition to buy the app	33	21%	20	11,4%	43	34,9%
I will withdraw from downloading the attractive app if it is necessary to submit any of my personal data	59	37,6%	70	39,8%	85	69,1%

The respondents from Poland basically report the same behavior no matter if they want an app for free or if they buy an appealing one. The Romanians are the ones who modify the most their disclosure behavior, according to the buying intention.

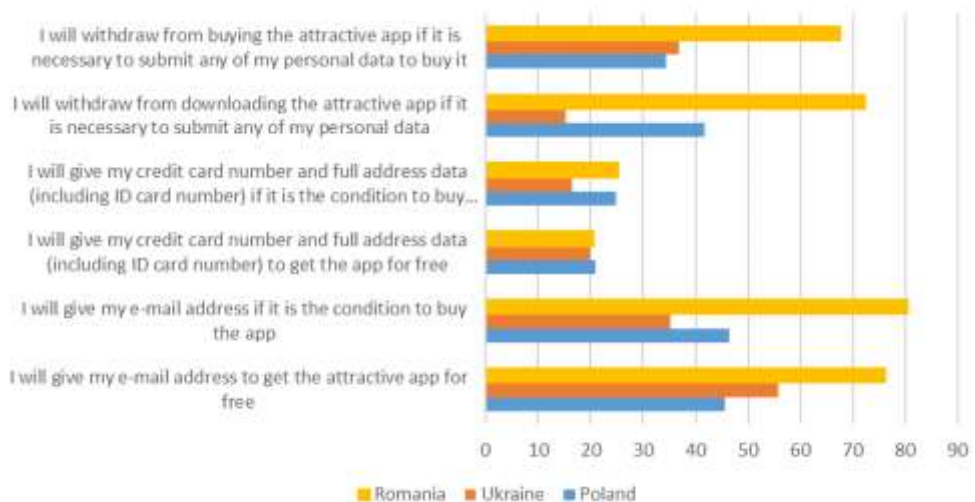


Figure 1. Disclosure readiness (data from the study)

Table 3. Distribution of ‘resign from transaction’ responses (“I will withdraw from getting the attractive app, if it is necessary to submit any of my personal data”) together for delivering different types of personal data in “gift” and “buying” contexts – distributions of positive responses in groups of big and small internet and smartphone experience (in percentages) (Source: data from the study)

	Internet experience		Smartphone experience		Generation			
	Long	Shorter	Long	Shorter	Z	Y	X	64+
Using a smartphone to download an app which you find attractive								
Positive	42.9	28.6	53.3	32.5	50.8	35.4	38.5	28.6
Difficult to say	19.8	29.8	14.4	26.0	13.3	26.9	22.9	25.0
Negative	37.3	41.7	32.3	41.5	35.8	37.7	38.5	46.4
Total no. of respondents	373	84	167	289	120	130	179	28

Table 3 highlights that the respondents with the longest internet experience (using the internet frequently for a long time) and the longest smartphone experience (more than 4 years) are also the ones more cautious in giving personal data. Interestingly to observe that the youngest the respondents, the more cautious they are too. These results could be connected with the understanding of risks associated with personal data disclosure. More experience in using the internet and the smartphones leads to increased digital literacy and understanding of risks, both in the case of gift and buying contexts. This is consistent with the Technology Acceptance Model and the Theory of risk perception additions (Gross, 2016).

Conclusions

The study highlights that even in countries with relatively similar backgrounds, there are differences in terms of disclosure of personal data. Besides socio-economic factors, digital literacy seems to be an important influencer of online behavior, both in gift and buying contexts. Young people, as well as persons with higher internet/smartphone experience, living in a country with a higher e-readiness index are more likely not to download an attractive app to their smartphone, if a condition of downloading it was providing some of their personal data, in comparison with persons with low internet/smartphone experience.

More specifically, from the three Eastern European countries investigated, the Romanians declare to be more willing to share information such as email and postal address, telephone number, and even credit card information. Nevertheless, they are the ones who declare in the largest percentage that they would withdraw from any app download if any personal data is asked. The Poles, who are registering the highest e-readiness and digital literacy, are the most cautious with providing sensitive data.

The investigation also shows that the behavior does not vary significantly when considering a “gift” or a “buying” situation. This suggests that the trust framework is more relevant than the motivation to download an app. Downloading from the website of a well-known brand or having a cyphered connection improves a bit the trust aspect for most respondents, especially for Romanians.

The investigation includes some limits. The sample is a convenience one, not being representative. The questionnaire was applied online, which also makes that the profile of the respondents to be one more open and familiar to using the internet and the smartphones. Another aspect to be considered is that the scales proposed do not measure the actual behavior of the respondents, but the declared one. In reality, the decision is taken considering the actual context of download/buying, factors related to the desire/need to download/buy a specific app etc.

Our study highlights the need for qualitative research in order to better understand the consumer and the factor that influence the situations related to m-commerce. Experiments might also be relevant in order to help business better design their strategies and to attract consumers for m-commerce.

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BUILDING BRAND EQUITY THROUGH USER EXPERIENCE DESIGN

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Abstract: *Companies are more and more interested in providing a positive user experience (UX). The aim is to offer a smooth and pleasant experience with the application at hand. In the given context, opportunities should be shown how new marketing strategies consider a digital product from the beginning as an integral part of the corporate communication by the user experience purposefully and in the interaction with a mark is designed. The in-depth understanding and focused management of the Customer Experience (CX) and User Experience (UX) will be critical to future market presence. This includes the holistic view of customer experience, user experience and brand experience as inseparably interlinked disciplines. It is of central importance that each of the three "experiences" is largely subconscious and thus the perception, which is triggered in the interaction with digital products, can be specifically influenced.*

Keywords: *brand experience; user experience; consumer experience management; digital marketing; user journey; experience mapping; user persona; digital touchpoints.*

Introduction

The concept of customer experience was first introduced in 1998 by Jow Pine and Jim Gilmore in the context of an article in the "Harvard Business Review" (Gilmore 2009). Based on the recognition that the economic value of experiences over time surpassed those of products or services and by following an well designed customer experience management (CEM) the companies are able to create a holistic positive customer experience. The aim of CEM is to design and elaborate intense emotional bond resulting from all their interactions with the brand during the customer life cycle in order to increase customer satisfaction, loyalty and advocacy. The Customer Experience (CX) includes all interactions that a person can have with a company or brand which often includes awareness, discovery, cultivation, advocacy, purchases and quality service.

CX combines all those disciplines that were often considered separately so far and assessed: brand, advertising, service management, product management and distribution. An equal, coherent and credible at all contact points, brand experience is the main concern of the CEM. Consumers are not looking at a brands as a collection of different, strategically scheduled operations from marketing, sales or advertising. They experienced a brand holistically, mostly unconsciously, and not that differentiated through which point of contact that is addressed. And yet the consumer makes the decision if he likes a brand or not, based on his experiences at the contact points with

the brand as they are used to reinforce or to build the basic premise of the brand (Courage et al., 2009, p.4791).

The traditionally business model follow consumers based on a linear journey of brand purchase – first the consumer became aware of a brand, learned of a desirable quality it had (through advertising), and consciously decided to purchase it. After personally experiencing the benefits for themselves they became loyal buyers. It's most likely that consumers were always more complex than this and with the arrival of digital brand ecosystems along with the insights gained from behavioural economics it is proven that brand builders need to move on to a more accurate model of consumer decision journeys. The concept of shifting from a 'funnel' to a 'cycle' (first discussed by McKinsey) or even a more complex "experience matrix" system that will mapping out what the consumer does through to the interaction, decision and purchase moments makes sense.

Delivering relevant, branded touchpoint experiences becomes a lot more manageable when marketers clearly understand the needs of the people they are delivering those experiences for – and which touchpoints matter most to those people. The problem they currently face is that the technology used to reach audiences across digital touchpoints has tended to obscure any meaningful sense of who they are targeting and why. When brands' use of programmatic is driven primarily by behaviour, it becomes blind to the people they are interacting with – and the experiences those people might desire in relation with brand promise. Instead, marketers find themselves delivering the same experiences across all touchpoints, driven solely by the last action that people took. At a time when they need to be increasingly nuanced and responsive, this is the wrong way to go. When brands base their programmatic targeting on digital segmentation they tend to transform their results, because they focus on creating relevant moments with the people most likely to buy from them (Conner & Sparks, 2005, pp.170-222).

An extensive analysis of these models shows how brand equity and user experience may be understood better if examined in a broader framework that assesses the incremental effect of the brand at each of the various stages of the consumer's experience and choice process and how consumer experience management play a significant role in how determining actions and content (e.g. attributes) are learned and encoded and then retrieved and used in decisions and choice. These information processing effects would influence part-worth evaluation and combination rules, choice set generation and finally the decision rules used in choice. This broader definition extends the aggregate conceptualization inherent in the "additive" brand impact notion of brand equity (i.e. enhanced attractiveness captured in the utility function) to a more comprehensive approach that focuses on the brand's role across the multi-stage, dynamic consumer experience and choice process (Diamantopoulos et al., 2008, p.1203).

This paper (1) initiates an integration of the multiple extant streams of analyzing user experience, brand equity, consumer learning and brand choice, (2) proposes the incorporation of user experience theories into models of brand choice and brand equity, and (3) suggests a possible synthesis of different brand equity and user experience perspectives. The framework incorporates the new realities, such as the rise of store brands and electronic commerce, which will influence the linkage between brand equity, consumer learning, and user experience.

Brand equity in digital world

Digital will become the loyalty backbone. Many key moments of truth for customers are happening online. This means that more and more of consumers, brand perceptions and attitudes will be based on purely digital interactions (in-app, website, wearable tech, etc.). This has made understanding of customers' digital interactions an essential part of any customer experience program. The voices of consumer (VoC) programs without a web presence engage only 2% to 10% of those who interact with their website (Marketing Sherpa). As we move into the future, this trend will continue. We know that mobile is an inherent part of today's digital experience. Global mobile and tablet internet usage just exceeded desktop use for the first time (GS Stat Counter, 2016) and we also see that 82% of consumers turn to mobile to help make a product decision (Google/Ipsos, 2015).

So it's really no longer a question that, these digital moments, across platforms (mobile, tablet, or desktop) are shaping essential KPIs that will ultimately inform the path to purchase. Nowadays a mobile first mindset and consumer experience design matters more than ever before.

Still there is an ongoing debate among practitioners and business academics about whether brands will retain their importance in this digital experience. As we know brands affect consumer decision rules, choice set formation, perceptions, tastes, perceived risk and information costs; we surmise that each is also differentially affected by the changes that result from the digital experience. To understand the effect of the digital experience on these different roles of brands, we need to understand the differences between the digital and conventional communications, sales and distribution channels (Esposito et al., 2010, pp.207-211). Digital (1) changes the cost for companies and brands to communicate with their customers, which includes lowering the costs of providing consumers with product information and providing companies with opportunities to do market research at lower cost – tracking and diagnosis, gaining actionable insights; (2) it changes the costs for customers to communicate with brands and other consumers by lowering consumers' costs of searching for product information and of participating in discussions with other consumers, and by making it easier for consumers to communicate their preferences to brands along with brand experience; (3) it also changes the form of communication between customers and brands by allowing consumers, for example, to interact about the product both with the company and with other product users; and 4) digital enhances transactional efficiencies (e.g. the cost of executing a transaction).

Therefore we can identify several important aspects now on how digital experience differentially affects various roles of brands; (1) reducing perceived risk and building trust – the new digitally driven metric, “Return on Conversation” – brand engage in a meaningful conversation with individuals and communities which evolves over time – if skillfully and patiently managed, may very well convert to commercial value and long term loyalty based on trust; (2) introducing and keeping a product in consumers' consideration set – lowers consumers' costs of searching for product information; (3) help brand experience extends beyond the awareness and acquisition journey to encompass the sales journey, the product/service usage journey (support), and, lastly, the loyalty/advocacy journey; (4) extends past a single touch point. It includes Facebook ads, billboards, online product pages, and customer service reps. – prospects are

learning about your services from friends and co-workers. As a result consumers are better informed about the quality of search goods and the brand actions. Such consumers may no longer require a brand as a guarantee for product quality since they can assess quality before purchasing the product (Ganglbauer et al., 2009, pp.418-421). It is important to understand that digital experience is not about the next seven days. It is not just a game of clicks received during the time an ad is running. Campaigns and conversions can have a value in immediate returns, but must also be evaluated for longevity. It's about creating digital relationships that go beyond a 'Like' or 'Follow'; relationships that consumers will enjoy and find rewarding long after the brand's investment. As a joint study by SAP, Siegel-Gale, and Shift Thinking suggests in accordance with what makes a brand successful in the digital age – that brands not only have to do things differently they also have to think differently. Where traditional brands focus on positioning their brands in the minds of their customers, digital brands focus on positioning their brands in the lives and doings of their customers. Furthermore, they engage customers more as users than as buyers, shifting their investments from pre-purchase promotion and sales to post-purchase renewal and advocacy so the key is to approach prospects not as buyers, but as future users (Patton, 2012, p.56-60).

Traditional advertising is what brand marketers still use to communicate with their audience – especially TV – but seeking ways to connect with target consumers to leverage their goodwill in terms of feedback following experiences and reshaping brand interaction will help build brand credibility.

We identify five ways in which brands can build equity through digital experience:

Amplify the Brand Offer – digital experience can amplify the product offer by providing additional benefits.

Support the Brand Offer – digital setup can support the brand offer making it easier for consumers to make purchase decisions.

Creating a Brand Building Platform – digital brand-building platforms or a mix of digital assets formed in a comprehensive sequence that delivers a complete brand experience can play a central or leading role.

Amplifying a Brand Building Platform – digital setup can be used to make brand-building work more effectively. The aim will be to deliver an authentic and consistent total brand experience that is aligned with the brand's strategy, positioning and purpose.

User experience is customer experience

There no exception that companies expose their customers to complicated sales processes, confusing websites and apps, long waiting times for hotlines, incompetent service, incomprehensible communication and their application to complicated products. CEM aims to turn satisfied customers into loyal customers and loyal customers into enthusiastic brand or product ambassadors. It is obvious that in this context not only hard facts such as sales, usage intensity or the value of the shopping cart count. Rather, indirect effects such as word of mouth and referrals become important indicators of a company's success (Finneran & Zhang, 2003, pp.475-496).

Looking at digital products, the user experience should be considered as integral part of the customer experience. As already described, digital products and digital experience path are one of the key touchpoints where the user interacts or customer experiences a

brand therefore a good user experience is required for a good customer experience (Frokjer et al., 2000, pp.345-352). A good digital user experience must enable the user to easily find his desired information on a website / landing page or in an app as quickly as possible or at least dealing with the intuitive and engaging task that delivers a micro-moment experience with the brand. This consumer expectation of the product and brand experience should be met and possibly surpassed using triggered associations and emotions that will play an important role in brand likeability.

A good customer experience, on the other hand, gives the user the feeling of one pleasant, professional and helpful interaction between him and brand, ultimately leading to a positive overall impression the company. Ideally, CX and UX are exactly matched and have the same equal quality. This smooth user experience could be rapidly destroyed when for example the website is crowded with information, doesn't have an intuitive flow of the content or the e-mail newsletter or the landing page has no relevance to the user (Harper, 2017). Conversely, a company may have an outstanding advertising strategy and brand perception, a competent sales team and one well-designed organizational structure (C-factors) - but as long as the interacting with a user's website, mobile app, software or content (UX factors) does not work smoothly, fails at the overall customer experience. UX is therefore an important component. Both play a crucial role for the image of a brand, for the loyalty of a customer and thus for the success of a company. Errors in each of the mentioned areas lead to a bad experience with the company or the brand (Boehner, 2007; Ganglbauer et al., 2009).

Paul Watzlawick (2016) described the phenomenon of the impossibility of non-communicating: "You cannot not communicate, because every communication (not just with words) is behavioral and doesn't have a counterpart and just as one cannot behave doesn't mean that you cannot not communicate - because each person responds to the content of communication in the context of the relationship between the communicators" (Watzlawick, 2016). This applies to people as well as to products. The way a product is designed is how it "behaves" (e.g. in animations and transitions - the transition between two states of a page or an element of an interface or a sequence of communication content within the context) and with each interaction certain emotions and associations emerge. It tells a story. It is therefore important to design digital products and content such that they specifically has to trigger emotions and associations at the right moment and in the right story context: you must match the sender, who is usually a company or the brand with the expected user experience. In this interaction with the digital products of a company it must be "triggered" the same story like those that it communicates on all its channels (Rae, 2015). The user experience and brand experience must be congruent and to be able to be quickly understood apart from the noise surrounding the user because the rational mind is the purchase driver in most cases even though perception of digital products / communication and the associated triggering of emotions and associations are mostly subconscious and driven by the subconscious thoughts, feelings and passions which drives impulse purchase decisions, that justified "a posteriori" - rationally after being made emotionally.

The goal must be to mentally influence the thinking and decision-making of the consumer and, as a result, to break the deadlock of low involvement. Another objective is to stimulate the consumer at his neural contact points (focal points) and then to substantiate these with emotional values in order to influence decision making and enhancing engagement. Behavioural anchoring for example - states that the first piece

of information your customer receives is highly important and it can be the basis for any subsequent decision making and set the tone for their purchasing behavior. As individuals, we are rarely able to evaluate the value of something based on its intrinsic worth, but instead we feel the need to compare it with the alternative or surrounding options – for example, if a customer are looking at two hotel rooms which are priced similarly but one offers a free coffee in the morning, he is much more likely to go with the free coffee and to explore the quality of the rooms offered or any detailed features. So comparing bundle packages or deals against each other is the way to take advantage of this “anchoring effect” (Patton, 2012, p.86).

Customer experience and user experience as brand experience factor

Successful CX requires knowledge of best practices and a well-considered plan. That plan must be based on an outside-in view of customer wants and needs as defined by your VOC data, customer insight and other research methodologies. It takes tools like personas and journey maps to establish a customer-centric design, and a CX strategy that defines priorities in relation with consumer behaviour, justifies investment and drives cross-functional collaboration (Willis, 2016).

The user experience (UX) considers the use of a user with a (digital) product or band as well as the feelings and associations along with the experience resulting from this interaction. The term is a collective term for different categories of digital and experience design. A current model describing UX is the "umbrella" model by Dan Willis (Willis, 2016). This divided UX in Visual Design (choice of colors, shapes, etc.), information architecture (division of content, navigation paths, and search capabilities), interaction design (interaction between user and product), usability (effective, efficient and satisfactory achievement of goals) user insights and content strategy (user choice, intentions, affective and structured handling digital content)

Usually UX is used in metrics such as, success rate, error rate, abandonment rate, time to complete task and clicks to completion (success rate, error rate, dropout rate, execution time per task / activity, clicks to complete) are measured to assess the quality and performance of a product – but also, the image that forms in the user's head of the product as it uses or the proposed brand experience it becomes increasingly important: what associations and emotions are triggered during the use or user actions. UX thus refers to the experience of a digital product on a functional and emotional level (Scheier & Dirk, 2006).

Analyzing several research done by consulting companies like Watermark Consulting; Accenture and MCorp Consulting between 2016 and 2018 which compares the performance of the stocks of so-called "customer experience management leaders" with those of "CEM objectors". The CEM leaders and objectors are made up of the first and last ten listed companies from the "Customer Experience Index" of Forrester Research. The leaders include companies such as Amazon and AT&T and from the last ten listed United Airlines and Wal-Mart.

Five key criteria for a successful customer experience design have been extracted as follows:

Focus on more than customer satisfaction:

Fewer satisfied customers contribute to business success, neither through referrals nor through repeated purchases or lower price sensitivity. But even satisfied customers can switch to the competition at any time. To maximize the return on investment on CEM, companies need to create interactions that generate not only satisfaction but loyalty – for example weaving a narrative that place the user at the center of brand experience giving the impression of something larger than the user expects. As such the user will get a sense of purpose that should stem directly from the brand experience pushing to more immersive actions.

Ensure satisfaction and shine with small surprises:

To achieve excellence in customer experience it is important to master the multiplicity of customer satisfaction and experience design by minimizing customer frustration and annoyance. Based on this, it is wise to deliver "nice to have" elements and other positive surprises that lead to a special interaction experience between the brand and the customer.

Design special experiences specifically and emotionally:

Customer experience guides leave nothing to chance. It is mandatory to have a deep understanding of the brand and user touchpoints area and know how to play them. You have to specially choreograph interactions in such a way that they not only fulfill the rational expectations of the customers, but positively affect them in an interesting and impressive way.

Create user experiences using cognitive science:

Customer experience leaders often manage the reality and perception of their customer experience equally. They understand how user experiences brand interactions. In user experience design, properties which are self-visible for instance a triangle in picture, or the bold font of "their" in the above example, help to create focus which facilitates the cognitive activity of the brain and reduces the cognitive load as the user doesn't have to spend time searching for the relevant details. Users don't read the content they scan it – this is the reason, self-evident properties like different shapes, sizes, colors, fonts, orientations and so on are used to emphasize the main concepts – it is a commonly held belief that we can process 7 +/- 2 stimuli at once in our working memory, but there's plenty of competing research that suggest it is more about 4 +/- 1, or that we can group pieces of information together in a content set and thus, actually memorize better. So making targeted use of the findings of cognitive science it is therefore important in order to create positive and lasting loyalty-generating impressions.

Understand the relationship between User Experience and Brand Experience:

Happy and satisfied users become satisfied and loyal customers creating potential users (WoM). The value of this cycle cannot be overestimated - brand managers and UX managers frequently come into conflict mainly because nowadays following strict brand guidelines can lead to a poor user experience – the brand manager argues that content needs to be brand compliant in order to support the brand and the UX manager argues that a poor user experience harms the brand. Ultimately, this circular argument is the wrong conversation to be having. A brand's identity and a brand's user experience both

fall under the overarching umbrella of the brand promise. The brand promise includes the fundamental story, values, and positioning of the brand. With a well-defined brand promise, UX decisions can be driven by that promise and maintain a consistent brand even if brand identity elements aren't present.

User experience and user journey mapping

User experience map is not the same thing as a user journey map. They sound similar, but not exactly the same. A customer journey map outlines the touch points that consumers experience from first exposure to sale and even post-sale interactions with a brand. A user experience map takes it one step further, examining the complete picture of the customer experience with a brand, analyzing behavior and interactions across touchpoints and channels. Rather than a linear path from point A to point B, a customer experience map provides an understanding of the process that every type of target customer goes through when interacting with your brand, visually organizing every possible interaction a consumer could have with a brand throughout the entire buying journey (Hassenzahl & Tractinsky, 2006, p.91).

User Journey Mapping has its roots in Story Mapping (Battarbee, 2003, p.109), a well-known and proven method in Agile (Agile Software) development which gradually has been transformed into the User Journey Mapping method. In contrast to Story Mapping, which aims at collecting functions of the system under development, User Journey Mapping is focused on learning about relevant user processes and paths in order to identify areas with need for user research and development.

A user journey map is a research-based tool. It examines the story of how a customer relates to the business, brand or product over time. As you might expect – no two customer journeys are identical. However, they can be generalized to give an insight into the “typical journey” for a customer as well as providing insight into current interactions and the potential for future interactions with customers.

Customer journey maps can be useful beyond the UX design and marketing teams. They can help facilitate a common business understanding of how every customer should be treated across all touch points: communication channels, digital assets, sales, logistics, distribution, service, etc. This in turn can help break down “organizational silos” and start a process of wider customer-focused communication in a business (Chitturi et al., 2008, p.49).

They may also be employed to educate stakeholders as to what customers perceive when they interact with the business. They help them explore what customers think, feel, see, hear and do and also raise some interesting “what ifs” and the possible answers to them.

The aim of the method is to learn in a short time about relevant user processes and identify and plan necessary UX activities, even before entering the user research phase. Possibly all relevant stakeholders and knowledge carriers should participate in this workshop. This could be, for example, the product owner, the product manager, marketing manager, software architect, developer and a user representative.

A customer journey map is a very simple idea: a diagram that illustrates the steps your customer(s) go through in engaging with your brand, whether it is about a product, an online experience, retail experience, or a service, or any combination. The more touchpoints you have, the more complicated — but necessary — such a map becomes. Sometimes customer journey maps are “cradle to grave,” looking at the entire arc of engagement (Garrett, 2006, p.35).

Which are the important elements in creating a User Journey Map?

User-personas:

If you can't tell a typical user's story, how will you know if you've captured their journey? – Fictional characters reflecting the user types, pinpointing who they are and what they do with brand products in relevant contexts. Personas are distilled essences of real users. With personas, we build empathy with target users, focus on their world, share insights/knowledge with other stakeholders to gain consensus, make defensible decisions reflecting the persona's/user group's exact needs, and gauge our designs' effectiveness through their eyes.

A timescale:

Customer journeys can take place in a week, a year, a lifetime, etc., and knowing what length of journey you will measure before you begin is very useful indeed.

A clear understanding of customer touchpoint:

What are your customers doing and how are they doing it – customer touchpoints are places of interaction with your brand rather than “channels” which are planned points of interaction.

A clear understanding of the channels in which actions occur:

Channels are the points where an interaction takes place – from Facebook pages to retail stores. This helps you understand what your customers are actually doing.

An understanding of any other actors who might alter the customer experience:

For example, friends, family, colleagues, competing brands, etc. may influence the way a customer feels about any given interaction.

A plan for “moments of truth”:

These are the positive interactions that create good feelings in customers and which you can use at touchpoints where frustrations exist.

What Do Customers Expect from Touchpoints?

Appropriate (e.g. that both the context of the interaction and the cultural tone of the interaction meet the needs of the customer or user)

Relevant (e.g. that the function performed by the interaction meets the utility requirements of the customer or user)

Meaningful (e.g. that the interaction was perceived as important or purposeful by the customer or user)

Endearing (e.g. that the interaction created some form of bond with the user or customer for example through desirability, creating delight or a playful tone)

It's important to note that these are all things that can be designed – though it may take some user research to get to the bottom of how that design might take shape.

User experience mapping acknowledge the multitude of channels that customers interact with a brand throughout the buying journey in a more cohesive and comprehensive way. This is particularly important, as it's increasingly common for consumers to navigate across channels to make buying decisions and purchases. In response, brands must embrace omni-channel marketing – adopting a holistic view with the customer at the center, based on the understanding that today's consumers are navigating between a varieties of touchpoints to make purchases (Bevan, 2009).

Even multi-channel marketing falls short by treating individual marketing channels as stand-alone entities with their own strategies, which often results in a disjointed and distinctly different experience from channel to channel. The goal, and a goal that can be achieved with customer experience mapping, is to foster a consistent, positive experience across every channel and at every possible touchpoint throughout the buyer's journey.

Summary

User Journey Mapping is a creative method for a quick entry in complex UX projects. It allows us to learn in a short time about relevant user processes and identify and plan necessary UX activities, even before entering the user research phase. At a kickoff workshop with all stakeholders present, the User Journey Mapping takes about four hours of time and requires an experienced moderator to effectively lead the group in the process. In a slightly altered form User Journey Mapping can also be used in interviews. Either way, a successfully created user journey map serves to decide about user research activities and to prioritize the work on design concepts.

A major area of research is how a positive 'user experience' – or interaction experience – of the use of digital artefacts (e.g. web sites, applications, virtual experiences and digital assistants) can be promoted (Hassenzahl & Tractinsky, 2006, pp.91-97). This experience does not only include usability, but also other cognitive, socio-cognitive and affective aspects of users' experience in their interaction with artefacts, such as users' enjoyment, aesthetic experience, desire to repeat use, positive decision to use a digital artefact and enhanced mental models. Research in this area is timely because we are approaching the 'loyalty decade', where interaction experience will become the main success factor (Nielsen, 2008, p.79). Hence, the success of digital artefacts is to a large extent positively influenced by the extent to which they promote a high-quality experience in their users.

Furthermore, user experience (UX) manifests as quality in design, in interaction and in value, with diverse measures from many methods and instruments. One of the challenges related to UX is how to select appropriate measures to address the particularities of an evaluation context. The necessity and utility of UX measures is apparent, because such measures enable professionals to benchmark competitive design artefacts and to select appropriate design options. However, both the construct validity and predictive power of some UX measures are of particular concern. Consequently, modelling users' experience – as a basis for producing design guidance – is especially important. Generally speaking, two types of model are distinguished in the

behavioural sciences: whereas measurement models are used to measure the constructs in a particular domain, structural models are used to establish (causal) relations between constructs (Edwards & Bagozzi, 2000, p.309). These two types of model are indispensable to advance progress in a number of disciplines. First, sound measures need to be established with desirable properties (e.g. reliability, validity and sensitivity) to provide a sound basis for measuring UX. Second, explanatory or predictive structural models need to be developed – linking antecedents through behaviour to consequences – for the purpose of understanding, predicting and reasoning about processes of UX to inform system design.

Practical implications and conclusions

A series of research activities for understanding, scoping and defining UX have been undertaken in recent years, resulting in a broad but yet unconsolidated body of knowledge of UX. Apparently, the basic issue about the distinction between UX and usability requires a deeper and more systematic conceptual analysis. Identification of the uniqueness of UX does not imply abandoning the traditional usability approaches, which should actually serve as the base for incorporating some new requirements of UX.

In accord with the common understanding of UX as subjective, dynamic and context-dependent, UX measurement should essentially be self-reported, trajectory-based and adaptive. Traditional techniques such as questionnaire, interview, and think-aloud remain important for capturing self-reported data. With the advent of open-source, multimedia social software such as blogs and video-wiki (e.g. Law & Nguyen-Ngoc, 2008, pp.124-125), it has become increasingly practical to capture as well as share experience over a range of timeframes and contexts. However, what could be impractical are the resources required to analyse a huge body of rich experiential data that would result from such an approach. Further, a trajectory-based approach implies measuring various aspects of UX both in different contexts and at different points of time: user expectation (imaginary UX), user-affect (momentary UX) and user-emotion (long-term UX) (cf. Russell, 2009, p.215).

User experience is a multidimensional concept and a commonly accepted definition is still lacking. As (Hassenzahl & Tractinsky, 2006, pp.319, 689) argue, the concept of user experience attempts to go beyond the task oriented approach of traditional HCI by bringing out aspects such as beauty, fun, pleasure, and personal growth that satisfy general human needs but have little instrumental value. Therefore, when compared to basic usability, enjoyability plays an essential role in user experience. The extent to which an interactive product is enjoyable to use is referred to as the product's hedonic quality (Hassenzahl et al., 2000; Hassenzahl, 2001). The shift of emphasis from usability to experiential factors has forced researchers to consider what user experience actually is and how to evaluate it (Vermeeren et al., 2010, p.695).

It has been found that 'perceived usefulness' loses its dominant predictive power when applied to hedonic systems such as a movie website (Van der Heijden, 2004), and this is where perceived enjoyment becomes useful as a factor for explaining user acceptance. (Schrepp et al., 2006, p.1005) show that hedonic quality has also an important impact on the attractiveness of business management software that is used for work purposes. Companies see good user experience as being vital for continuous commercial success, especially since positive long-term user experience is believed to improve customer

loyalty. For example, (Garrett, 2006, p.37) and (Jordan, 2000, p.33) suggest that if people have delightful experiences with a product, they are more willing to buy the next product from the same company. Indeed, the results of (Chitturi et al., 2008, pp.48-63) show that delighting customers with hedonic quality improves customer loyalty in car owners, as measured by word of mouth and repurchase intentions, more than utilitarian quality does.

If enjoyment of hedonic quality plays an essential role not only in user experience but also in creating customer loyalty, the question then arises of what the appropriate timeframe for evaluating user experience is. Traditional usability evaluation methods focus on 'first-time' experiences with products and learnability (Courage et al., 2009; Mendosa & Novick, 2005).

Offline and online environments are increasingly converging and it will be of the utmost importance to look at these two worlds holistically, to merge them fundamentally. The focus is on the needs and experiences of the consumer that he has at any point of contact with a company or brand. The terms "customer experience" and "user experience" describe this point of view and are the focus of successful companies in their strategic orientation. They place the experience of a user with a company or its products at the center of consideration and, when used correctly, can make a significant contribution to added value. The holistic view of user experiences and marketing, the viewing of digital products like apps and websites not merely as information carriers, but as a concrete marketing tool, even as a brand ambassador, which deliberately trigger subconscious associations and emotions, is a fundamental prerequisite for fighting for the attention of the successfully succeeding consumers.

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THE NEGLECTED VALUE: WHAT MAKES A VALUE PROPOSITION RELEVANT TO CUSTOMERS?

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Abstract. *Positioning innovation in competitive markets is difficult. Finding the right balance of delivered value, development costs and market constraints is often a trial and error process. We propose a conceptual framework for framing innovation in a competitive landscape by addressing a key point that is crucial to coherent, effective and efficient innovation: the notion of Neglected Value. Neglected Value is the main driver of market adoption for segments that are currently not well-served by mainstream products. Identifying the Neglected Value for a given market segment, allows entrepreneurs to focus on the relevant value and thus minimize the waste (and cost) of irrelevant value. Delivering the neglected value must be done respecting the constraints, which if overlooked would jeopardize any possibility to penetrate the market. The Neglected Value is the essential component of the Innovation Canvas, a tool for designing innovation, which can be used both as an educational and a decision-making tool. This paper outlines the underlining of the Innovation Canvas and provides two business cases where the canvas can be applied. Moreover, the paper discusses a methodology for business development that is currently used in a university start-up pre-incubator.*

Keywords: *innovation; positioning; neglected value; value proposition; market gaps; business development.*

Introduction

In this paper, we introduce the new concept of Neglected Value, which represents the level of relevance of the value proposition for underserved customer segments. The creation of new value through innovation is often restricted to invention and creation of novel intellectual property. Unfortunately, frequent are the cases where intellectual property does not transfer to markets due to a missing relevant value proposition. We extend (and complement) the current approach of Osterwalder et al. (2010) for designing effective Business Models, especially in the Value Proposition Design approach (Osterwalder et al., 2014). For this purpose, we have introduced a new way of capturing customers' pains and gains by framing the market demand in relation with current offer and not as two separate things. Our approach integrates the elements of the Value Proposition Design approach with analysis of competitors that allows effective positioning of innovation in highly competitive markets (Ries & Trout, 1986).

We are considering the relationship between current (partially satisfied) demand and existing offer. We are thus focusing on problems rather than just on solutions. By framing value creation (hence innovation) through the Neglected Value concept, we can better articulate the architecture of complex business models (Teece, 2010) by combining multiple neglected values of multiple parties (customer segments and/or stakeholders). This provides the necessary first level of coherence of a business model, a foundation on which we can build the remaining parts of the model, such as Key Activities and Resources, Value Distribution, Customer Relationships, Cost structure and Revenue streams as defined by Osterwalder et al. (2010).

We present the Innovation Canvas tool for the identification of market gaps that can drive innovation towards real market needs (Mowery & Rosenberg, 1979), not necessarily manifested as an explicit demand for specific products. From our direct experience in the STarmac university incubator (Pallotta et al., 2017) and retrospectively in well-known business cases, we realized that market needs are rarely articulated directly by customers. In contrast, customers can easily express their current pains and expected gains with existing products. On one hand, at a certain point in a product's lifecycle, improving product performance is no longer sufficient to respond to new market demand. On the other hand, technology alone is insufficient for creating satisfactory products for a new market need.

We also believe that market-driven innovation (Hurley & Hult, 1998) usually spins off from existing market gaps where mainstream products fail to satisfy the specific demand of a customer segment. We do not want to call those segments "niches" because real niches tend to stay niches forever. A small underserved segment can grow bigger if the product performance grows beyond just satisfying the neglected value. For example, in the case of a digital camera, the technology evolved (thanks to its success in the initial segment: war reporters) to the point that low image quality was no longer an issue. At that point, the product could retain the best of the two worlds: the (initially) neglected value and mainstream products' performance. When this happens, the Tipping Point is reached (Gladwell, 2000), and the product/technology becomes itself mainstream.

We will discuss how identifying the Neglected Value is an effective way with the goal of creating a relevant new value proposition for underserved market segments, which would not benefit from products' performance improvement, but rather from radical or disruptive innovation (Christensen, 2015). We will provide some representative business cases where the concept of Neglected Value has naturally emerged and that was key to the success of bringing new products or services to the market (Rogers, 2003). The purpose is to illustrate how the framework works. In reality, the analyst will make assumptions that need to be validated with field research and market tests (Blank & Dorf, 2012).

Business model design and validation

Business Models are today key in modern innovation to leveraging enabling technologies for value creation and impact. Technological advances alone are not sufficient to trigger sustaining or disruptive innovation in industries and markets with multiple stakeholders such as those of Energy Management, Real Estate, Transportations, Banking, Insurance, just to cite a few. The reason lies in the complexity of the value chain, or even more precisely, value network (Biem and Casswel 2008).

Moreover, differentiation is very hard to achieve if only based on technology in highly competitive markets. With the advent of the Internet technologies, the usual dichotomy between producers and consumers no longer exists. As in Web 2.0, the profile of “Prosumers” emerged. Also, several ways of transferring assets over the Internet have emerged such as BlockChain and Smart Contracts (Christidis & Devetsikiotis 2016).

A Business Model (Trimi & Berbegal-Mirabent, 2012) can be defined as an architecture for creating new value for targeted customer segments in a viable and sustainable way. Business Model Design (Massa et al., 2017) is about linking together the components of the architecture in a coherent, effective and efficient way.

- Coherence is related to the interdependence of components, e.g. linked value streams, compliance with regulation and constraints, validated assumptions.
- Effectiveness has to do with impact and value creation. In other words, it's about pain relieving and gain creation for the targeted customers and/or stakeholders.
- Efficiency is about optimizing the resources needed for value/impact creation.

Although a logical structure exists, it is hard to reduce these three different views to discrete, independent components. Most of the time, in the case of multi-party business models (Evans, 2011), global optimality is hardly achievable. Rather, trade-offs are the norm. Moreover, as business models are designed before their deployment, their elements are mostly based on assumptions. Business models need to be validated first, before being implemented, so to reduce the risk of failure due to high uncertainty in assessing stakeholders' precise requirements. Markets are very volatile and framing conditions can be unstable and uncertain. Therefore, the design method must include ways to empirically validate the model in a reliable way, for instance simulating real conditions or with small-scale deployments. In the paper we propose a conceptual tool for positioning innovation in competitive markets and we also illustrate a validation methodology that has been adapted from the Steve Blank's Customer Development approach (Blank, 2006; Blank & Dorf, 2012) and from Eric Ries' Lean Startup method (Ries, 2011) to the validation of business models.

In order to better understand and avoid confusion on what we mean by effectiveness and efficiency, we outline three different situations where those concepts have a different understanding, namely Management, Manufacturing/Production, Innovation, and Business Development.

Management: effectiveness is about the quality of outcomes. In other words, maximizing KPIs. Efficiency is about minimizing costs or maximizing throughput. This can be done by optimizing processes through continuous improvement methodologies. Without entering in a long discussion, effective and efficient management deals with understanding the causal links between costs and revenues (also known as Returns on Investments), by optimizing the value chain and managing financial risk. This can be done either at the strategic or tactical level.

Manufacturing/Production: this is actually a special case of management where outcomes are products or artifacts. Here quality is very simple to grasp. Efficiency is achieved through the minimization of waste in the production lines. One can waste several types of resources at different levels. Time, for instance, is a valuable resource that can be wasted in case of re-work. Therefore, maximizing quality can be a way of both being effective and efficient. But time can be wasted because, in a production line, the capacity of the input in a step of the process does not match the output flow of the

previous step. Here is where the Theory of Constraints (Goldratt & Cox, 2004) applies: adapt the flow of production to the capacity of consumption.

Innovation and business development: in the case of business development, effectiveness is about achieving Product-Market Fit (Blank, 2006). Efficiency is about being able to achieve it with the available (limited) resources in a situation of extreme uncertainty, in another word, in a “lean” way (Ries, 2011). Here the key success factor is being able to de-risking through learning from (cheap and quick) validation experiments where relevant metrics are measured, which will allow the entrepreneur to take strategic decisions for rapidly converging to Product-Market Fit.

We noticed indeed that the effectiveness of the validation method depends on the type of risk, market or technological, and that we needed to find a trade-off between pure metric-based validation (Ries, 2011) and pure technology development (Dorf & Byers, 2008). The three fundamental perspectives in value creation, namely i) market desirability, ii) technical feasibility, and iii) economic viability cannot be tackled independently.



Figure 1. The sweet spot between different types of product's feasibility

More precisely, economic viability can only be assessed when the market demand (i.e. its size and intensity) has been fully identified as well as the costs of developing, deploying and marketing the product/service that would satisfy that demand (i.e. technical feasibility), as shown in Figure 1. This would allow two things:

1. understand that the perceived value of the new product in comparison of existing alternatives;
2. understand the business models that would provide sustainable, recurrent revenues ensuring a viable margin on sales.

Although we believe that desirability is the most fundamental one, we also believe that feasibility and viability must inform “how much” and “what kind of” desires we will provide to targeted customers. This is the reason why we had to come up with the

Neglected Value concept in order to grasp not only what should be done, but also what can be done and most importantly why.

For this purpose, an assessment of the type of risk is essential. We believe that for a product, risk ranges between two extremes: “pure technical” risk and “pure market” risk. We see very low chances of success to those products that feature both highly technical and market risk. In other words, if a solution to a problem is very hard to achieve, we expect that problem to be a compelling one (i.e. low market/adoption risk). This is almost always the case for drugs and health-related products (e.g. BioTech and MedTech). For the other extreme where market risk is very high (i.e. switching cost is very high), off-the-shelf technology should be more than enough to implement the solution as the main focus will be in understanding what exactly is the Neglected Value that would satisfy an unsatisfied need for an under-served targeted customer segment or stakeholder.

We have crafted a process that is depicted in Figure 1, which would eventually lead to the maturity level needed for scaling up the business. In (Pallotta et al., 2016) we have assessed the effectiveness of this approach by looking at relevant indicators related to entrepreneurs’ maturity. Also, the Innovation Canvas is currently in use by both students in our university who are involved in innovation projects and by our research laboratories’ spin-off.



Figure 2. The Business Model Validation process

Business model design should not end on paper. Building a business model architecture is only the first step of a, maybe long, series of iterations in adapting the made assumptions to the reality. Reality check is often a hurdle that engineers try to avoid, but which is extremely important for the creation of successful products.

The diagram is only an ideal path. It must be observed that when a pivot happens, depending on the seriousness of the issue, one would have to go back to the starting point and restart validating the new assumptions. We purposely put “feedback from experienced entrepreneurs” (also known as “coaches”) after the validations. We believe that coaches should provide feedback on real data not on subjective judgment based, as happens unfortunately too often, on just personal experience. Although this discussion

falls outside of the scope of the paper, we believe that in business what worked in the past might not (and usually does not) for the future, especially in innovation.

The innovation canvas

When innovating, most companies focus on features. This simply means that they maximize the number of features they can stick into a single product, often regardless of the value, they create. They assume that the more the features, the higher the number of customers will be attracted as more (and more diverse) value will be delivered. This might be a reasonable assumption because if one product is capable to satisfy more needs and desires, it will be purchased by more people.

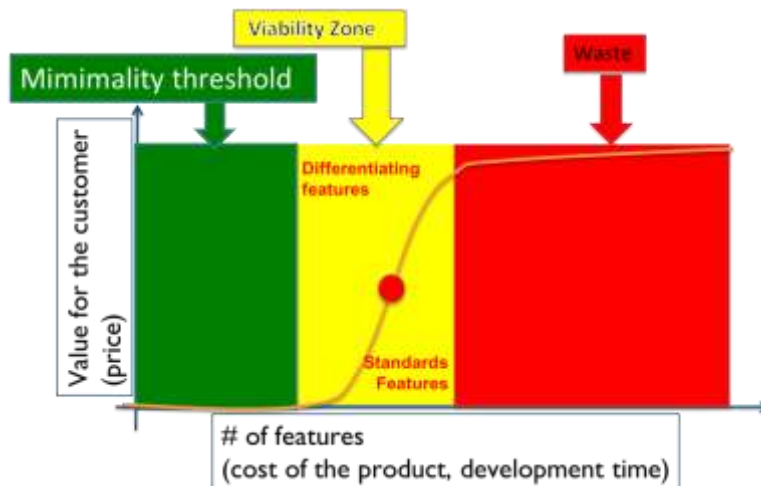


Figure 3. The relationship between features and perceived value

For better illustrating the issues in efficiency and effectiveness of the feature-based approach in new value creation, we present a diagram Figure 3. This diagram represents the relationship between the perceived value and the number of features added to the product, which also correlates with development/production costs and time. There are essential features that are already present in existing products. These features create no “new” value and are expected by the customer¹. New value creation happens when added features differentiate the product from competitors’ products (i.e. through differentiating features). This will happen to a certain point and only for “relevant” features. After that point, added features will provide no added value to the customer. In other words, they will be perceived as “superfluous”. Unfortunately, adding more features increases development and maintenance costs (induced by accrued complexity) and does not guarantee by itself a return on investment. The resources needed to create/deploy those features are simply wasted.

The issue with the feature-based approach lies in the fact that not all features have the same impact on a customer’s adoption and therefore a prioritization is not only preferable but also needed for competitiveness. Only a few companies focus on overall delivered value from their products, regardless if they have all (or most) features implemented. They usually follow the ubiquitous Pareto 20-80 law where 20% of

¹ We will rename “essential features” as “hygiene factors” in the Innovation Canvas.

possible features will produce the 80% of satisfied customers. Moreover, it provides two additional advantages:

1. It leaves the product open for future improvements.
2. It reduces the product's complexity to its minimum.

Lean Startup (Ries 2011) advocates for value-based product development and it provides tools to measure (quantify) the value delivered to customers (and precisely to whom) with the product. However, it fails in providing a conceptual (and design) tool to prioritize value creation through the understanding of actual market needs by taking into due account the existing offer by competitors. The Innovation Canvas serves exactly this purpose. It helps in framing the value that is actually needed by the targeted market not only as an added value to existing products but also as a trade-off between necessary and unnecessary features.

The Innovation Canvas shown in Figure 4, has 8 components. The first three, are the obvious ones, namely the description of the Technology/Product, the targeted Customer Segment and the Existing Competition. It is important to notice that innovation takes place in a given context provided by the market in two fashions: customers and competitors. Without considering the existing (or even future) context, is hard to position innovation in an effective and efficient way.

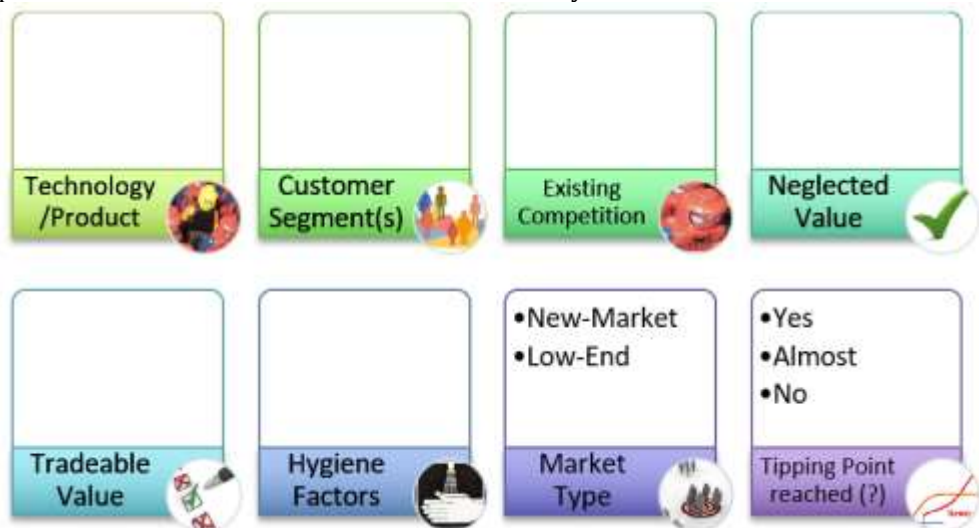


Figure 4. The Innovation Canvas

In the remaining components, we consider 3 interlinked elements of the Value Proposition considering also the current competition, namely:

Neglected Value: the value that a customer segment or a stakeholder is currently missing from existing value propositions on the market. Usually, the neglected value represents "pains" for the customer segment or stakeholders, which prevent them to achieve their goals through existing "mainstream" value (i.e. products, services, technologies). In other words, the segment is *under-served*. We believe that effective innovation should primarily address unfulfilled compelling needs. This view does not necessarily limit to utilitarian (rational) needs, but it can be extended to more emotional and maybe

unconscious needs. Key is the way of how those needs are elicited, as they can be difficult to express when they are not yet manifested².

Tradeable Value: describes what type of value the customer segment or the stakeholder is ready to trade (or give up or sacrifice) in order to obtain the Neglected Value. We are convinced that it is extremely rare the case where customers can get better value at a substantially lower price of what already exists on the market. There is always a trade-off. Usually, for more value, the price is higher. For lower prices, the value is less. Our main point is understanding what can be conceded (or traded) for obtaining the relevant value, which can be missing today for the targeted customer segment or stakeholder.

Hygiene Factors: These are the constraints that need to be respected for enabling the adoption by the targeted customer segment. In other words, it is the existing value that cannot be traded for the Neglected Value. In some cases, hygiene factors do not represent themselves direct value for the customer or stakeholder, but their absence of them make acceptance of the overall value unacceptable. As a simple example, consider the value provided by Solar Panels. The Neglected Value is independence from the grid that for somebody is extremely relevant and necessary (e.g. houses and appliances in remote places). Traded Value is high-power and efficiency of panels. Hygiene Factors are power continuity (achieved through batteries) and reasonable operational cost.

These categories of values can be quantified and prioritized accordingly. For Neglected and Traded Value, we would suggest using metrics such as relevance, utility, etc. For Hygiene Factors, we can value the strength of those constraints. Of course, if a hygiene factor can be released (traded) it no longer belongs to that category and becomes traded value.

Depending on the type of Neglected Value, there are usually two possible cases of market penetration:

1. The creation of a New Market for that segment or stakeholder by providing them with relevant value.
2. When a too high price is expected, that prevents targeted customer segment to obtain the desired value. This situation can be described as “democratization” (or Low-End market).

The last components, Tipping Point reached, is simply an assessment of the status of innovation, or in other words, it provides an indication of its disruption power (and if the disruption has been achieved).

At this stage of analysis, we are considering the relationship between current (partially satisfied) demand and existing offer. We are thus focusing on problems rather than solutions. Methodologically, we recommend avoiding making assumptions on the solution’s technical feasibility and economic viability. These aspects are addressed in the remaining part of the Business Model (canvas). By framing value creation (hence innovation) this way, we can better articulate the architecture of complex business models by combining multiple neglected, tradeable values and hygiene factors of

² Relevant here is the quotation of John Ford’s « if I asked customers what they wanted, they had told me: faster horses ». If re-framed as Neglected Value, certain users of horses were in strong need to travel faster. Not every horse owner switched to cars. Only those who were compelled to do that because they were underserved by horses.

multiple parties (customer segments and/or stakeholders). This provides the necessary first level of coherence of a business model, a foundation on which we can build the remaining part of the model, such as Key Activities and Resources, Value Distribution, Customer Relationships, Cost Structure, and Revenue Streams.

Case studies

We present two examples of retrospective analysis with the Innovation Canvas. We fully understand the limitation of retrospective analysis, but the purpose is only to illustrate how the framework works. In reality, the analyst will make assumptions that need to be validated with field research and market tests.

Digital photography

The first example is a case of New Market creation induced by the introduction of Digital Camera technology. We all know the story that Digital Cameras were invented in Kodak labs. In Figure 5, the first ever digital photo taken was made by a prototype developed at Kodak. Although they invented it, they failed in understanding the value of digital photography just because it could threaten their core business model based on the sale of films and supply for chemical processing of them and for printing. Digital photography did not take off overnight and did not replace immediately chemical photography. This disruption took more than 10 years to occur.



Figure 5. First picture was taken with Kodak digital camera prototype
(Source: https://en.wikipedia.org/wiki/Digital_camera)

Today, digital cameras are the standard technology for photography, but back in the '80, the situation was completely different. Early manufacturers of digital cameras had to figure out which segment of the market to target in order to make this invention valuable, thus turning it into a real innovation. The segment is chosen (or more probably that had early adopted this technology) turned out to be that of "War Photo-Reporters". At that time, their requirements were not fully met by ordinary photography technology. What we now call the Neglected Value for them was the need of getting rid of the time spent in developing films and printing pictures taken on the war field and have them ready to be sent as fast as possible to the journal through faxes. Removing this pain was essential to them. The digital camera offered this value to the expenses of reduced image quality. The question was then: were they ready to "sacrifice or trade" image quality for more convenient use of the camera? Today we know that the answer was Yes, but at that time we guess that it was not so clear to determine what the Tradeable Value exactly was. For sure, it was not framed that way.

In retrospective, we can easily understand that key factors for adoption were how fast picture could be sent to the journal headquarter. The faster the image was available for printing, higher were the chances to get copies of newspaper sold. Image quality was not actually a key factor because pictures' quality was eventually degraded during the transfer through the fax machine, and besides, the image quality of printed on the newspaper was not in general very high.

Concerning the constraints that need to be met for war photo-reporters, we imagined that some sort of reliability of the memory and long-enough battery life need to be guaranteed. In Figure 6, we filled the Innovation Canvas with the above-discussed elements. Since the innovation was based on differentiation from the existing products, we frame it as New-Market. Of course, we can observe that the Tipping Point for this product has been reached.

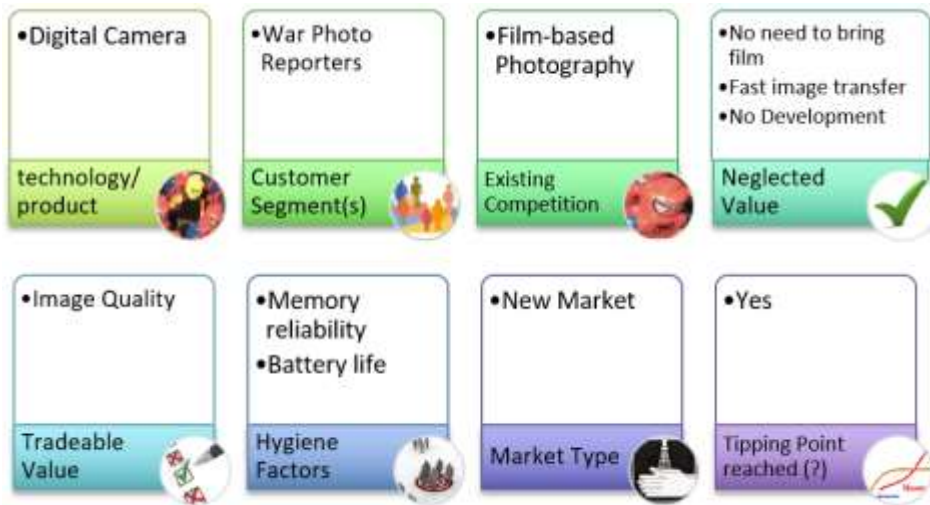


Figure 6. Innovation Canvas for the Digital Camera technology

Low-cost airlines

The second example is a case of the Low-End market. Low-cost airlines (https://en.wikipedia.org/wiki/Low-cost_carrier) are a typical example of Business Model Innovation where the value for customers is created through an innovative way of cutting or mutualizing costs. This case is less technology-driven than the Digital Camera one, but nevertheless equally disruptive. After the introduction of low-cost airlines, the aviation business has completely changed. Today, the only existing model for airlines companies is low-cost. All airlines have switched to this business model. However, casualties derived by this new disruptive business model are rather traveled agencies. Traditional airlines were able to easily imitate this model and get through the disruption. It was not the case for the process of disintermediation that killed travel agencies. Therefore, the Tipping Point is reached. The Innovation Canvas for Low-Cost airlines is shown in Figure 7.



Figure 7. Innovation Canvas example for Low-Cost Airlines

For Low-End markets, the only relevant Neglected Value is (affordable) Price. Everything else is accessory. Customers simply could not afford the existing product or the service because of its price. To get an affordable price, are they ready to “trade” some value? Which one? The answer was (and still is): yes. There are several features that can be excluded from the ticket without dramatically affecting the flying experience, namely: luggage allowance, meals, and snacks, Business Class, booking through a travel agency, paying only by credit card, flying to peripheral airports, etc. What is interesting are the constraints that need to be guaranteed: The Hygiene Factors. We assume that nobody would fly with an airline which would not guarantee flight safety, for instance lowering aircraft maintenance costs or using old airplanes. We also suspect that punctuality has to be guaranteed, although is a less stringent constraint than the previous one.

Conclusions

In this paper, we have discussed a key element of the Innovation Canvas is the notion of Neglected Value, namely value delivered to market segments that are currently underserved by existing products or services. The Innovation Canvas is a conceptual tool for position innovation in competitive markets. We have also outlined a methodology for validating business models which integrates the Innovation Canvas tool as a scoreboard for tracking value creation and achieving product-market fit.

We think that a new product or service cannot be both better and cheaper than existing competitors’ products or services. We rather believe that market-driven innovation usually spins off from existing market gaps where mainstream products fail to satisfy the specific demand of a customer segment. It is not unusual that an initially small underserved segment can grow bigger if the Tradeable Value for obtaining the Neglected Value can be reduced and eventually eliminated to serve the mainstream market. This is exactly when the Tipping Point is reached. For example, in the case of a digital camera, the technology evolved (thanks to its success in the initial segment) to the point that low image quality was no longer an issue. At that point, the product could retain the best of

the two worlds: the (initially) neglected value and the tradeable value. When this happens, the product/technology becomes itself mainstream.

In the context of the STarmac pre-incubator, we noticed that the Innovation Canvas tool is a good companion for the Value Proposition and Business Model canvases because it helps the innovators and entrepreneurs in positioning their value proposition with respect to existing competitors' products or services. Moreover, it helps them in formulating hypotheses on value relevance for targeted customer segments. We observed that a quick reality check is done by linking pains and gains to existing market offer, which leads to the precise identification of market gaps and underserved market sub-segments. For the moment, the appreciation of the effectiveness of Innovation Canvas in detecting and framing market gaps comes only from qualitative observations. Users of the Innovation Canvas have mostly provided a positive feedback on its use, especially on the fact that the tool forces them to search for real issues of existing products for targeted customer segments by focusing more on the "why" aspects rather than on the "what" and "how" aspects in product and/or business development.

As next steps, we envisage providing a better-outlined validation process with a set of pre-defined experiments that can be executed to validate the Innovation Canvas hypotheses. Quantitative experiments to prove the effectiveness of the Innovation Canvas results will be conducted and data collected in the framework of the STarmac acceleration program Business Validation.

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GAME THEORY IN STRATEGIC MANAGEMENT. THEORETICAL AND PRACTICAL EXAMPLES

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Abstract. *Game Theory provides an analysis tool for describing the decision-making process of one or more players, their behavior when there are plenty of possible outcomes. Strategic behavior is a generic term that designates all concerted and consistent actions promoted by an enterprise in order to influence the competitive environment or at least to adapt to its evolution. This paper aims at exploring the real potential of strategic management based on game theory decisions and illustrates that the usefulness and power of game theory applied in strategic management lie in its ability to provide insights on competitive climate and strategies. In this paper, we will investigate some potential contributions of game theory to strategic management, especially with regard to applications in individual industries. The examples presented in the second part of the paper are based on strategic management decisions that involve dominant strategies.*

Keywords: *strategic management; game theory; dominant strategies; Nash Equilibrium; consumer behavior; oligopoly.*

Introduction

Strategy is known as a valid or applicable pattern of behavior in a given competitive context. It is a way of positioning the company, as a result of strategic thinking, at the intersection of the best solutions "matching" key competence of the company with a situation predictable competitive environment.

Over the years, there were many definitions of strategy. Chandler (1962) defined strategy as "the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out the goals". Ansoff (1965) comprised strategy in four components: growth vector, product market scope, synergy, and competitive advantage. Leonard et. al. (1969) defined strategy as a pattern of purposes, objectives, goals and major policies, as well as the plans for achieving the goals, determined in such a way the enterprise is or is going to be.

The strategy was also defined as the examination of the sources of efficiency which make enterprises successful, like innovation, diversification, new product development, acquisitions, corporate governance etc. (Camerer, 1991). In addition, Porter (1996) mentioned that strategy is realized fit between enterprises activities.

Organizational values are the preferences and beliefs of the leaders, while corporate social responsibility is about the ethics of the community in which the enterprise is embodied (Mitzburg, 1990). Strategy is further elaborated through generic strategy typologies of Miles and Snow (1978) and Porter (1980, 1985).

Game theory is a branch of applied mathematics that addresses the problem of optimal behavior in games with 2 or n people. Game theory is an abstract model of decision making; should not be confused with an explanation of decision making in the social reality. The common point of all the imagined games within the theories is the idea of strategy. Game theory is an interdisciplinary approach to studying human behavior. The most involved disciplines in game theory are mathematics and economics, but also other social and behavioral sciences. Game theory was created by mathematician John von Neumann.

Shubik (1972) argues that the solution concepts resulted from game theory could be thought to us as descriptive view or normative of multi-person decision making. Game theory could also describe the analysis of rational behavior in situations where interdependence of outcomes is involved (Martin, 1991).

Game theory studies how decision-makers are making their decisions (Camerer, 2011). Game theory can be used to show how decisions are made in various areas, such as politics, economics or sports. In the last two decades, game theory has been used by economists to analyze a wide variety of interactions and economics (Myerson, 2013). The organization industry main interest is to analyze the competitive interactions between oligopolies and game theory helps us understand these interactions (McCain, 2014).

A game includes players, strategies, profits, result, and equilibrium. All these elements define the rules of the game. The following definitions help us to better understand the theories of games:

- Players are the decision makers. In our examples, players will be two or more oligopolies or a monopolist and a possible new entrant who is already on the market or about to enter.
- The actions include all the possible decisions of a player.
- Strategies are rules that tell every player what action to choose in each stage of the game.
- Profits are expected profits for each player to get at the end of the game.
- Equilibrium is the result of choosing the best strategy, a combination of strategy and that each player could choose.

Using game theory, the economists are seeing a picture with participants in the game, certain rules that define certain decisions (Colman, 2013). The results of the game - what each participant receives - refers to his earnings and depends on what each player does. Each participant in the game has a strategy and he decides what strategy to apply. In games where each participant has the chance to take more than one decision (where there is more than one round), decisions may depend on what happens in the previous round. The game theory begins with the hypothesis that every participant in the game is rational and knows that his rival is also rational (Aumann, 2017). Each competitor is trying to maximize his own gains. Theory tries, thus, to predict what each player will do. The answer depends on the rules of the game and its earnings.

Strategic thinking does not only help to "frame the way" like a television show. We all face situations that require strategic thinking. Economists are trying to understand the

choices that people and businesses make. The range of economists has spread to other areas (i.e. politics, sports) by studying strategic behavior (Jeung et. al., 2016).

Economists study the choices made by rational individuals and profit-maximizing enterprises. In the basic competition model (perfect competition), individuals and businesses do not need to act strategically. Consumers and businesses can buy and sell at the price of the market. An enterprise should not take into account the reaction of its competitors if it decides to produce more. The same situation could be true in a monopoly market, but for another reason: the monopolist has no competition. In the basic monopoly competitive model, the strategic behavior - decisions that take into account the possible reactions of others - does not play any role.

Things are different in the situation of an oligopoly. With only a few companies in the industry, each business must take into account the reaction of the competitors, whenever they think to expand the production or lower the price.

In game theory, to study the cooperation of the companies into an oligopoly market, the aim it is to understand strategic decisions and understand how the organizations would behave when they know that their actions are influencing the behavior of others. For example, when the managers of a major airline decide to modify the price of travel tickets on a particular route, they should consider how their competitors could react to this price change.

Similarly, the competitors should react when deciding how they will react, given that the company who was the first to change the price of the market, will react in some way to the decisions of the other company. These are strategic decisions, just like players' decisions in various game categories like chess, football or poker.

Dominant strategies

By strategic behavior, it means that each player needs to know what the other player is going to do. Will you or your accomplice confess? If you cut prices, will your competitor react the same way? The decision a player takes depends on how he thinks the other player will react.

In the prisoner's dilemma game, we assume that players are guided by the following reason: "For every decision I make, what is the best choice the other player can make?". In analyzing the prisoner's dilemma, we ask:

- If Prisoner A does not confess, what is the best strategy for Prisoner B?
- If Prisoner A confesses, what is the best strategy for player B?

In both cases, we can conclude that confession is the best solution for Prisoner B. If B's best solution is to confess, no matter what prisoner A will do, then A will assume that B will confess, so A has to decide which is the best solution he can have if B confesses. So, the best solution for Prisoner A is also to confess.

Confession is the best strategy that both prisoners can follow, no matter what the other will do. This strategy - which works best no matter what the other player will do - is called dominant strategy. As we recall, the goal of game theory is to predict which strategy each player will choose. When a player has a dominant strategy, this is the strategy that a rational person should follow.

Nash equilibrium

It is easy to guess the end of the game - its equilibrium - whether the player has a strategy to do. Everyone will play his dominant strategy. Therefore, in the game of the prisoner's dilemma, equilibrium is achieved when recognition of their deed is made by the two players. The situation is not at all easy when only one of them has a dominant strategy or when none has such a strategy. To predict the final results in these complex games, we need to reconsider the reason why confession is a balance situation in the prisoner's dilemma.

In the prisoner's dilemma, each of the two prisoners confesses, because it is to his advantage to reach the optimal result - the lowest period spent in prison - taking into account the testimony of the other. The result is balanced, meaning that no one will change its strategy if he would get the chance. By confessing, both chose the best solution. Such a balance is called Nash equilibrium and is one of the basic tasks in studying game theory.

Prisoner's dilemma occurs in many situations, both in economy and social sciences. The following examples will demonstrate this.

Negative advertising campaigns

Why do companies engage in negative advertisement campaigns against each other, although they promise not to do so? Let's look at the case of two companies A and B which are selling a similar product on the same market. If none of them will run an advertisement campaign, the customers will have a good opinion of both, but none will gain an advantage over the other. If both are making negative advertising campaigns, the customers would percept both companies in a negative way and none will gain an advantage. Both are affected by each other's campaign. If the company A does a fair campaign, company B can gain an advantage carrying a negative campaign that affects A. Conversely, A wins conducting a negative advertising campaign if company B is running a fair campaign.

In Figure 1 we could see the payoff matrix for the advertising campaign.

		Company B	
		Positive campaign	Negative campaign
Company A	Positive campaign	X X	+ -
	Negative campaign	- +	X X

Figure 1. Advertising campaign

Every company would motivate its decision: *"If my opponent carries a negative campaign, I will gain a better image if I'll take a negative campaign. And if my opponent does not carry a negative advertisement campaign, then I can gain an advantage if I run a negative advertising campaign. In any case, I will be better off if I have a negative electoral campaign"*. Each politician has a dominant strategy and there is only one Nash equilibrium in which both companies carry out a negative electoral campaign, despite promises not to do so.

Sports club managers and players employed

Sports teams compete for the best players. Suppose there are only two important teams in a national championship: A and B. If both teams make an agreement to keep small wages for their players, the owners will make big profits. If the owner of Team A, instead, provides high salaries, while owners of Team B does not, then Team A will attract all good players and generate large profits for their employer. Meanwhile, Team B will eliminate all the expensive players and will have a weak season. Low concern makes the sports club owner lose money. If Team B will offer high salaries and Team A not, then Team B will take all the good players and win big profits, while Team A will lose money. If both clubs offer high salaries, no team will have all good players, and employers will have lower profits due to wage growth.

In the Nash equilibrium, both team owners offer players high salary and get lower profits than they would be able to understand to keep wages low.

Zero-sum games

We consider a simple game played by two ice-cream managers: Dan and Paul. They both sell ice cream in a kilometer-long park. Everybody wants to park his truck at a point where he would have the best view. There are three possibilities for each truck parking: entry, mid and out of the park. Where will like each truck?

We consider the three possible locations. Table 1 shows the possible sales percentages for the two vendors, depending on the location chosen.

Table no.2. The profit matrix of the two sellers

		Truck Location 2		
		entry	middle	exit
Truck 1 location	entry	50, 50	25, 75	50, 50
	middle	75, 25	50, 50	75, 25
	output	50, 50	25, 75	50, 50

If both locate the same point, the vendor's sales fall 50-50. But if one sits in the middle and the other on one of the two ends, then the first one will get 75% of the sales, while the other will get the remaining 25%. Both vendors have the same possible options and think as follows: *"If the other ice cream truck sits in one of the two ends of the park, then for me the best thing would be to get positioned in the center and get 75% of sales. However, if another truck will sit in the center, then for me the best thing would be to get all position the center to split sales 50-50, otherwise, I only gain 25% of sales while my*

competitor would take the remaining 75%. So, no matter where you park the other truck, it's best for me to sit in the center".

Thus, the Nash balance is reached at the point where both sellers park their trucks in the center of the park.

The above game has an important feature: in each situation, the sum of the sales of the two ice cream trucks is 100%. For each 1 percentage point increase in sales of the first truck will be a 1 percentage point reduction in sales of the second truck. Such a game, in which the accumulation of a player is reflected in the loss of another, is called zero amount game.

A suitable solution for all zero amount of games is achieved using the so-called minimax strategy. If the first seller chooses a strategy that minimizes the winnings of the second one, then he will have a dominant strategy. Thus, the first vendor finds out if he is parking in one of the two ends of the park, then the other seller will park in the middle and collect 75% of the sales. Therefore, the first seller's minimax strategy is to locate in the middle, which minimizes sales of the second seller to a maximum of 50%. The same strategy, seen from the perspective of the second seller is to maximize the minimum achievements of every game possible. As low as 25% when located either at the beginning or at the end and 50% when it is located in the middle, means that the second seller will also be located in the middle.

Applications of Game Theory in strategic management

In the prisoner's dilemma, players have a dominant strategy. This is not the case in most games. What each player considers to be best for him, depends on what the other player does. This makes it even harder to predict the end of the game. But often, we can anticipate the end of the game thinking of the consequences for each player, as we did for prisoner's dilemma.

Games with one dominant strategy

To illustrate how we could foresee the end of a game, even when one player has a dominant strategy, we consider the case of two companies who decide on reducing or increasing prices. The two companies, Discounter Deluxe, and Quality Brands are rival and compete with each other. Deluxe promises to their customers the lowest prices and therefore will lose many customers if they fail to offer them. Brands have higher costs and would prefer not to reduce prices. However, if Brands does not align with Deluxe's price reduction, it risks losing a big share of its turnover.

The results each one expects to have is shown in Figure 3. The annual turnover for Deluxe are shown below the diagonal line, and Brands are shown above the diagonal.

Figure 3. The game of price reduction

		Quality Brands	
		Reduces prices	Does not reduce prices
Discounter Deluxe	Reduces prices	\$2.5 mil \$5 mil	\$1 mil \$6 mil
	Does not reduce prices	\$3 mil \$1 mil	\$3.5 mil \$2 mil

Deluxe has a dominant strategy – to reduce prices. It has more to gain with this strategy than Quality Brands does. The latter, on the contrary, does not have a dominant strategy. If Deluxe reduces prices, it's better for Quality Brands to reduce prices as well, given that otherwise it would lose too much in sales. Also, if Discounter Deluxe does not reduce prices, then for Quality Brands it would be much better not to reduce prices.

Even though Quality Brands does not have a dominant strategy, we could see the end of the game if we argue as follows. Quality Brands knows that Discounter Deluxe will reduce prices since this is Deluxe's dominant strategy. Therefore, the fact that Quality Brands would think it would be best to keep the prices high if Deluxe does the same thing, is irrelevant. Quality Brands knows that Deluxe will reduce prices. The best strategy of Quality Brands is to reduce prices as well. The outcome or the equilibrium in this game will have both companies if they will reduce their prices.

In this price reduction game, each company is following its best strategy, given that the other company follows its best strategy to reduce prices. Reducing prices is the only and only Nash equilibrium. Because of the strategy of the other player, none of them wants to change its strategy.

Games without dominant strategies

Both the game of the prisoner dilemma and the game of price reduction have a single Nash equilibrium. However, often a game will have more than one Nash equilibrium, as shown by the following example.

We will study the case where two friends decide to study together. Both are enrolled in the same physical and economics courses, and both believe that performance on future tests will improve if they study together. Still, John would prefer to use his time concentrating on physics, while Todd would prefer to devote his time to the economy. The game board for this case is shown in figure no. 4, where the notes express the environments obtained by the two students in the two subjects (the note written underneath each diagonal of each box is the reward for John).

		Todd	
		Studying physics	Studying economics
John	Studying physics	X X	+ -
	Studying economics	- +	X X

Figure 4. The game of the study

Has any of them a dominant strategy? Not. If John insists on studying physics, Todd would benefit if he would join John in studying physics books unless he continued to study the economy alone. On the other hand, if John consents to study economics, then Todd's best answer is to study economics. Similarly, the best strategy of John is to study economics if Todd does the same. No player has a dominant strategy, best for each being the same thing the other one does.

Even if there are no two dominant strategies in this game, there are two balances Nash - either physics learners or both studying economics. Although the concept of Nash equilibrium may not lead to a unique equilibrium in the game, it can help remove effects.

Neither the upper-right and bottom-left boxes on the chart do not represent a Nash equilibrium. If Todd is studying physics, John's best answer would not be to study economics.

Conclusions

In the markets with perfect competition, businesses and consumers can decide how much to produce and how much to consume, without taking into account how they can react the others. In markets with imperfect competition, firms need to keep in mind the way they react competitors in the company's production or price decisions. Companies have to behave strategically in such conditions. People also face many situations where they need to act strategically. Economists use game theory to predict how businesses and individuals act. In fact, the perfect competition model works only in theory.

The prisoner's dilemma shows that our own interest can prevent people from maintaining cooperation, even if it is in the common interest. The logic resulting from the prisoner's dilemma applies to many situations, including the arms race, advertisements, common resource issues, and oligopolies. A Nash equilibrium exists if all players do their best to know the choices their opponents have.

In the case of Nash equilibrium, each participant in a game follows the best strategy, taking into account the strategies followed by the other players. A game can have a unique equilibrium point or more equilibrium points.

A dominant strategy is the best strategy a player could follow, taking into account what the other players might choose. In a zero-sum game, the minimax strategy is the dominant strategy of the game. Oligopolies maximize their total profits by forming a cartel, behaving like a monopoly. Therefore, if oligopolies' individual decisions about production levels, the result is a lower price than that resulting from a cartel.

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COMPETITIVE POSITION OF THE ZARA BRAND IN THE CLOTHING MARKET

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Abstract. *The article investigates the Zara clothing brand of the Spanish Inditex company known for the clothes that always enjoy high demand. The article aims to study the competitive strategy of Zara, its ability to adapt to the changing business environment, as well as to define the major competitive advantages in comparison with the direct competitors. Inditex has a number of brands in the low-price, middle-price, and the high-price segments of the clothing market. The authors analyze the competitive positions of Inditex in the middle-price segment of the Russian clothing market, with the Zara brand as the most popular one among the customers. The market is selected for the case study, because being one of the most promising regional markets, it is at the same time challenging for a European producer due to differences in consumer preferences and purchasing patterns. The authors' approach of the analysis is based on Porter's five forces of competition. Numerical score is used to evaluate the threats of intra-industry competition. It is concluded that the Russian women's clothing market is characterized by a high level of saturation, tough competition, and slowing pace of growth. The authors identify the main competitive advantages of Inditex in comparison to the direct competitors: Benetton, Marks & Spencer, H&M and GAP. Inditex is the market leader, with Zara securing half of the company's market share, thus being the most recognizable clothing brand in many countries of the company's presence. The success of Zara proves that the company's strategy is adaptive and competitive. At the same time, the analysis reveals changes in the business environment. The buyers are currently focused mainly on offline shopping. However, Zara's main competitors develop online stores and delivery services. As estimated by the authors, the threat of intra-industry competition is high; competition with online stores will be increasing. The threat of new players entering the clothing market is estimated as high. The threat of losing consumers of the Zara brand is estimated to have an average degree. The threat of loss of suppliers is low. The authors propose managerial tactics and formulate development strategy basics. The paper presents the following opportunities for Zara promotion: increasing online sales, expanding sales through large outlets and closing small stores, preserving the existing solutions and searching for new ways of differentiating the brand, reducing costs by developing clusters of suppliers.*

Keywords: *Porter's five forces of competitive position; clothing market; Zara brand; competitive advantages of Inditex; intra-industry competition level.*

Introduction

The Russian market of women's clothing retail accounts for 5% of global sales, making it a large and attractive market. Thus, it is not by coincidence that Russia has become a field of competition for clothing suppliers from many countries from all over the world. Expansion of international clothing retailers in Russia contributed to the fact that 85% of Russian consumers prefer foreign brands of clothing. International retail chains prevail in the Russian clothing market. On the other hand, national brands are strengthening their positions. It should be noted that 71% of the buyers usually buy clothes in the shopping malls (Alto Consulting Group, 2013). Alto Consulting Group (2013) found out that twenty-one percent of consumers in the Russian women's clothing market preferred to buy clothes online in 2013. This share is increasing every year. The trends prove that the market is developing providing new opportunities and challenges for the producers and retailers.

The competition is increasing primarily in the middle-price segment of clothing retail. It has shown a significant drop in demand during the decline in sales in 2014-2016 due to a decrease of the income level. The share of the middle-price segment of the Russian clothing market has declined from 40% in 2011-2013 to 30% in 2015-2016. (Gafarova, 2017, p.12). Consumers of the middle class have partially switched to relatively cheap brands.

With the market downturn, the positions of major suppliers have changed; the intensity of competition has increased. Some luxury brands were forced to leave the Russian market. Gafarova (2017) lists the clothing retail chains with the largest number of outlets in Russia in 2016: O'STIN, Gloria Jeans, Tvoyo, INCITY, Sela, Inditex, and OGGI. Inditex (Industries in Design in Textiles) of Spain is the only foreign company among the brands listed. Inditex managed to maintain its share in the Russian clothing market, primarily due to the popularity of the Zara brand, which belongs to the middle-price segment, as well as due to the availability of brands sold at reasonable prices.

Inditex has a number of brands: the low-price segment includes Bershka, Stradivarius, Pull & Bear trademarks, the middle-price segment includes Zara and Oysho, and finally Zara Home, Massimo Dutti and Uterque belong to the high-price segment. Zara has been the most popular brand in Russia compared to the other brands of Inditex. According to InfoLine Analytics (2012), the Zara brand accounts for 49.5% of sales of Inditex in Russia. The success of the company is attributed to the ability to capture fashion trends, borrow them and turn them into reality at attractive prices (O'Shea, 2017, p.19). Not only does the company carefully study consumer preferences and the latest trends in the fashion industry, it adapts the production process to customer requests. This approach allows the company to reduce the costs and the value creation chain, and keep the prices low. Inditex designs clothes and offers them at a reasonable price by constantly updating the design. The company itself is engaged in the design, storage, distribution and logistics (Guan & Zhang, 2011).

Most of the European clothing retailers have seen decreasing financial indicators at the beginning of the 21st century. In particular, Marks & Spencer has reduced the number of its own stores in the UK and abroad. Operating profit of Marks & Spencer in foreign markets fell by 39.6% in 2016 (Zykova, 2017). GAP originating from the US is reducing the number of outlets in Europe. Zara seemingly has not been affected by the industry recession. On the contrary, the revenues of Inditex have been increasing by 20% annually. The popularity of Zara stores allowed Inditex to avoid excessive advertising (Gamboa & Goncalves, 2014). Advertising costs of the Spanish company make up only 0.3% of the revenue. For comparison, competitors spend 3-4% (Ferdows, Lewis & Machuca, 2010).

Methodology

The objectives of the study include analyzing the main competitive advantages of the company, identifying the threats and proposing short and middle-term managerial solutions.

The model of the five competitive forces by Porter can be used to analyze the competitive strategy. The five forces include rivalry between existing firms, the threat of new competitors, the market power of the buyer, the threat of substitutes, the market power of suppliers. The forces together determine the intensity of competition and profitability (Porter, 2015). As Porter points out, any company seeks a position in the industry, which will allow it to protect itself from these competitive forces or influence them with profit for themselves (Porter, 2015, p.38).

The authors implement a system of numerical scores to evaluate the most important indicators of the five competitive forces of competition based on the approach proposed by Motorina (2013).

The threat from substitute goods is evaluated using a 3-point scale where 3 points mean that the market is characterized by a high threat from substitutes:

- 3 points if the market has substitute products and they secure a large market share;
- 2 points if the substitutes have just entered the market and the market share is small;
- 1 point if the presence of substitutes can be neglected.

The threat of intra-industry competition is also evaluated on a 3-point scale for four indicators:

- number of companies in the market: 1 point if there are not more than 3 companies, 2 points for an average level of concentration (4-10 competitors), and 3 points if competition is more intense;
- market growth rate: 1 point if the growth rate is high, 2 if the growth rate is low, and 3 points if the sales volume is decreasing;
- product differentiation: 1 point if the market has standard products, 2 points if competing goods have only main consumer properties standardized, and 3 points if the clothes are highly differentiated;
- the possibility of price increase in the market: 1 point is assigned if the market allows setting higher prices and increasing profits, 2 points if the price increase can only cover the increase in costs, and 3 points if there is no possibility of increasing prices.

The scores on the four indicators mentioned above are summed up. Thus, the maximum is 12. If the score is not more than 4, then the threat from competitors is estimated as low. If the score is more or equal to 9 points, then it is considered that the market is characterized by a high threat from current competitors.

The threat of losing consumers is evaluated with the use of four indicators:

- the share of large buyers: 1 point is assigned if the sales volume is evenly distributed among all customers, 3 points if more than 80% of sales are attributed to only several customers;
- buyers' willingness to switch to substitutes: 1 point if the product is unique, 2 points if the product has distinctive features, and 3 points if the company's goods have full analogs;
- buyers' price sensitivity: 1 point in case of absolute insensitivity to the price, and 3 points if buyers always switch to a product at a lower price;
- customer satisfaction with product quality: 1 point for full satisfaction, 2 points if there is dissatisfaction with secondary features of the product, and 3 points if there is major dissatisfaction.

The company has an average threat of losing current consumers if the sum of scores above falls in the range of 5 to 8 points. The score of 9 to 12 points signifies a low probability of losing consumers.

The threat of new rivals entering the clothing market is evaluated with 8 indicators:

- economies of scale: 3 points are assigned if the clothes production doesn't enjoy economies of scale, 2 points if only a few companies can achieve it, and 1 point for a large-scale effect in the industry;
- the share of brands on the market: 3 points are assigned if there are no large players in the market, 2 points in case of 2-3 large players occupying half of the market, and 1 point if the biggest companies secure 80% of the market;
- differentiation of brands and consumer segments: 3 points are assigned if the diversity of goods is low, 2 points if there are micro-niches, and 1 point if all the most important segments of the market are occupied;
- level of investments and entry costs: 3 points if the investment pays back in 1-3 months, 2 points if the payback period is 6-12 months, 1 point when the payback period exceeds 1 year;
- access to distribution channels: 3 points if full access is available, 2 points if it's partially limited, and 1 point if there is no access;
- government policy: 3 points if there are no acts and regulations limiting activities, 2 points for a low level of state intervention, and 1 point for a high level of state involvement;
- companies' willingness to reduce prices: 3 points if they do not tend to reduce prices, 2 points when only large companies are ready to cut prices down, and 1 point the trend of price reduction affects all the major companies;
- clothing market growth rate: 3 points if the growth rate is high, 2 points if the market is slowing down, and 1 point in case of a downturn.

The market is characterized by a high threat from the new entries if the sum of the 8 indicators ranges from 17 to 24 points. If the total score is not more than 8 points, then the degree of threat is considered low.

The threat of losing suppliers is evaluated with four indicators against 2-point scales:

- number of suppliers: 2 points are assigned there is a monopoly or a small number of suppliers, 1 point if there are many suppliers;
- suppliers' limited resources: 2 points if resources are limited, 1 point if there are no definite limits;
- costs of switching to other suppliers: 2 points if costs are high, 1 point for low costs;
- priority of the industry for suppliers: 2 points in the case of low priority, 1 point if the industry enjoys high priority.

If the company has long-term relations with suppliers and the sum of scores for all the four indicators is less than or equal to 4 points, then the threat of instability of supply is low. The total score of 7-8 points signifies a high threat of suppliers switching to other companies.

A combination of analytical and expert methods is used to assign scores. Indicators are evaluated on the basis of analysis of the industry statistics, analytical reviews published by consulting companies, information available online from the major clothing manufacturers and other sources of secondary data. The group of experts included 5 sales managers at the Zara store in Yekaterinburg, Russia.

Evaluation of the level of intra-industry competition in the Russian clothing market for Inditex (the Zara brand)

The secondary data analysis suggests that the direct competitors of the Zara clothing brand are large international companies focused on the middle-price segment: Benetton, Marks & Spencer, H&M and GAP (Table 1).

Table 1. Comparative parameters of the main competitors of Zara in the Russian clothing market (middle-price segment) (Source: authors' elaboration [1])

Parameter	Zara	H&M	Marks & Spencer	Benetton	GAP
Country of Origin	Spain	Sweden	The United Kingdom	Italy	The USA
Foundation year	1985	1947	1884	1965	1969
Number of outlets	2000	2800	885	6200	3500
Number of countries of presence	50	49	40	120	90
Production	Predominant own production, 6500 factories	No own production	Own production and outsourcing	Own production and outsourcing	No own production
Retail chain	Own	Franchising	Own and franchising	Franchising	Own and franchising

Parameter	Zara	H&M	Marks & Spencer	Benetton	GAP
Brand value	Produce what customers want to buy	Fashionable clothes at a reasonable price for those who like to change clothes often	Great variety for all customers	Bright and cheerful colors	Quality every day, natural materials
Differentiation	Constant updates of collections and high speed of delivery, adherence to the newest trends in the fashion industry. High level of vertical integration	Fashion, economy, sociality. Preservation of natural raw materials by recycling old clothes, inviting famous models to take part in advertising campaigns	Development of innovative fabrics and clothes for all preferences, large advertising costs, attracting famous designers, stars and fashion models to advertising	The first self-service shops, innovations, special style of models. Provocative and bright advertising	Omni-channel sales, leadership in sales through the Internet, investments in the development of consumer personalization tools in customer databases

According to the experts' estimations, H&M lost the lead as the largest seller of clothing in the world in 2016 [2]. Inditex has become the leader, and its share in the global clothing market is increasing. Net profit for the fiscal year of Inditex grew by 10% at the beginning of 2017. The company's active growth in emerging markets and the development of online sales offset the negative effects of currency fluctuations (Dahan & Peltekoglu, 2011). Figure 1 presents a comparison of the net profits of the main competitors.

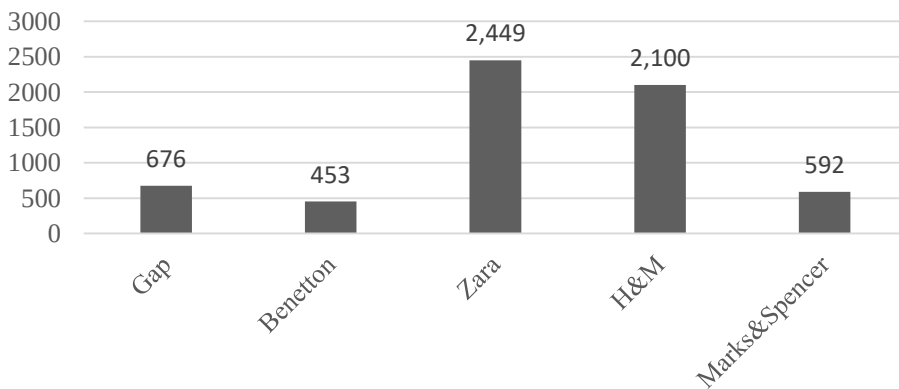


Figure 1. Net profit of companies in the world clothing market for 2016, million dollars [3]

The analysis shows that the Russian clothing market is highly saturated and has an oligopolistic structure. Inditex still manages to retain its leadership in Russia. At the same time, it is likely that in the long term the share of Russian clothing manufacturers will increase. Consumers tend to switch to the domestic product due to the weakening ruble and decrease in the effective demand. According to Euromonitor, Inditex is the largest player in the Russian apparel market with a share of 2.7% for 2016 [4]. The figure seems promising especially if compared to the shares of domestic competitors: Sportmaster – 1.7% and Gloria Jeans – 1.5%.

In addition to the fastest update of the collections, the important differentiating feature of the Zara brand is the location of the stores. Outlets are located both in the shopping malls and as mono-brand stores in the central streets of major Russian cities near-luxury brand boutiques. In an attractive environment, consumers of Zara can try clothes on, getting help from young, fashionably dressed consultants. The situation is different from traditional retail chains. Zara can deliver new products to its stores around the world in 2-3 days, using only air and road transport. Much attention is paid to the definition of consumer preferences. Designers of Inditex visit the major cities of the fashion industry and carefully monitor the latest trends. The product range of Zara often offers analogs of Prada, Dior, Alexander Wang, Marc Jacobs, etc., which have just appeared on the catwalks (Willems et al., 2012). The company's multi-brand system is another differentiating advantage. The idea of making copies of the fashion models of famous couturiers and selling them several times cheaper turned out to be successful and attracted buyers with different incomes and different social status.

Competitive advantages of Inditex

The vertical integration of all divisions and efficient distribution can be considered among the main factors of the company's success. It is also one of the main reasons for the company's stability during the market downturn and the growing popularity of online shopping. The following competitive advantages of the company can be identified.

1. Effective implementation of a client-centered approach, based on the studies of the needs of the buyers. All employees of the company are involved in the research process from the seller in the store to the designer and top management. The company has identified the trend: a modern consumer is keen to follow the fashion of each new season updating the clothes frequently and at a reasonable price. Six hundred designers travel around the world in the search of the latest trends. After the introduction of a new collection of clothes, Zara monitors the wishes and the choice of consumers and continues to produce the lines that enjoy the demand (O'Shea, 2017, p.100). Advertising slogans support the client-centered approach e.g. by the telling customers that there is no need to worry if they make a mistake when choosing clothes, as the company will refund the money (O'Shea, 2017, p.90).

2. The "fast fashion" concept (Martínez, Errasti & Rudberg, 2015). All business processes of the company pursue the main goal – to meet the demand of the buyers in the shortest possible time. Zara has revolutionized the fashion world and the textile industry; the cycle of marketing clothes is only 2 weeks in the company with the industry average being 8 months. Inditex creates redundant production capacities that remain unloaded for most of the time, but allow the production of products that are in high demand to be set up very quickly. As noted by Ferdows, Lewis & Machuca (2010), Zara makes major

investments, ensuring that the network of factories and distributors provide the fastest response to changes in demand. The company often changes collections, ensuring fast delivery of products, promptly increases the production of clothing, which consumers show interest in. For the same reason, half of the fabric produced by the company is not painted, color decisions are taken during the season, considering the reaction of consumers to the proposed colors of a particular new collection. Goods are supplied by distributors with price tags, go to stores, and are immediately made available for purchase. The company has proven that efficiency in all parts of the supply chain allows for less inventory: for Zara, the stocks are equal to 10% of sales, while for Benetton, H&M and Gap – 14-15% (Porter, 2015). Compared to GAP and H&M, the Inditex business model has a higher degree of vertical integration.

3. Attracting talented designers to the company's staff. The company spends a lot of money to pay creative employees. It has a relatively large staff of designers who often monitor the solutions of the world's leading fashion houses. Clothing retailers accuse Zara of copying, plagiarizing the most outstanding seasonal trends, but this does not prevent the company from gaining momentum and leaving its competitors behind (O'Shea, 2017, p.18).

4. Efficient information support for a vertically integrated business model. Zara pays special attention to the introduction of the latest information technologies that simplify information exchange. It helps to enhance the quality of modeling, production, and distribution of clothing. Specially designed pocket computers are used to transmit both objective data (new orders, changes in sales dynamics, etc.) and subjective information: descriptions of the reaction of buyers to certain products, their feedback on novelties (Ferdows, Lewis & Machuca, 2010). Regardless of the sales region, the information system allows retailers to transfer systematic data and individual examples of customer preferences and wishes to designers and manufacturers.

5. Leadership, ideas and managerial talent of the company's founder Amancio Ortega. He has brought to life the simple philosophy: everyone can dress well. Ortega came up with an innovative business system of fast fashion, based on his own design studio and the desire to produce what customers want. He proposed a vertically integrated system of production, distribution and retail sales. Ortega's personal qualities contributed to the phenomenal success of Zara. He has the mentality of a consultant in a store, having started his career with the lowest position in sales (O'Shea, 2017).

Determining the competitive strategy of Zara in Russia

The Russian clothing market has a tough competition of brands. A study conducted by the Department of Psychology of the Higher School of Economics identified the respondents' commitment to foreign and Russian brands in the middle-price and low-price segments (Antonova, Kumar & Soloreva, 2016). The ranking is based on the frequency of references to the brands preferred by consumers. Zara has the highest recognition level (63 points). The main competitor of Zara is H&M (38 points), but due to the fact that Inditex has a large portfolio of brands, the number of loyal customers is increasing faster (Royo-Vela & Casamassima, 2011). There are several large players holding about 50% of the Russian clothing market. The loyalty of consumers to these brands is much higher than for other ones in this price segment.

Considering the way retail sales are organized, substitutes can include second-hand shops, discount-markets, and online stores. A significant proportion of consumers are increasingly interested in purchasing clothes online. Nevertheless, consumers do not tend to switch to online shopping completely. Online shopping is fast; however, it often does not provide an opportunity to try the good on when buying. Thus, consumers risk spending more time to replace the good or get a refund if they do not like the product.

Consumers of the middle-price segment remain loyal to the preferred brands of clothing and do not seek to save some money by switching to other brands. However, with a decrease in the level of impulsive consumption, the frequency of purchase is also decreasing. In a highly saturated market, consumers mostly remain satisfied with the product range. At the same time, there is dissatisfaction with the quality of the goods. Ten percent of the respondents note that the quality of the clothes they purchase is not always satisfactory. The reasons may include unstable color or discrepancy in size (Krug, 2016).

Inditex feels confident in its supply chains. According to the official website of Zara, the company with its 6500 factories cooperated with more than 1800 suppliers in 2016. Inditex has a significant advantage – ability to negotiate with suppliers and maintain strict requirements for price, quality, and speed. The company cooperates with internal and external auditors, who evaluate all the suppliers for compliance with the company's requirements. Inditex is engaged in the creation of clusters, which integrate all the suppliers to improve overall performance (Zhang, 2008a; Zhang, 2008b).

Table 2 presents scores of the five forces of competition in the clothing market and the direction of increasing the competitiveness of Inditex (the Zara brand) in the Russian market.

Table 2. Score of the five competitive forces in the Russian clothing market for Zara
(Source: authors' elaboration)

Competitive force	External factors	Competitive strategy
The threat from substitute goods is high (3 points) The main threat is associated with online stores operating in the same consumer segment.	There is an increase in online purchases: 21% of consumers buy clothing online. In addition, the share of discount stores, second-hand stores, and clothing markets are relatively large – about 50% of the market.	The company aims at the development of online sales. Online sales account for 6% of Inditex profit. Consumers can reduce the intensity of purchases, but it is unlikely that they will switch to the low-price segment.
The threat of intra-industry competition is high (5 points) There is an increase in the market share of domestic companies (Sportmaster, Gloria Jeans) and competitive pressure from foreign competitors.	The market share of Zara is estimated at 2.7% as of 2016. The Russian market has large clothing retailers, which are direct competitors of Zara (Benetton, H&M, etc.).	Inditex needs to find unique ways of differentiating the brand. The perception maps of all Inditex brands, obtained through customer survey, allow us to identify the main instruments of differentiation for the Russian market.
The threat of losing the company's consumers is average (7 points):	Despite the tough competition, the company holds its market share, mostly because of the	The main strategic directions: to preserve the differentiation of Zara brands and keep prices at the current

Competitive force	External factors	Competitive strategy
- the sales volume is evenly distributed among all customers (1 point) - the company's products are partially unique, there are distinctive characteristics important for customers (2 points) - buyers will switch to other brands only if there is a significant difference in price (2 points) - dissatisfaction with the secondary characteristics of the goods (2 points)	popularity of the Zara brand. Inditex has also brands aimed at both the lower (Zara TRF) and the upper (Zara Woman) parts of the middle-price segment, which helps in keeping a large number of loyal consumers.	level (mainly for the lower part of the middle-price segment).
The threat of new rivals entering the clothing market is high (17 points): - Economies of scale are significant (1 point) - strong brands with a high level of awareness and loyalty occupy more than 50% of the market (2 points) - there are micro-niches (2 points) - the average level of initial investments and entry costs for the industry, payback period of under 1 year (2 points) - access to the distribution channels is open (3 points) - large players will not reduce prices (2 points) - the growth rate of the Russian clothing market is slowing down (2 points) - there are no restrictive acts from the state authorities (3 points)	Barriers to market entry can be considered relatively low; the level of investment and entry costs are moderate, there are ways to differentiate the product, access to distribution channels is open, antitrust policy is effective.	Constant monitoring of the new rivals, not only in the international market but also in the Russian market, targeting the same market segment.
The threat of losing suppliers is low (4 points): - wide selection of suppliers (1 point) - no distinctive limitations on the resources of suppliers (1 point) - low switching costs (1 point) - a high priority of the industry for suppliers (1 point)	About 40% of Zara's materials are purchased from Comditel, a member of Inditex. Zara accounts for 90% of Comditel sales. Zara dictates the terms of cooperation to suppliers.	Improving the cluster organization of the company's suppliers' business.

The company's website presents a strategic plan of the marketing strategy. There is no need to have many clothing stores with the growth in the number of Internet sites, providing the means for online shopping. Like other international clothing retailers, Inditex is focused on reducing the number of small stores, expanding larger outlets with the favorable location, as well as developing online sales (Mahonin, 2017). According to Societe Generale, Internet commerce is becoming the company's main strategic guideline. The expansion of traditional Zara stores slowed down in 2016-2017, which proves the conclusions of the analysis.

Conclusions

The study shows that the phenomenon of the Zara brand is attributed to its value: to produce the clothes that consumers want to buy. Amancio Ortega has built a unique business model, integrating the processes of design, production, distribution and retail sales based on the concept of fast fashion, which allowed the company to reduce the time from designing to selling clothes and to change collections often. By following the latest trends in the fashion industry, including copying famous fashion designers, the company meets the needs of buyers with different levels of income, but firstly, the middle-price segment.

Zara is the most recognizable brand in Russia. The company is ahead of the competing international clothing retailers. The scoring of competitive forces allowed the authors to conclude that the threat of intra-industry competition in the Russian clothing market is high, demand is slowing down, and suppliers are forced to reduce prices. Consumers of the middle-price segment mostly remain loyal to brands, but reduce the number of purchases.

The threat from the substitute goods is high, firstly, from the Internet shops. Twenty-one percent of Russian consumers already buy clothes online.

The threat of losing consumers is estimated as average for Inditex. The Zara brand has differentiated value, unique characteristics in the perception of consumers. The buyer will switch to other brands only with a significant difference in price and/or quality of clothing.

Strong brands with high loyalty level account for more than 50% sales in the Russian market. At the same time, the threat of new rivals entering the market is high as the payback period of investments is under one year, and there are micro-niches still open for newcomers.

The threat of losing suppliers is estimated as low. Inditex forces the terms of cooperation to suppliers, many of them being a part of the Spanish company.

The analysis of intra-industry competition shows that the Russian clothing market is highly saturated. Increase in price is possible only in the context of cost recovery. Competing clothing brands seek to differentiate themselves through additional advantages and constant updates of collections, as well as with the development of omnichannel sales. The threat from the main competitors inside the industry (Benetton, Marks & Spencer, H&M, and GAP) is high. Apart from that, the market share of Russian brands is growing in the context of the ruble devaluation.

Inditex takes actions to retain its market share. Competitive strategy in the Russian market provides for increasing online sales, closing small stores and expanding sales through large outlets, preserving and searching for new ways to differentiate the Zara brand from competitors, keeping prices at the current level mainly at the lower end of the middle-price segment.

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Notes

1. The initial statistics data can be retrieved from <http://econ.bobrodobro.ru/53237>, <http://www.fashionista.ru/fashion/brands/benetton.htm>, <http://best-guide.ru/?p=988>, <https://vc.ru/19215-hm-strategy>, http://www.gapinc.com/content/gapinc/html/media/pressrelease/2017/med_pr_090617_gps_GoldmanSachs.html
2. According to experts' estimations retrieved from <http://www.rosbalt.ru/business/2017/03/15/1598914.html>
3. The initial statistics data can be retrieved from <http://www.annualreports.com/Company/gap-inc>, <http://www.edizione.it/informazioni-finanziarie/bilanci-2016/?lang=en>, <https://www.inditex.com/investors/investor-relations/annual-reports>, <https://about.hm.com/en/investors/reports.html>, <https://corporate.marksandspencer.com/file.axd?pointerID=b30f4524bd734f4c95dacd83c5b61b66>
4. According to experts' estimations retrieved from <https://www.openbusiness.ru/>

FACTORS INFLUENCING CUSTOMER'S CHOICE OF INTERNET SERVICE PROVIDERS IN ALBANIA

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Abstract. *The internet service in Albania has been growing steadily over the past decade. The internet availability is key to enhancing competitiveness and sustaining economic growth. Internet service providers (ISPs) have grown significantly and the internet market in Albania is expanding. While the speed of technology acquisition is increasing, the power of service differentiation is gradually decreasing. ISPs do not differ much on the service provided. The first step in increasing competitiveness is to understand why customers choose a particular service provider. Thus, this study aims to identify the factors that affect consumers purchasing behavior. It aims to investigate and understand how a range of factors impact the customers' perceptions to choose their current service providers. The research paper explores the factors that influence customer choice towards Internet Service Providers in Albania by using a quantitative method via a questionnaire survey. The findings of the research present the factors affecting the consumer's choice of an Internet Service Provider in Albania. It is showed that brand image is the most influential factor in the selection of ISPs. In order to gain new customers, internet providers have to take into consideration the company's image as a critical factor to the consumer decision-making, followed by the information disposed to customers and the risk associated to the service provider. The research provides high-speed internet providers in Albania insights on how to acquire new customers.*

Keywords: *customer choice; decision making; Internet Service Providers (ISP); perceived risk; information; brand image; Albania.*

Introduction

All people on earth are consumers, and are considered the most powerful people in the business world, as they possess the power of choosing to buy a product (Blythe, 2013). Thus, it is important for companies to understand the factors that affect the decisions of the consumer. Internet service providers are trying to acquire new customers and also keeping existing ones. The more users a provider has, the lower its average unit cost will be, and the higher its operating performance (Hu & Hwang, 2006). Due to the Internet market liberalization, internet providers have rapidly increased in Albania. The internet expansion and high-content consumption are important factors for the rising demand towards high-speed internet offered by ISPs. Albania appears to have an internet penetration level higher than the world average, which is 46.5%, but lower than the European Union where online penetration has exceeded 79%. The country with the highest percentage of internet usage is the US with 88% (World Insta, 2016).

The reason for the growth of internet consumers is related to the global trend of rapid growth of internet usage, market liberalization and a positive pressure exerted by government instances, especially for business. Electronic procurement, tax payments

and other fiscal facilities through the Internet have positively pressured the rise in demand for Internet service in Albania.

Currently, about 25 ISPs operate in Albania. The largest are Albtelecom, ABCom, Tring, and Abissnet. ISPs are part of a competitive market but do not differ much in the services offered. According to the Electronic and Postal Communications Authority, the number of subscribers to fixed broadband networks amounted to 143 thousand. The major provider is Albtelecom who owns 40% of the retail fixed broadband market while among the alternative fixed operators, ABCom has the largest number of broadband connections with a 21% market share (AKEP, 2016). Although the number of Internet access service providers is large (25 active local operators), the four largest operators own 84% of this market.

Thus, understanding of customer decision-making or customers' choosing behavior is very important for the service providers in order to find out how to acquire customers and make them repurchase. Other studies show that customers tend to compare the elements of different providers and search for several sources of information to help reduce the perceived risks in their choice (Parasuraman, Zeithaml & Berry, 1984). Also, a good brand image turns out to be a competitive advantage. Customer choice is influenced by the reliability of the brand (Wang, Lo & Yang 2004).

This paper aims to find out what variables influence consumers to purchase their ISP by reviewing key factors in the sector. It illustrates consumer patterns in purchasing Internet Service Provider (ISPs).

Literature review

Consumer behavior is described as the processes involved when an individual or a group is buying or choosing a product or a service to satisfy needs and desires (Solomon et al., 2013). The processes are five: problem recognition, information search, evaluation of alternatives, purchase and post-purchase.

The problem recognition is likely to occur when consumers realize there is a gap between their desire situation and the actual one and consumers desire to fix this gap. Once the needs are recognized, consumers enter the second stage to search for information about products or services. A consumer can use either internal or external search (Schiffman & Kanuk, 2007). External source arises from the outside environments, such as marketing, commercials, and friend's suggestions. Internal source refers to information stored in consumers' memory such as past experience and relevant knowledge about the brand (Senecal, Kalczynski & Nantel, 2005). The collected information allows consumers to do a comparison among different alternatives. The evaluation of alternatives assesses purchase alternatives which are in relation to important attributes of products or services. The consumer is valuing different alternatives and uses an evaluating criterion to compare brands, products, and services. A consumer sees a product or a service as a combination of different attributes. Attitudes, beliefs, and intentions are also often mentioned as factors that can influence the alternative evaluation (Darley et al., 2010; Solomon et al., 2013). This is particularly relevant in today's developed economies where consumption is almost like an ideology and there is a substantial increase in the supply.

After evaluating all alternatives, consumers choose which product or service is the most suitable and appropriate for their needs. The last stage of the decision-making process is post-purchase which regards the post-evaluation of the purchase, where the consumer is evaluating how satisfied the purchase and the use of the product is. In this stage, the consumer forms an intention to buy the most preferable alternative.

Depending on the model of Blackwell, Miniard and Engel (2001 – see Figure 1), the decision of the consumer is influenced by two variables: (1) Environmental influences: culture (the knowledge, skills, traditions and customs which define a set of individuals), social class (group of individuals who share the same social position by having the same income or the same job), personal influences (attitudes, beliefs, behavior, and opinions from references groups with an individual serves as an example), family (2) Individual differences: consumer resources (time, money and information), motivation and involvement (the need to fill and the satisfaction), knowledge (the information known by the individual), attitudes (elements that an individual holds to assess a brand like feelings, knowledge, and intentions to purchase) and the personality, values and lifestyle (Blackwell, Miniard & Engel, 2001).

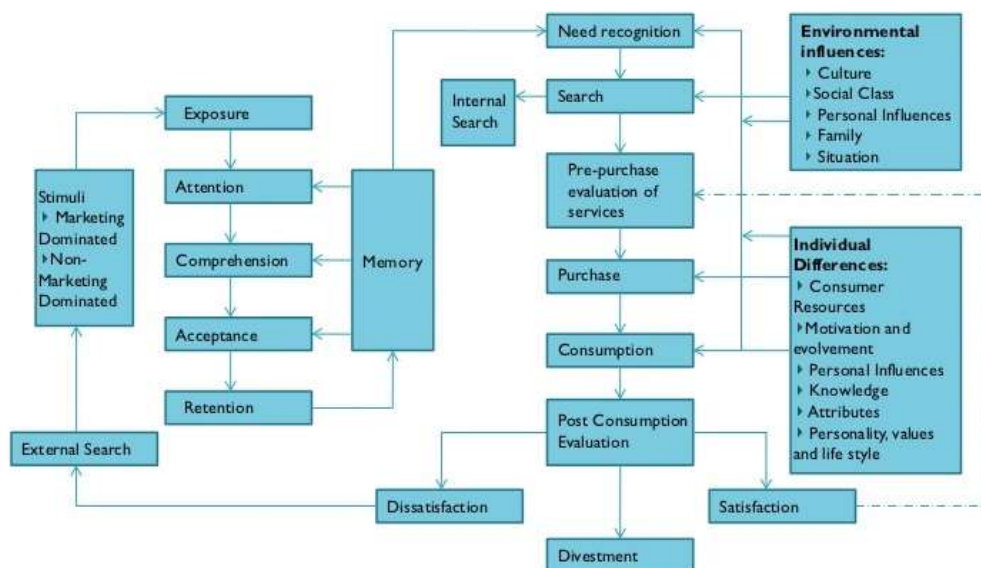


Figure 1. The decision-making process (Source: Blackwell, Miniard & Engel, 2001)

The last stage in the traditional decision-making process is post-purchase behavior, which regards the post-evaluation of the purchase, where the consumer is evaluating how satisfied he is with the purchase and the use of the product (Solomon et al., 2013). Customer satisfaction with the purchase is determined by how tightly consumers' expectation is linked with the perceived performance of the product. A satisfied consumer is more likely to spread positive word-of-mouth and information received through word-of-mouth are more credible than a commercial advertisement (Darley, Blankson & Luethge, 2010). As previously underlined this paper aims to investigate what factors affect purchase intentions for Internet Service Providers and specifically what influences the selection of ISPs in Albania.

Consumer choice theories

Consumer choice can be described as "selection, consumption, and use of products and services". Before making a choice, the customer chooses to combine information with previous experiences, information available at the time of purchase, and trusts that he has created over the brands (Solomon et al., 2013).

Based on the rational choice theory the consumer has sufficient ability to calculate which option will maximize its value. He collects information on the attributes of the alternatives and chooses the best option according to his criteria. Current studies show that consumers do not engage in a rigorous rational choice. The researchers noted three types of consumer choice patterns: a) emotional choice, b) choice based on attitude and c) attribute-based choice (Hawkins & Mothersbaugh, 2010).

a) The emotional choice is based on the reliability of the service brand. Studies show that credibility is more important than expertise in making the choice (Schiffman & Kanuk, 2007). Brand choice is not only influenced by the personal perception of the consumer over the brand, but by some other marketing factors, the situation, or past consumer experience.

b) Attitudinal choice includes the general use of attitudes, impressions, intuition, consumer use in the selection without examining attributes. An attitude is accepted as a judgment. Studies show that attitudes are easier to keep in mind than the particular attributes of brands (Kardes, Cronley & Cline, 2011). Time pressure is the key determinant as the consumer make decisions based on its attitude.

Most individuals collect very little information from outside sources before a purchase. In a stand-alone choice, consumers make brand ratings based on everything they know about brands and then choose a brand for which they have the highest rating. According to Kardes, Cronley and Cline (2011), consumers make their choices based, generally on impressions of a brand and sometimes on the particular brand attributes.

c) Attribution-based selection requires customer recognition of the attributes of all brands. This choice is based on the comparison of each specific attribute of all brands taken into consideration. The easier it is to gather information on brand attributes, the more difficult it is to use attribute-based choice. (Kardes, Cronley & Cline 2011)

When consumers make attribute-based choices, they compare the specific features of each brand and choose the brand that best performs the key attributes required. In cases of almost similar brands, it is easier to distinguish if specific attributes are compared.

Factors of customers' choice of internet service providers

Customers' choice is the process of customers' choosing among alternatives that lead to buying the service. There are many factors that contribute to the customer's choice. Based on previous studies, information search is considered central to decision-making theory. Information search represents the second stage of the decision-making process and it influences a customer's product choice. Customer choice is influenced by product information availability and prior experience with the products. It is shown that the greater the degree of perceived risk, the more effort consumers expend to seek

information. The degree of uncertainty associated with services can be reduced by using several sources of information. McColl-Kennedy and Fetter (1999) grouped information search into two broad activities, the sources of external information and the degree of effort involved. Sources of external information are categorized according to whether they are dominated by marketing or whether they are dominated by personal and impersonal communication. They can be controlled by the (1) market (2) reseller (3) third-party independent; (4) interpersonal sources; and (5) by the consumer. Consumers' external search effort is measured by the number of stores visited, the number of brands examined, and the time spent in the overall shopping experience. Mitra, Reiss and Capella (1999) confirm that consumers prefer personal information sources than impersonal information sources.

The level of information collected by the customer is interrelated to the factor of perceived risk. Perceived risk refers to the nature and amount of risk perceived by consumers regarding a particular purchasing situation. Srinivasan and Ratchford (1991) define perceived risk as the probability of any loss (financial, performance, physical) that can occur due to the absence of external search, multiplied by the importance of that loss. Forsythe and Shi (2006) studied and investigated the types of risk perceived by internet buyers when they intend to purchase. They suggest that there are three types of risks: performance risk, financial risk, and time/convenience risk. Product performance risk refers to any loss which occurs when a service does not perform as expected. Financial risk is defined as the potential net loss of money involved. Time/convenience risk refers to the inconvenience or difficulty which occurs during the process of purchase transactions (Forsythe et al., 2006).

A distinguishing factor that reduces perceived risk and facilitates customer selection is a corporate image. Corporate image can be viewed as the outsider's perception of a particular organization (Chun, 2005). Customers' perceptions of the corporate image depend on overall past experiences and interactions with the brand. Chun (2005) suggests that corporate image is the outsider's perception whereas corporate reputation derives from both internal and external stakeholders' perceptions. The distinction between image and reputation is useful because one can form an image of a corporation without any real experience of it. Compared to reputation, corporate image is quicker to change under the influence of advertisements. Some researchers suggest that companies with a good reputation and image have a competitive advantage and are likely to acquire more customers (Gotsi & Wilson 2001; Grardberg & Fombrun, 2002). Corporate image is established and developed in the customers' mind based on communication and experience and has an impact on customers' judgments. Building a corporate image is a lengthy process that can be improved by the successes and achievements of the company.

In the telecommunication market, the extrinsic characteristics such as personal contact, the physical environment, technical support, and the responsiveness of the staff of service providers can have significant influences on customers' intentions to select a service provider (Nguyen & Leblanc, 2001). The interaction between service provider and customer, along with the encounter processes can also have a strong effect on customers' behavior (Athanasopoulos & Iliakopoulos, 2003). Customers consider corporate image prior to service choice as it can help them to evaluate the ability of the service company to fulfil their needs.

Based on the literature review, the customer choice result from a combination of information disposed of, previous experiences, perceived risk, and brand image. This paper aims to understand and evaluate whether these factors influence a customer's choice of internet service providers in Albania.

Methodology

This research aims to explore the factors influencing customer choice of Internet Service Providers in Albania. Based on the literature review a theoretical frame was developed with the main factors identified in order to test whether they are relevant to the Albanian market. Specifically, to understand whether the customer choice of internet providers in Albania is influenced by information disposed of, previous experiences, perceived risk, and brand image. The primary data collected on consumer behavior tend to evaluate consumers as rational. For identifying behavioral factors, researchers rely mainly on the survey method (Sekaran, 2003). The survey questionnaire consisted of questions on a Likert scale of 1 to 7 (where 1 is 'Strongly disagree' and 7 is 'Strongly agree') and determined approaches to choosing a high-speed internet service provider, experience with the high-speed internet, future intention towards service providers; and demographic questions. The survey was conducted face to face and increased the level of trust and cooperation between interviewer and respondent (Sekaran, 2003). The face-to-face survey is considered more appropriate for Albanian culture because respondents can better respond if direct instructions are given and assisted through the survey.

The target population of the study is internet users aged 16-55 who have home-based Internet connections. According to Electronic and Postal Communications Authority, the number of subscribers to fixed broadband networks at the end of 2016 was 242,870 inhabitants. Taking as 95% confidence level and 5% margin of error, the population sample is calculated to 400 individuals. The sampling method is a probability in proportion to size. The probability of an individual to be selected is proportional to the size of the cluster to which he belongs, giving greater clusters greater probability of selection and small groupings the lower probability.

According to AKEP, the number of subscribers with broadband access from the fixed network has an inappropriate distribution by regions Tirana 49%, Durrës 10.2%, Shkodra 6.85%, Vlora 6.6%, Korca 6.2%, Fier 6.1%, Elbasan 4.1% as shown in Table 1.

Table 1 *The national distribution of the sample*

Region	Number of subscribers with Broadband access	Index by region size	Sample
Vlorë	16,149	0.07	27
Tiranë	118,954	0.49	196
Shkodër	16,647	0.07	27
Lezhë	8,253	0.03	14
Kukës	2,454	0.01	4
Korçë	15,134	0.06	25
Fier	15,047	0.06	25
Gjirokastër	5,252	0.02	9
Elbasan	10,590	0.04	17
Durrës	24,803	0.10	41

Region	Number of subscribers with Broadband access	Index by region size	Sample
Dibër	3,236	0.01	5
Berat	6,309	0.03	10
Total	242,828	1.00	400

Respondents are selected randomly. Every third person in the main city centers is selected for an interview. This allows all members of the targeted population to have an equal chance of being included in the sample. The randomly selected respondents had to meet the criteria of using the internet service at home and fall in the users age group 16-55 years old. The questionnaire was distributed to the public areas of the counties where a large number of Internet users could be found.

The sample at the end resulted in 430 individuals who answered the questions on a seven-point Likert-type scale from 1 to 7 (where 1 means "Strongly Disagree" and 7 "Strongly Agree").

The data collected through the questionnaire includes internet user profile, choosing an internet service provider, experience with the internet service provider and perceptions of the service. The collected data was analyzed via Statistical Package for the Social Sciences SPSS.21 and the main data analysis includes descriptive analysis, factor analysis, correlation analysis with a correlation coefficient (Pearson), and multiple regression analysis.

Analysis

The findings of this study derived from a well-structured questionnaire consisted of questions on a Likert scale of 1 to 7 (where 1 is 'Strongly disagree' and 7 is 'Strongly agree'). The analysis includes customer attitudes for choosing a high-speed internet service provider and experience of the respondents with the ISP.

The distribution and profile of the 430 respondents who participated in this research are presented in table 2.

Table 2. Number of respondents by regions

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Berat	6	1.4	1.4	1.4
Diber	4	.9	.9	2.3
Durres	39	9.1	9.1	11.4
Elbasan	24	5.6	5.6	17.0
Fier	25	5.8	5.8	22.8
Gjirokaster	8	1.9	1.9	24.7
Korce	43	10.0	10.0	34.7
Kukes	4	.9	.9	35.6
Lezhe	11	2.6	2.6	38.1
Shkoder	32	7.4	7.4	45.6
Tirane	190	44.2	44.2	89.8
Vlore	44	10.2	10.2	100.0
Total	430	100.0	100.0	

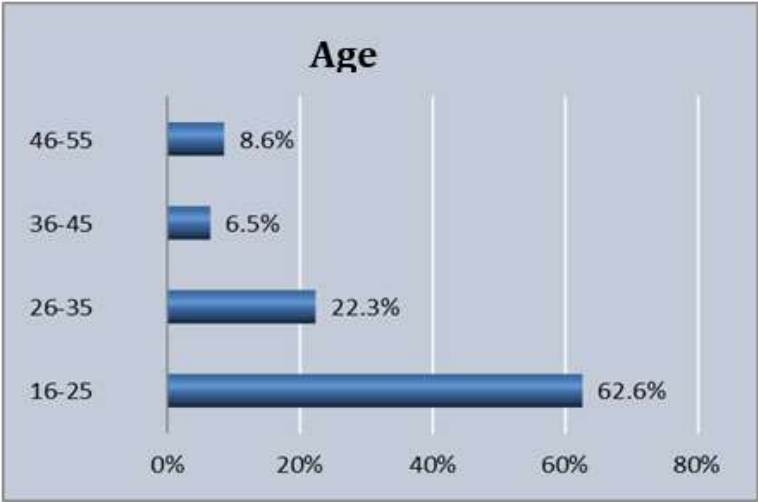


Figure 2. Age

The group of 430 respondents includes internet users from the age of 16 to 55. Most of the respondents (62.6%) belong to the age group of 16-25 years, while 22.3% are 26-35 years old. Other age groups (36-45 years) and (46-55 years) account for 15.1% of respondents. Studies show that the age group 16-25 is the broadest segment with access on the internet.

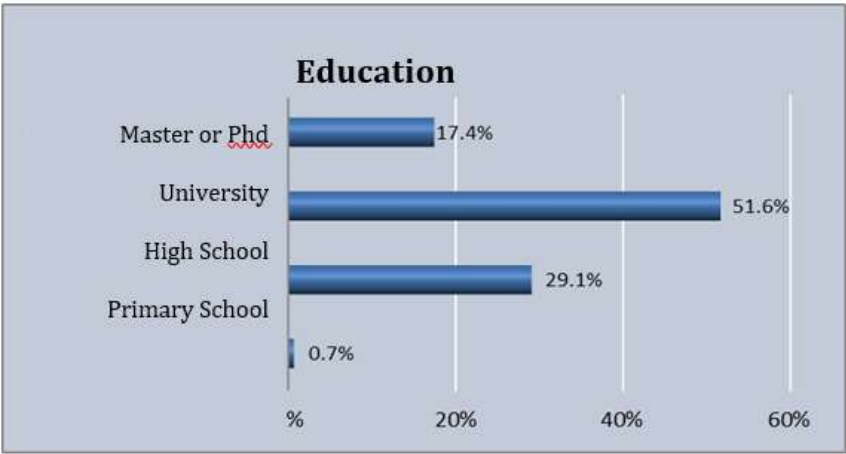


Figure 3. Education

Respondents were asked about the highest level of education they have completed. It is shown that 51.6% of respondents have completed university and 17.4% have a master / doctoral degree, while 29.1% have completed high school. International statistics show that university-educated users represent the largest number of Internet users. Thus, the education of respondents reflects the education of internet users. The employment profile matches the age profile of the internet users. The level of employment is an indicator and social status of internet users.

Table 4. Experience of respondents with Internet companies

		Frequency	Percent	Valid Percent	Cumulative Percent
1. Who is your current service provider?	Do not know	26	6.0	6.0	6.0
	Abissnet	29	6.7	6.7	12.8
	Albtelecom	179	41.6	41.6	54.4
	ABCom	95	22.1	22.1	76.5
	Tring	29	6.7	6.7	83.3
	DIGIcom	7	1.6	1.6	84.9
	Internet Café	9	2.1	2.1	87.0
	Other	56	13.0	13.0	100.0
	Total	430	100.0	100.0	
2. How long have you been with this brand?	Less than one year	71	16.5	16.5	16.5
	1 - 2 years	103	24.0	24.0	40.5
	2 - 3. Years	112	26.0	26.0	66.5
	More than 3 years	144	33.5	33.5	100.0
	Total	430	100.0	100.0	
3. Internet access point	At work	165	38.4	38.4	38.4
	At school/ University	145	33.7	33.7	72.1
	Internet Café	123	28.6	28.6	100.7
	Bars with free WIFI	201	46.7	46.7	147.4
	At Home	417	97.0	97.0	244.4
	Via mobile phone	334	77.7	77.7	322.1
	Other	1	.2	.2	322.3
	Total	1386	322.3	322.3	
4. The primary purpose of using high-speed internet	To work	84	19.5	20.1	20.1
	To check and send	171	39.8	41	61.1
	To read news/be	241	56	57.8	118.9
	To communicate	255	59.3	61.2	180.1
	To watch video/listen	214	49.8	51.3	231.4
	To download	193	44.9	46.3	277.7
	To play games	121	28.1	29	306.7
	To purchase via	124	28.8	29.7	336.4
	To check online bank	52	12.1	12.5	348.9
	Other	8	1.9	1.9	350.8
	Total	1463	340.2	350.8	

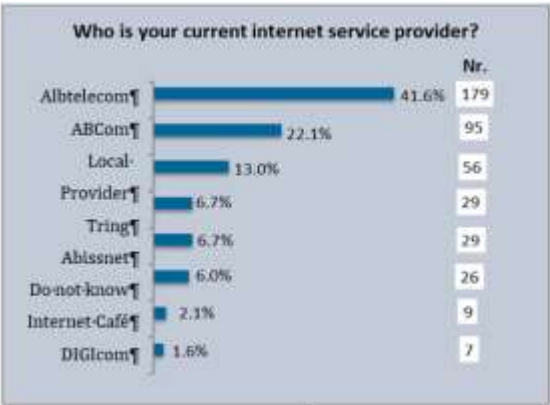


Figure 4. Internet Service Provider of connected households

Albtelecom brand as the market leader has the advantage of national coverage and infrastructure ownership, while other operators have coverage in the main regions of the country.

Respondents use internet access at home for more than 3 reasons. Based on their answers the first reason is communication (to communicate, for e-mail), the second reason for education (to read/inform) and the third entertainment (for video/music, to download movies/books, to play). Work accounts for a small percentage.

Respondents were asked about the frequency of using internet (every day, 2-3 times a day, once a week, once every two weeks and once a month) at each access point and the average hours they spend every time they hook to the internet (less than one hours, 1 hour, 1-2 hours, 2-3 hours, 3-4 hours and more than 4 hours). Monthly hours spend on the internet were calculated per user by multiplying the frequency of usage for each access point with the average hours spend when accessing the internet in the specific access point. Most of the respondents (63%) have high usage rates, spending over 4 hours a day on the Internet.

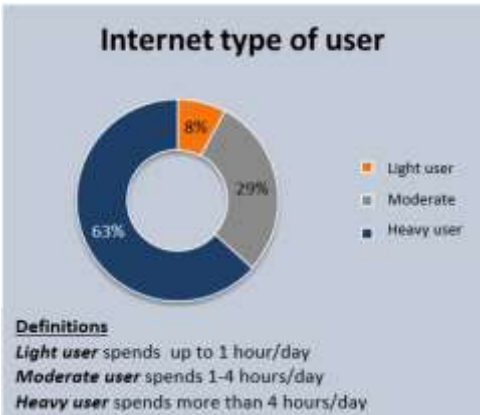


Figure 5. Internet usage rate

Factors affecting customer choice of ISPs

Table 5 shows the values of the matrix of the coefficients for the complex variable "Consumer Choice". Its determination is made with the help of the PCA method and the Promax rotation method with Kaiser Normalization and serves to predict consumer behavior. There are 3 Eigen values greater than 1 and others are less than 1. This indicates that three factors can be determined from this set of questions that forms the complex variable "Consumer Choice".

Table 5. Factorial Analysis for Consumer Choice

Variable	FACTOR		
	1 Brand Image	2 Information	3 Perception of risk
RI1.1 I can be overcharged by an alternative service provider	-0.105	0.032	0.406
RI1.2 I may not receive the service I expect from another provider	0.066	-0.006	0.354
RI1.3 I think buying the service from another service provider will result in financial loss	-0.007	-0.021	0.363
RI1.4 I am not sure that the signal will be stable with another service provider.	0.063	-0.007	0.343
IN1.1 I ask for advice from others before purchasing internet services.	-0.045	0.423	0.079
IN1.2 I seek to read the opinions of others on the service	-0.050	0.468	0.011
IN1.3 I am interested in reading information on how internet service is provided by other companies	0.112	0.360	-0.108
IN1.4 Information provided via the Internet or at the point of sale is satisfactory	0.312	0.108	-0.048
I1.1 I always had a good impression of my internet provider	0.461	-0.052	0.000
I1.2 I believe that my service provider has a better image than its competitors.	0.440	-0.038	0.034
Eigenvalue	2.486	1.735	1.297
% of Variance	24.861	17.352	12.973

The first Factor with the Eigen value 2.486 covers 24.861% of the total variance. For this factor, we have the highest coefficient values from the group of questions I1.1 and I1.2 that belongs to the independent Corporate Image variables and IN1.4 that belongs to the independent variable Information. This factor will be named "Brand Image".

The second factor with the Eigen value 1.735 covers 17.352% of the total variance. For this factor, we have the largest coefficient values from the group of questions IN1.1 to IN1.3 that belongs to independent information variables. This factor will be named "Information" as it is defined by independent variables of the same name.

The third factor with the Eigen value 1.297 covers 12.973% of the total variance. For this factor we have the highest values of coefficients from the group of questions RI1.1

to RI1.4 that belongs to the independent variables of Perceived Risk. This factor will be named "Perceived Risk" as it is determined by independent variables of the same name. From the matrix, it can be seen that the other coefficients are small and can be neglected.

Table 6. Factor Correlation matrix

Factor	Brand Image	Information	Perception of Risk
Brand Image	1.000	.092	.263
Information	.092	1.000	.067
Perception of Risk	.263	.067	1.000

Table 7 presents the results of the factorial analysis for the reliability of the three factors of customer choice. The overall Cronbach Alfa coefficient is $0.649 > 0.6$ which is the very reliable level according to the Alpha Test Table.

Table 7. Reliability of composite variables

Variable	Correlation Coefficient	Cronbach Alpha by eliminating variable
RI1.1 I can be overcharged by an alternative service provider	0.262	0.636
RI1.2 I may not receive the service I expect from another provider	0.361	0.615
RI1.3 I think buying the service from another service provider will result in financial loss	0.274	0.634
RI1.4 I am not sure that the signal will be stable with another service provider.	0.343	0.618
IN1.1 I ask for advice from others before purchasing internet services.	0.317	0.624
IN1.2 I seek to read the opinions of others on the service	0.283	0.631
IN1.3 I am interested in reading information on how internet service is provided by other companies	0.236	0.640
IN1.4 Information provided via the Internet or at the point of sale is satisfactory	0.308	0.626
I1.1 I always had a good impression of my internet provider	0.371	0.615
I1.2 I believe that my service provider has a better image than its competitors.	0.402	0.608

Table 7 shows that correlation coefficients for all questions are low (less than 0.5). The exclusion of each of the questions does not affect the increase in the value of Cronbach Alfa. The Cronbach Alfa coefficient continues to represent a very reliable level (> 0.6). For these reasons, these factors influence consumer choice.

Pearson's correlation coefficient

Pearson's correlation coefficient (Pearson's r) was used to examine the relationships among the variables. The value of the Pearson correlation ranges from -1 to 1, If $r = -1$ there is a perfectly negative relationship, if $r = 0$ there is no relationship, and if $r = 1$ there is a perfectly positive relationship.

The correlation analysis between independent variables and dependent variables is summarized in Table 8.

Table 8. Analysis of correlation between dependent and independent variables

Independent variable	Dependent variable	Pearson Correlation	Sig (1-tailed)	Level
Perception of Risk		0.252	0.000	0.05
Information	Customer Choice	0.128	0.004	0.05
Corporate Image		0.556	0.000	0.05

From the results can be concluded that:

- There is a very weak correlation between Perceived Risk and Consumer Selection, $r = 0.252$, $p = 0.000$ ($p < 0.05$).
- There is a very weak correlation between Information and Consumer Selection, $r = 0.128$, $p = 0.004$ ($p < 0.05$).
- There is a Medium Correlation between Corporate Image and Consumer Selection, $r = 0.556$, $p = 0.000$ ($p < 0.05$).

Table 9. The Consumer Choice Model - Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.252 ^a	.064	.061	1.33204	.064	28.602	1	421	.000	
2	.272 ^b	.074	.070	1.32609	.011	4.788	1	420	.029	
3	.564 ^c	.318	.313	1.13933	.244	149.979	1	419	.000	1.770

a. Predictors: (Constant), RI b. Predictors: (Constant), RI, IN c. Predictors: (Constant), RI, IN, I;

In Table 9 can be summarized that R^2 (R Square) has values respectively 6.4%, 7.4%, and 31.8%. This indicates that the complex variable Perceived Risk only affects 6.4% in the dependent Choice, whereas the largest influence is from the variables that are not included in the model. The value of R^2 increases to 7.4% when the complex variable Information is added, and 31.8% when the complex variable Image is added. This indicates that the variable "I" significantly improves the model.

Multiple regression model

$$y = \beta_0 + \beta_1 X_{I1} + \beta_2 X_{I2} + \beta_3 X_{IP} + \varepsilon$$

for the dependent variables Consumer choice is given below:

Model 1: $CC = 4.356 + 0.254 \cdot RI + e_{PK}$

Model 2: $CC = 3.885 + 0.243 \cdot RI + 0.106 \cdot IN + e_{PK}$

Model 3: $CC = 2.422 + 0.082 \cdot RI + 0.054 \cdot IN + 0.461 \cdot I + e_{PK}$

Table 10. ANOVA for Customer Choice

Model		Sum of Squares	Df	Mean Square	F	Sig.	F _{kr}
1	Regression	50.750	1	50.750	28.602	.000 ^a	
	Residual	746.993	421	1.774			3.89
	Total	797.743	422				
2	Regression	59.170	2	29.585	16.824	.000 ^b	
	Residual	738.573	420	1.759			3.04
	Total	797.743	422				
3	Regression	253.852	3	84.617	65.187	.000 ^c	
	Residual	543.891	419	1.298			2.65
	Total	797.743	422				

a. Predictors: (Constant), RI b. Predictors: (Constant), RI, IN c. Predictors: (Constant), RI, IN, I d. Variable Choice

Multiple regression analysis results obtained for the dependent variables Consumer choice and complex variables perceived risk, information and Brand Image are presented in Table 11.

Table 11. Multiple regression between complex variables and Consumer Selection

Variable	Standardized Coefficients Beta	t	Sig.	T _{kr}	Correlations Part
(Constant)		8.730	.0016		
RI	.081	1.913	.076	2.353	
IN	.052	1.282	.145		
I	.523	12.247	.0006		.513

Consumer Choice is expressed as follows:

Model 3: PK = 0.513 * I + ePK

Brand image is the most important variable that influences consumer choice of Internet service providers in Albania.

Conclusions and implications

The key question of the research is to identify the factors that influence the customer choice of ISPs. Based on the literature review there were key factors influencing the customers' decision among ISPs which relevance had to be tested in the Albanian market. The findings indicate that the choice of the customer is primarily influenced by the ISP image. This is supported by many researchers who propose that corporate image should be considered as an intangible asset. Brand image plays a decisive role in the process of choosing ISPs in Albania. Internet service providers should show particular attention to their image as a tool to build a competitive position. There is a common sense among customers that a service provider with a good image will always perform well. Internet providers marketing strategies should focus on integrated marketing

communication strategies such as advertising or public sponsorship, social responsibility to develop brand image and gain an outstanding position in the customer's mind and influence their decision. Also, reinforcing the tangible and intangible benefits of the brands can positively contribute to strengthening their brand image.

Results show that consumer choice is not significantly affected by the level of perceived risk. Albanian consumers do not consider to waste time and effort in choosing the internet service provider. In a collectivist culture, it is thought that the risk is diminished by others' recommendations and company reputation, and no personal effort is sought in collecting, analyzing and comparing information. In the Albanian consumer psychology, the phrase "all are the same" still remains, without making major effort to compare between brands. This can be argued by the information factor and the impact of the amount of information required in the selection.

The factorial analysis and multiple regression analysis explored the relationship between information and consumer choice and indicated that consumer choice is not influenced by the information sought. In Albania, ISPs are concerned more in promotional offers rather than instructing consumers. There is no comparative information on Internet service providers in the country, such as the real speed of the Internet and how much it differs from the contract, how stable the service is, how long is the response time or technical assistance. Regulatory entities and companies do not publish periodic reports with real-time internet monitoring.

Detailed and comparative information from service providers and regulatory authorities would help consumers to have a vision much before making their choice and not just rely on the name of the company.

Albanian customer choice is based on attitude by relying on the general impressions, intuition, and judgment of a brand. Studies show that attitudes are easier to keep in mind than the particular attributes among different brands. Most ISP customer's collect very little information from outside sources before a purchase.

In the telecommunications market there are very small differences between competitors and monetary costs are not considered a factor to switch to another operator. Under these conditions, consumers are guided by the company's good name and its coverage in relation to the price which is perceived at the same level as the internet operators.

Indeed, the corporate image has the potential to influence customer choice and an ISP's competitive standing. ISPs need to work on building corporate value and consistently delivering the high brand experience.

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A ROMANIAN RADIOGRAPHY OF MILLENNIALS' MOTIVATIONAL LANDSCAPE TO ENTER AND GRADUATE FROM COLLEGE

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Abstract. *Though recent studies have shown that young adults are highly motivated by extrinsic rewards, the same studies revealed that some of them are less likely to change jobs on account of pay, in certain areas. Millennials are depicted to be highly interested and great consumers of new technology. According to a Romanian study on the grounds of selecting a faculty, the students-subjects have listed as being important, first ranked, the fact that the profile of the faculty must be considered important for the future, followed secondly by attractive courses available and third by the need to be able to take the admission exam in their favorite subject. The methodology is based on an online questionnaire survey applied on students of various profiles from Romania and of various levels, including bachelor, masters, Ph.D. or another high education type of studies. The items analyzed and the indicators chosen to measure them have been analyzed by using SPSS, having also tested the hypotheses with statistical correlations. The findings obtained revealed the fact that Millennial students' degree of satisfaction is quite good as regards the faculty they go to and it strongly correlates with the content of the course. Also, the professors' degree of preparation and training were rated to be the most important to them. Besides, the degree of their satisfaction strongly correlates with the adaption of the study curricula to the current professional needs. As regards the way they choose their faculty, their main focus turned out to be the importance of the field in the future. Referring to the motivation to attend a faculty in Romania, Millennials ranked first the desire to evolve and develop personally and most of them replied that for them, intrinsic gratifications prevail, such as the sentiment of pride, acknowledgment, common mission, professional achievement, finding and exercising their own vocation.*

Keywords: *millennial; motivational landscape; intrinsic motivation; gratification; college; higher education.*

Introduction

While there have been studies performed in Romania on local students' online identity management (Frunzaru & Garbășevschi, 2016) or the use of ICT in students' learning activities (Ivan & Frunzaru, 2014), some others concerning the drive high-school students have when choosing their future educational path (Cismaru, 2013; Frunzaru, Ivan & Pricopie, 2008, 2009; Ivan et al., 2012), yet little focus has been placed on an in-depth depicted motivational landscape of Millennials in Romania when they enter and graduate from college.

Pew Internet and the American Life Project have defined in 2010 the Millennials as being the first generation always connected and have studied the implications of this permanent connection upon education, which put in such a light can itself suffer modifications of its definition, as well as other professions nowadays. Also, the study clearly shows in schematic manners, which are the main differences between the generations, namely:

Millennial	Gen X	Boomer	Silent
1. Technology use (24%)	Technology use (12%)	Work ethic (17%)	WW II, Depression (14%)
2. Music/Pop culture (11%)	Work ethic (11%)	Respectful (14%)	Smarter (13%)
3. Liberal/tolerant (7%)	Conservative/Trad'l (7%)	Values/morals (8%)	Honest (12%)
4. Smarter (6%)	Smarter (6%)	"Baby boomers" (6%)	Work ethic (10%)
5. Clothes (5%)	Respectful (5%)	Smarter (5%)	Values/morals (10%)

Source: Pew Research Center, 2010

Mainly, according to Leung (2004), Millennials are characterized as having the main following characteristics: 1) they prove a global orientation and being emotionally disinhibited, having raised understanding the need of interconnection of a global community, they find it very easy to express their thoughts and feelings online, under the illusion of a certain anonymity; 2) they consider that they are entitled to information and education, they are supporters of a continuous learning process because they know they will have along their lives more jobs or even careers and thus, they want to increase the degree of employability; 3) they are technology specialists, innovative and have a deep investigation spirit, are passionate by the way technology works and they want a world full of unlimited available number of choices; 4) they are preoccupied with maturity and adulthood, wanting to be treated like adults and judged according to their contribution, not to their age (see also Buckley & Doyle, 2016; McGinnis Johnson & S. Ng, 2015).

Having in mind all above depicted aspects, the current paper aims at describing the motivational landscape of Romanian Millennials to enter and graduate a faculty, being state or privately-owned, with a focus on what drives them to strive through all exams and projects to be delivered, how they appreciate the faculty environment, splitting the concept of liking or disliking their faculty (last entered or graduated) in a series of indicators, as to better analyze their opinions and radiate them into a series of conclusions.

The conditions for the answers to be taken into consideration and included in the analysis were the followings: the respondent must be part of the Millennial generation, i.e. be born between 1980 and 2000 and he/she has been a student in a faculty in Romania, state or privately-owned, this quality including all its possible stages, such as a) being a student in progress, b) having graduated the faculty or c) having been a student and leaving the faculty chosen before graduation, no matter the reasons. All respondents not matching the above criteria were deleted from our database.

The Questionnaire was applied in Romanian, according to the native language of the target respondents.

Literature review

A research conducted in the National University of Political Studies and Public Administration, Bucharest, focused on the use of ICT and the study activities of college students (Frunzaru & Ivan, 2014). The results showed that the level of satisfaction of students towards the computer knowledge obtained in the faculty years tends to be low and positively correlated to the number of courses they attended and negatively correlated to their level of expectations (Frunzaru & Ivan, 2014, pp.1-2).

As regards the value system and the behaviors, there is another important study that reveals the deficiencies of the access to and equity in higher education levels (Cismaru, 2013). Studying both students (high-school and university) and teachers, the study shows that high school students place an emphasis on qualities like ambition and intelligence, followed by family unity and education, yet assign very little time to read and study; also, especially in the rural area, they spend a lot of time helping with the house chores. Some students in this last sub-segment have admitted that they were forced to abandon school due to family issues and material problems (Pricopie et al., 2010; Frunzaru et al., 2013, pp.159-160).

A most recent study on failure applied to Millennials as regards study activities reveals very interesting conclusions on their motivational landscape and, better yet, on the impact, their parents' education pattern had on them and on the role a faculty can play to maintain the students engaged and aware that they can overcome any such unaccomplishments. That is to say when a student fails, the educator or the faculty, generally speaking, can help to understand the positive part of that experience, the self-discovery and push them to be better next time. Reframing failure is how they can be helped to understand it and both overcome it. All this put in the context of Millennials having grown educated by "helicopter parents" makes this equation even more complex (Ramirez et al., 2018, p.50).

The concept of "helicopter parents", defining a type of parenting accepted nowadays as rather harmful to the subject-children because of the amount of control exercised on them and the over-protectiveness manifested at all times, mainly depicts an approach in which failure is seen as fully negative, unacceptable, not an option, placing thus a larger pressure on children to always succeed in order to be appreciated. In such a general picture, the idea that the faculty, through its educators, has a very important role in supporting students to grow after each failure and even further, find their true calling in life, promoting personal development, is very interesting. Recognizing anxiety, building trust and commitment, developing healthy relationships, viewing failure as a symptom and normalizing failure represent a set of recommendations that the study authors indicate for the better outcome for both students and society (Ramirez et al., 2018, pp. 54-56). The potential to transform during faculty years anxious students, fearing failure, having self-doubts on their choices, finding it difficult to focus and maintain long-time efforts for the most desired result into emotionally healthy persons, well determined and aware that failure is just a learning opportunity is the key to understanding in fact which is the high role that a college can play in all this process.

Having been at least within the last 15 years under strong analysis by researchers, the Millennials have been observed through different lenses of the microscope. Called either Millennials or Generation Y (Howe & Strauss, 2000), Trophy Kids (Alsop, 2008) – name

derived from the habit of granting a trophy to all kids participating in a competition, no matter the result, Generation 9/11 or Homeland Generation (Horovitz, 2012) revealing the major impact terrorism has had on them, this strip of individuals have been depicted and analyzed both in negative and in positive frames. Thus, while some researches show them as neurotic, anxious and depressed (Twenge, 2000; 2006), others depict them as being ambitious, confident and optimistic (Howe & Strauss, 2000). Clearly, they can be both, different segments or even the same segment in different points in time and moments of their evolution, but the role of education on improving their background, no matter which, is the one worth a real focus (Buskirk-Cohen, Duncan & Levicoff, 2015, p.3).

There are studies that intend to show the important role that parent and family engagements in the college experience have (Kiyama et al., 2015), meaning seeing them as partners in this process of cultivating the right values to the college student and there are other studies focusing on how can library research be fun and on how using games can help nowadays information literacy instruction in higher education (Young, 2016), all trying to identify possible aids in making the college experience better for Millennial generation, aiming not at pleasing them, but yet at the core efficiency of the process.

A recent study on Singapore Millennial students show an important trend through those being at a certain point out of school and later on trying to catch up with their studies in order to learn to be competitive in the workforce market, meet a professional request or enrich themselves intellectually (Chong, Loh & Babu, 2015), all this revealing a new enlarged boundary to this schooling process as one longer than 18 to 24 years of age, thus having to deal with a very diverse profile of the students (from married, single or divorced to full time employees or never having worked and being out of school for some years or just continuing naturally the years of study), fact which makes the education process more complicated and difficult to adjust all such backgrounds (Chong, Loh & Babu, 2015, p.1).

As regards the Millennials perspectives and preferences, it was revealed that first of all they claim a certain approach and behavior from educators, such as care, passion, enthusiasm, communication of clear expectations and duties, courses applicability by matching the information taught with the tests applied eventually, a high desire for real-world examples or models to learn from and applied exercises to practice, i.e. as many active learning opportunities as possible (Dunneback & Therrell, 2015). All the above claims would then turn into their attention and focused improved, as well as the ability to stay engaged also at school and at home for individual study (Dunneback & Therrell, 2015, p.49).

Methodology

The current analysis is testing three hypotheses, namely: H1 – Romanian Millennial students have a low satisfaction degree regarding the faculty attended in Romania, H2 – Romanian Millennial students choose the faculty to attend in Romania mainly according to degree of importance of the field studied in the current society and H3 – The main motivational indicator for them to go to college is to get a higher education diploma.

Around the three hypotheses indicated above, a set of questions were elaborated as to split the items desired to be measured. Thus, there were four parts in the online questionnaire elaborated, with the following structured design:

Table 1. Questionnaire structure design

Part of the questionnaire	Dedicated to	Item
1/4	n.a. (opening questions)	Q1 – Q4
2/4	H1 (RQ1)	Q5 – Q6
	H3 (RQ3)	Q7 – Q10
3/4	H1 (RQ1)	Q11
	H2 (RQ2)	Q12 – Q14
4/4	n.a. (demographics)	Q15 – Q18

The research was run in June 2018 and it gathered a total of 102 responses. After eliminating the respondents who exceeded the age margins (over 38 years of age), 11 in total, and them those not being a student actually (including the uncertain ones, meaning those replying with a simple “No” to the question asking them to name the last faculty attended and/or graduated, which could have been an error of judgment from their part, for the sake of an accurate interpretation), another 5 in total, the number of respondents actually being part of the research remained 86.

Results

For these eligible respondents, ages varied between 19 and 38, and 62 respondents were female (72.09%). In fact, most of them are ranged between 19 and 29, i.e. 74.42%, the rest is up to 38 years of age (25.58%).

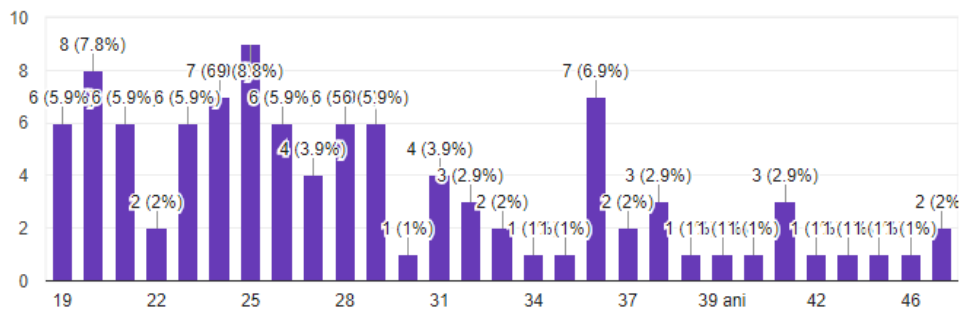


Figure 1. Chart with the distribution of all respondents' ages, before due eliminations

Only 12 respondents do not have a job at all, nor attend any internship with any employer, meaning that the vast majority of 86.05% have a job of some kind, be it part-time, full-time, internship or other such programs, or even have more jobs at once (0.1%).

Out of the total respondents under analysis, 51.16% are or were students at the bachelor's degree level, 43.02% at the masters' degree and only 5.82% had Ph.D. studies or others alike, finalized or ongoing. Moreover, only 4.65% are or were students in privately-owned faculties, the vast majority of 95.35% attending a state faculty.

Also, only 3 respondents were from rural areas, meaning that the rest of 83 were from urban areas, Bucharest or other cities in Romania. Bucharest faculties analyzed represented yet the major part, with 72 respondents (83.72%). Having only 11 respondents from other cities in Romania than Bucharest, the results cannot be spread to the entire country surface, thus the study will remain with its core reference to Bucharest students, as described.

Another interesting result is that only 3 respondents out of the 86 eligible (3.49%) have abandoned the faculty they were admitted to, before graduating it.

The experience with the faculty chosen and degree of satisfaction

When asked if they think that the higher education in Romania is going on a good direction or a wrong one, 33.72% replied that the direction was good and 53.49% considered that the direction was wrong.

Yet, as we will see further on, the degree of satisfaction directly related to the faculty attended is quite good, as the mean for Q5 measuring how satisfied they were with the courses conducted so far in their faculties was of 3.08 ($\sigma = 1.01$). As regards the degree of satisfaction related to other several indicators revealing their overall faculty experience (Q6), the segment that brings them the greatest satisfaction resulted to be the relation with their faculty colleagues.

Correlating the item measuring the overall degree of satisfaction towards the courses they had so far (Q5) with the item revealing their overall faculty experience (Q6), it clearly resulted that their degree of satisfaction strongly correlates with the content of the course ($r = 0.62$), with their relationship with the professors ($r = 0.57$) and thirdly, with the courses schedule ($r = 0.55$).

RQ1							
	Q5. How satisfied are you, in general (1 – very unsatisfied, 5 – very satisfied), with the courses conducted so far in your faculty?	Q6. How satisfied are you as regards (5 – very satisfied, 1 – very unsatisfied): Your relation with your faculty colleagues?	Q6. [...] Your relation with your professors?	Q6. [...] Your relation with the faculty personnel (secretaries, etc.)?	Q6. [...] The courses schedule?	Q6. [...] The courses content?	Q6. [...] The faculty building and the course rooms?
Average	3,08	3,93	3,58	3,23	3,64	3,30	3,51
St. Dev.	1,01	0,90	0,96	0,97	0,97	1,04	1,23
Pearson Correlation		0,19	0,57	0,28	0,55	0,62	0,23

Figure 2. Correlation between the overall satisfaction degree towards the courses and items revealing the faculty experience

Moreover, the current and/or former students were asked to rate from 1 – very weak to 5 – very good a series of items constructing the faculty experience they had so far, among which the professors' degree of preparation and training, the interactivity of the courses and seminars, the courses quality, both theoretically and practically, the use of new technologies in the courses, the adaption of the study curricula to the current professional needs, the support and guidance provided to students, partnerships between the faculty and employers in the market to hire students (part-time, full-time,

internship, etc.) and the modernity and equipment of the faculty building and courses rooms.

The professors' degree of preparation and training was rated to be the most important to them, followed by the quality of the course at the theoretical level, the interactivity engaged in courses and seminars and the support and guidance provided to students during the faculty years. Unexpectedly, the use of new technologies only ranked sixth in this top.

Yet, correlated with the item measuring the overall satisfaction degree (Q5), it resulted that their degree of satisfaction strongly correlates with the adaption of the study curricula to the current professional needs ($r = 0.61$) and with the quality of the course at the theoretical level ($r = 0.54$).

RQ1										
	Q5. How satisfied are you, in general (1 – very unsatisfied, 5 – very satisfied), with the courses conducted so far in your faculty?	Q11. In your opinion, in the faculty you attend now or you last graduated, the following aspects were rated as follows (1 - very weak, 5 - very good): The professors' preparation and training	Q11. [...] The interactivity in courses and seminars	Q11. [...] The courses quality (at the theoretical level)	Q11. [...] The courses quality (at the applied level)	Q11. [...] The use of new technologies in courses	Q11. [...] The adaptation of the study curricula to the current professional needs	Q11. [...] The support and guidance provided to students	Q11. [...] Partnerships with employers in the market to hire students (part-time, full-time, internship, etc.)	Q11. [...] The modernity and equipment of the faculty building and courses rooms
Average	3,08	3,91	3,43	3,70	3,02	2,80	2,87	3,26	2,71	3,07
St. Dev.	1,01	0,88	1,20	0,99	1,18	1,24	1,17	1,20	1,30	1,39
Pearson Correlation		0,47	0,50	0,54	0,42	0,50	0,61	0,50	0,40	0,37

Figure 3. Correlation between the overall satisfaction degree towards other courses and items revealing the faculty experience

Observing figures 2 and 3 above, one can understand the main indicators that are important to Millennial students (current or former) are the quality of the courses and their content adapted to the current market needs, the relation with the professors and also the timetable they have to insert into their programs, maybe because, as seen in the introductory part of our analysis above, most of them are already working.

Criteria of faculty choice

But how did Millennials choose their faculty initially? According to the data recorded, their main focus was on the importance of the field in the future. Thus, a significant pragmatic factor is involved in their selection process, a factor which is already agreed to be part of the Millennial matrix. Also, the curricula must attract them, because Millennials rarely do things they do not like. Moreover, the fame and reputation of the faculty and of the professors teaching there are also important to Millennials when choosing where to study after high-school (Frunzaru, Ivan & Pricopie, 2008).

Millennials do not pay so much attention to the admission exam, whether it is just a file with registration documents or a specific exam to be taken, nor are they focus to choose a faculty where they should study as little as possible, where the demands to pass are low, so that their efforts would be as low as possible.

RQ2						
Q12. How important (1 – not important at all, 5 – extremely important) are the criteria below in your opinion when deciding to attend a specific faculty?						
Q12. [...] Choosing a field of importance in the future	Q12. [...] Choosing a very attractive study curricula	Q12. [...] Choosing a faculty where the admission exam is taken at my favourite subject/s	Q12. [...] Choosing a faculty where the admission is based on a registration file, without an actual admission exam	Q12. [...] Choosing a famous faculty, well-known professors and exceptional results	Q12. [...] Choosing a faculty as non-demanding as possible for students	
<i>Average</i>	3,95	3,85	3,23	2,12	3,49	2,19
<i>St. Dev.</i>	0,91	0,82	1,04	1,20	1,26	1,09

Figure 4. The choice criteria involved in choosing a specific faculty

The motivation for attending a faculty in Romania

In the last section of our research, it was intended to lay a closer look at the motivational landscape that Millennials inhabit. What keeps them going through the faculty years and why they study and pass exams, and finally graduate? As seen above, only 3% abandoned faculty, this meaning that most of them, after selecting their faculty according to their criteria, justify their admission efforts further on and continue to study and accomplish the mission they took on initially.

Asked why they took an admission exam to a faculty in the first place, Millennials ranked first in their motivational landscape the desire to evolve and develop personally, followed by the intention to study what they like and to become specialized in that field and also, again the pragmatism feature arising, to have a well-paid job in the future. For them, it is not so important to just obtain a diploma, neither to relate to youths with the same interests as them (professional networking) nor to please their parents. Millennials are no longer those kids in previous generations who followed a study path imposed by their parents' judgments rather than following their own inner wishes and dreams.

RQ3						
Q7. Which was your motivation to seat for a faculty admission exam? On a scale from 1 (not important at all) to 5 (extremely important), please note the variants below, according to the importance they hold for you.						
	To obtain a higher education degree	To evolve and develop personally	To study what I like and specialize	To relate to other youths same interests (networking)	To have in the future a well-paid job	To please the parents
<i>Average</i>	3,57	4,08	3,93	3,01	3,84	2,33
<i>St. Dev.</i>	1,10	0,98	1,08	1,09	1,13	1,32

Figure 5. The motivation radiography related to seating for a faculty admission (self-evaluation)

But how do they evaluate the same motivational landscape for their generation peers? When asked to answer to the same question as above, but applied to their colleagues and friends, Millennials believe that for the others the desire to have a well-paid job and to get a diploma are the most important, followed by the desire to evolve and develop personally and the desire to study what they like and get specialized in that field. Millennials appreciate that for their generation peers the networking with youths having a similar interest is not so important and neither the desire to please the parents, which remains a feature applicable both to respondents involved and to their peers.

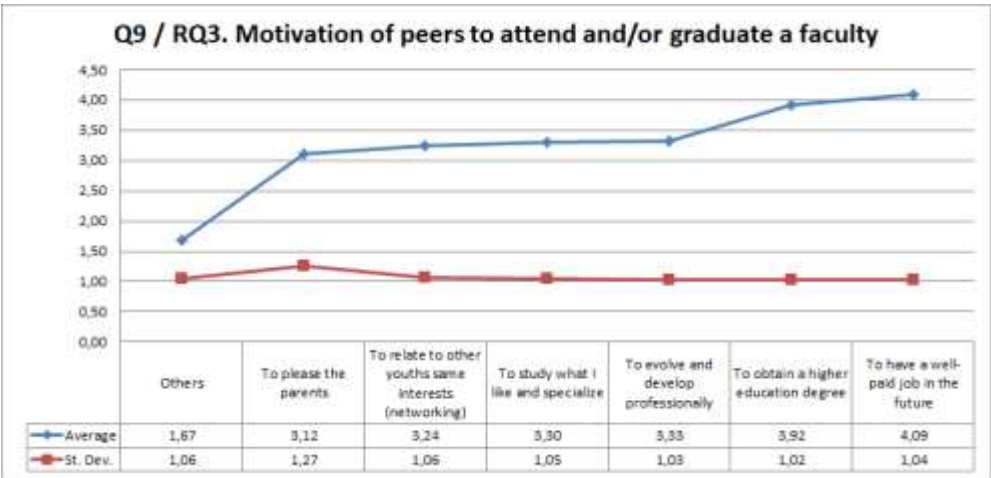


Figure 6. The motivation radiography related to seating for a faculty admission (group-evaluation)

Also, it was our intention to see what kind of gratifications or rewards are mostly in their focus, intrinsic or extrinsic. According to the scores obtained, most of Millennials participating to this study replied that for them, intrinsic gratifications prevail, such as the sentiment of pride, acknowledgment, common mission, professional achievement, finding and exercising their own vocation.

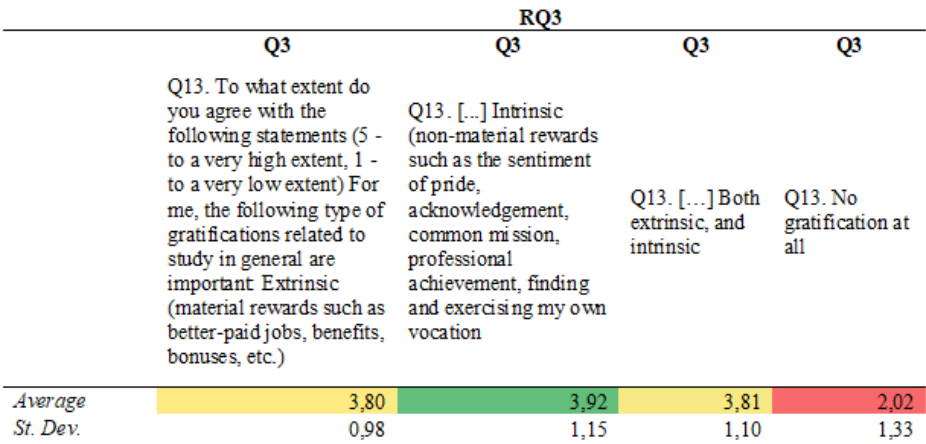


Figure 7. The type of rewards that prevail (self-evaluation)

As regards their generation peers, the answers indicated that for the others in their groups of colleagues and friends, they find that the most important gratifications are those of an extrinsic nature, in opposition with their own views. Obviously, a degree of desirability could bias the answers to this group of question, a fact which could be further researched in a new study.

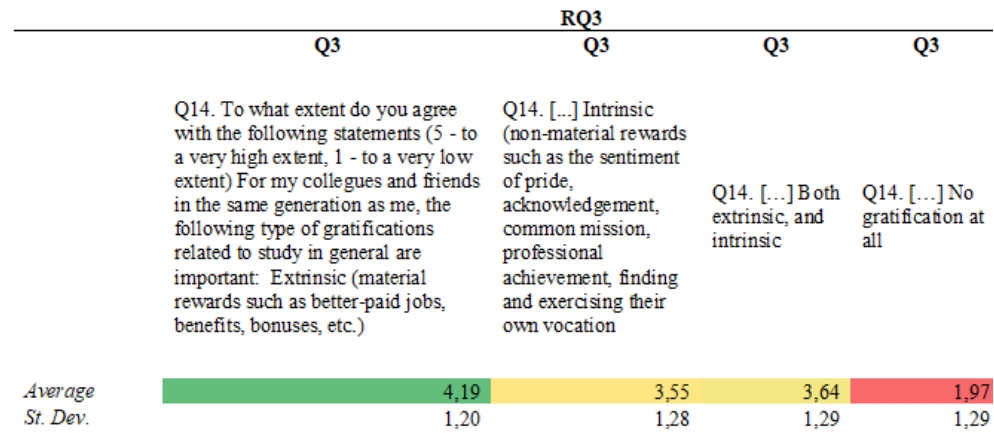


Figure 8. The type of rewards that prevail (group-evaluation)

Conclusions and implications

As shown by the data gathered, when talking about higher education degrees, Millennials are motivated mostly by the quality of both the courses and of the professors. Either is it about the training and expertise or about the kind and depth of relationship they develop together, Millennials appreciate more than anything real guidance, experience, and knowledge, but also a warm relation with those in charge with that education they seek. Thus, it is only true capable and well-prepared professors that will keep them in school, this main idea revealing a most important point to keep in mind for any future education plans or reforms at the level of our country.

Though they answered at the first question opening the survey that the higher education system in Romania is going in a wrong direction, Millennials participating in our survey stated they were quite satisfied with the courses attended so far. As regards their general experience with the faculty attended and/or graduated, Millennial students were mostly satisfied with their relationships with their colleagues and with the courses schedule, which, most probably, allows them also to work, since we have seen that most of them already have a job.

Moreover, for them, the degree of preparation and training, the real expertise of the professors, as well as the quality of the courses are ranked first, so this means that they have high expectations from a faculty, once they chose to attend it. They want quality above all, but also warmth, guidance and, why not, leadership and mentorship.

When choosing the faculty, the Millennials first make sure that the field they will study has a significant importance in the future. Being important, it somehow also results that those jobs will be well paid. Also related to this, the study curricula must be attractive,

because it is well known that they get bored very fast, they need to be gained and kept engaged throughout the study years by means of quality and attractiveness.

As regards the motivation, the drive they have when studying in a faculty, Millennials clearly stated that their main focus is to evolve and develop personally, followed by the desire to learn more in the subject they prefer and to be able to get afterward a well-paid job in the market.

In opposition to these answers, their opinion about their peers' motivation is a little reversed, meaning that they feel that their colleagues and friends in the same generation are focused on getting a well-paid job and a diploma more. So, the main vision about themselves is that they aim at more immaterial, personal, vocational objectives, while the others only, not them, are more pragmatic and materialistic.

This last discovery is also verified by the fact that when asked about what prevails for them in general, as regards the study activity, the intrinsic rewards or the extrinsic ones, they do the same switch of mirrors, and again they state that they respond and focus more on intrinsic gratifications (finding their true calling and vocation, having a common mission, feeling accomplished, etc.), yet their generation peers respond more and better to extrinsic gratifications (material ones, bonuses, benefits, etc.).

As regards the three hypotheses tested by the current research, we have only one confirmed (H2), namely that regarding the college choice patters. Find here below the general overview:

No.	Hypothesis	Expectation	Result	Confirmed?
H1	<i>Degree of satisfaction on the college attended</i>	Low	"Quite good" (38.2%)	NO
H2	<i>College choice pattern</i>	Studied field importance degree	Studied field importance degree	YES
H3	<i>Motivation to go to college</i>	To get a diploma	To evolve personally (personal development)	NO

Figure 9. General overview of the hypotheses tested

The limitations of the current research could stem from the particularity of the sample, namely from the fact that most of the respondents were residing in Bucharest (78.4%) and most of them were female (69.6%), thus the results recorded could mostly represent a radiography of women living in the capital city of Romania and could not be extended at the level of the entire country.

Yet, the implications resulted from this study must be taken very seriously since we should all focus on a better education system in general in this country. The current study results must be related to the reality of our current society. It is not meant to keep the conclusions reached an idealistic level, nor to abandon them because they may be hard or even impossible to implement in faculties across Romania, yet we consider that they should at least be kept in all educators in higher education systems fierce focus as to come to them as close as possible, as the current social and political trends allows them.

It is the only way in which, by processing the feedbacks from our students, the universities can improve their services – as ultimately, this is what they are, service providers to citizens and society in general – and meet the real needs and requirements imposed not only by this new generation, Millennials, which is the current largest workforce population worldwide as compared to previous generations but by the features of our current lifestyle and degree of development as a society, as a whole.

The faculties' mission to meet their education targets towards the beneficiaries must not be forgotten, nor abandoned, no matter the hardships or obstacles met on the way. The ideal must keep its place in our minds and function as a compass to guide all our actions, day by day, course by course, project by project.

Our further set of recommendations is to support as much as possible the professors to keep training and learning about the latest discoveries in their field, on the one hand, and encourage students to learn by granting them as many scholarships as possible, on the other hand. The real support towards students in their everyday life hardships, including finding a decent job, should not be overlooked. And last, but not least, the teaching methods and the curricula must be, no matter the field taught, passed through the filter of the new technologies and dressed into modern clothes for the students to be able to better digest the new information and see it, keep it and perceive it like a real, big, important benefit that has a concrete, positive impact on his/her life.

In other words, professors individually and faculties as an organization should always measure their results and see if the activities they run, the classes they teach and the projects they coordinate really have the desired quality and impact and always adjust the objectives and the measurements next time, so that constant improvement of the education process and permanent contact with the students remain always in full emphasis.

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DIGITAL SYSTEMS, E-MARKETING AND ORGANIZATIONAL DYNAMICS

CYBERSPACE – A CHALLENGE

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Abstract. *The future means cutting-edge technology, much more developed human relationships, but lacking effective engagement, advanced knowledge and also new frontiers to achieve. Thus, the society of the future means technology, unlimited possibilities of unknown connections and challenges. All these opportunities are, however, associated with risks, threats and vulnerabilities. The Internet, as a tool, has significantly contributed to the technological and scientific progress of mankind. The multitude of opportunities it offers and easy access to every citizen, with the lack of a unitary legislative framework at an international level, effective and concrete control over the development of some applications. This confrontation does not always have the desired result, and the relatively controlled development and use of it is very difficult to achieve, especially for state actors. The virtual world thus gains ground through addiction, the cyberspace becoming the quirk that aligns the successes and failures of mankind, the pattern of future battles that can reconfigure the map of the world, the easel on which our deep emotions are outlined. It is a mirror of society and the place where predictions on the future can be sold. Cyberspace has no borders. It is globalization in its purest form, it is a new paradigm of modernity. It is the opening of man to man at every level. Risk is a constant component of technological, social and economic development, but knowing the limits in which it can manifest, through its anticipation and action can diminish its negative effects. In front of the cyber-attacks, everything becomes vulnerable - from the critical infrastructure of a country to the security of each individual. The product effect is chained, each vulnerability creating prerequisites for exponential growth of associated risk and affecting security from an individual level to a global level. The virtual world is already the world of tomorrow. How will we identify the opportunities and manage the benefits? And how will we reduce the associated risks, current and future threats? What are the solutions? These are the questions we will be trying to answer through our study. For this purpose, the current situation of the Romanian society connected with the transformations brought by the cyberspace will be analyzed. We will refer to the infinite possibilities of action, information resources and products in operation, and we will try to identify effective actions that can limit the risks.*

Keywords: *Digital transformation; Cyberspace; Treats; Opportunities; Risk management.*

Introduction

Cyber space has been called the fastest technological space of evolution in human history, both in scale and in terms of properties, the "fifth theater of operations" as Marc Goodman called it. Citizens have the right to exteriorize, in the virtual space, their emotions, thoughts, creations without being constrained in any way: such as, expression, content, and form. This freedom generates new issues, especially legal controversies, that way imposing a substantive reorientation in the interpretation of freedom of expression. The extensive community of Internet users, the ones with easy access to virtual environments, generate a rich palette of cultural patterns, way of thinking, preferences, habits, necessities and, implicitly, generates a demand for extremely varied contents (Buzan, 2014).

This information must be available instantly and, most often free of charge, in this way the information market is constantly growing, by demanding and offering more complex virtual services. Throughout this virtual world, the sense of security is given by the anonymity, even if only to a relative degree.

Under the protection of anonymity, you can request data, information, and you can convey opinions and messages, without being subjected to legal treatment or sanction. This stimulates the courage to ask and convey information. In this "legal paradise", users are banned from legal constraints, which generates a detachment behavior towards the rules applicable to ethical conduct in the virtual space and a comfortable, intimate state in this global community.

The relative security offered by anonymity in virtual space, as well as the large number of smart devices or applications designed to simplify our lives, turn us into potential victims of hackers. It is impossible to have total, effective protection against these kind of attacks in the virtual space. Marc Goodman believes that "all personal data disseminated online or offered by accepting the terms of use of applications transform us from customers to products". The target of these attacks is the information, the data that can be obtained, and the costs that generate the development of applications that can generate data are insignificant in relation to the profits made by the experts who develop them.

New economy or the digital economy

The digital economy is defined as being the interaction between the personal computer, the Internet, telecommunications and electronics, having a set of distinctive features towards the traditional economy.

The new business model - e-business, e-commerce, e-banking, etc. - developed via the Internet, brings a radical change in efficiency: costs, including transaction costs, are reduced, based on the business/business relationship (B2B), business/customer (B2C), C2B and C2C business/employee (B2E) business/government (B2G), government/business (G2B), etc. This ecommerce model has developed exponentially in the last decade, and has expanded into all areas, now being considered the concrete form of accomplishing most businesses (Gordon, 2016).

The microeconomic and macroeconomic effects of the new economy and information systems are based on the generally valid principles of its development, which are: awareness, accessibility, availability, affordability and appropriateness.

Electronic commerce

The figures and statistics put into place by the main players in the Romanian electronic commerce show that in 2017, online shopping grew to 2.8 billion euros, 40% more than in 2016 with a registered 1.8-2 billion euros. This would mean that Romanians spent an average of 7.67 million euros every day of the year on internet shopping (details on e-commerce in Romania in Zbucea, Vătămănescu & Pînzaru, 2015).

This value refers strictly to e-tail, without considering services, utility payments, airline tickets or holidays, hotels, shows reservations. The 40% increase is one of the highest in the EU countries, but rather small compared to the developed economies, thus showing the enormous potential for growth in this segment.

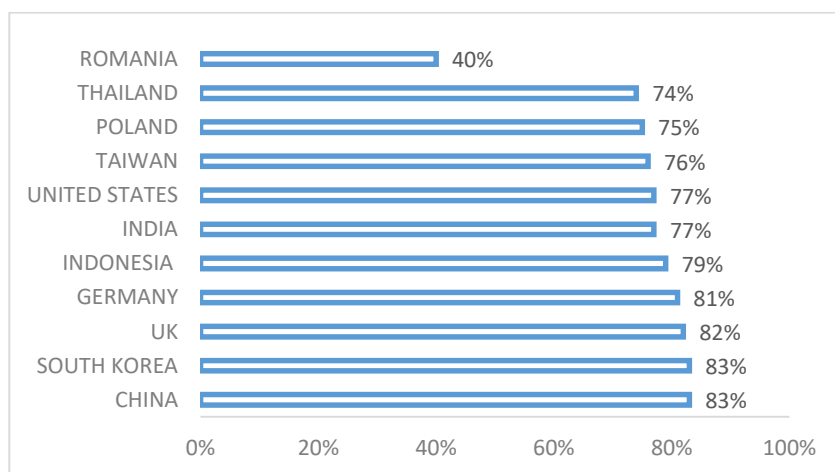


Figure. 1. Global market with the highest online shopping penetration rate as of 2nd quarter of 2017 (Source: Processing after <https://www.statista.com/statistics/274251/retail-site-penetration-across-markets/>. GlobalWebIndex ©Statista 2018 Additional information: Worldwide, GlobalWebIndex; Q2 2017, 16 to 64 years)

E-commerce is a concept that designates the process of buying and selling or exchanging products, services and information, using a computer network, including the Internet. This concept can be defined from several perspectives: communications, business processes, services, or online. The used technologies are diverse, including messaging, internet, and intranet or extranet services.

The reasons for the implementation and development of e-commerce are based on the ongoing need to broaden the clientele, as well as to reduce the costs for services and distribution towards customers. The initiation costs of an electronic commerce process are quickly amortized, with the main advantages being the volume of information sent through the electronic channels, the upgrading and accuracy of the transmitted data, as well as a better control over the market segment to which the message is transmitted. Back-up can be received in real-time, changes required by the market or development

policy can be applied or modified immediately. Other benefits of using e-commerce are: interoperability, global character and easy to use.

According to **Statista**, global retail e-commerce sales will reach \$ 4.5 trillion by 2021 (246% more than 2014).

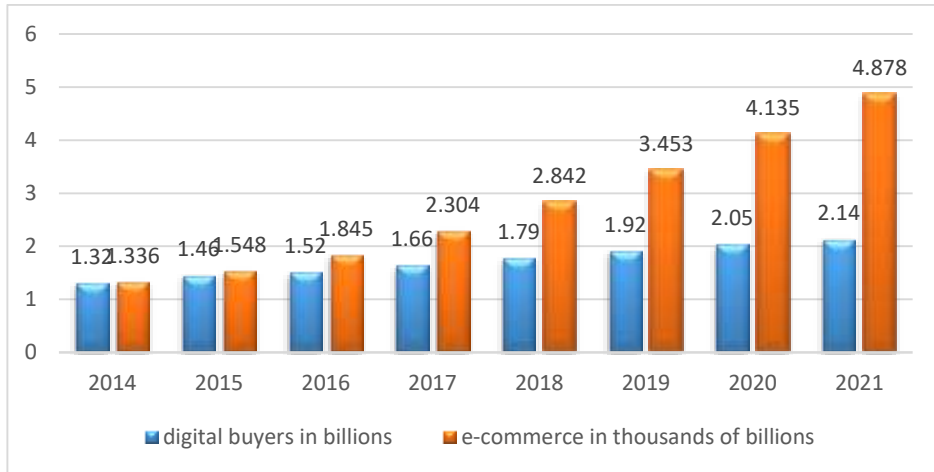


Figure 2. Worldwide digital buyers versus Retail e-commerce, 2014 to 2021

(Source: Processed data eMarketer ©Statista 2018)

Additional information: Worldwide, eMarketer; 2014 to 2017

<https://www.statista.com/statistics/251666/number-of-digital-buyers-worldwide/>

<https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/>

Financial-banking activities

The development of the banking market also took into account digital technologies. Banking systems are being used more and more, whether it be credit, cards, ATM or POS. The client is virtually positioned within the banking institution through mobile, internet and home banking. The development of these systems was also possible due to the explosive development of digital telecommunication, the advanced technology installed on mobile phones (Grigorescu, Chitescu & Diaconeasa, 2016).

However, in this situation, the risk of using electronic banking services on smart devices increases due to the dual way of achieving the security of these operations: both banks and mobile phone operators must develop encryption systems for transmitted data as well as secure reception channels or data transmission. It is necessary to establish common security, interoperability and compatibility parameters of the offered services.

Socialization – social media

The presence of e-commerce on social media networks has become a must-have, regardless of the type of business: B2B or B2C. Being the space where more and more people spend their free time, the social media approach from the perspective of electronic commerce is essential. It is a familiar environment where you can learn or realize the value of a product or service. Studies have shown that more and more social media consumers are looking for product reviews on their favorite social network, and in this way they can decide the degree of trust they have for that brand.

It is the social-proof effect - when a social networking user gains confidence in a brand based on reviews received from virtual friends - influencers. Promoting a product on social networking is more applied, these networks identifying a certain type of behavior and consequently, adapting the promotion to that profile. The tools offered by these social networks also allow the measurement of trade efficiency of this type.

According to Statista, 80% of people frequently accessing social networks are shopping online, and 50% often shop. 71% buy products only based on reviews in the virtual space or based on recommendations.

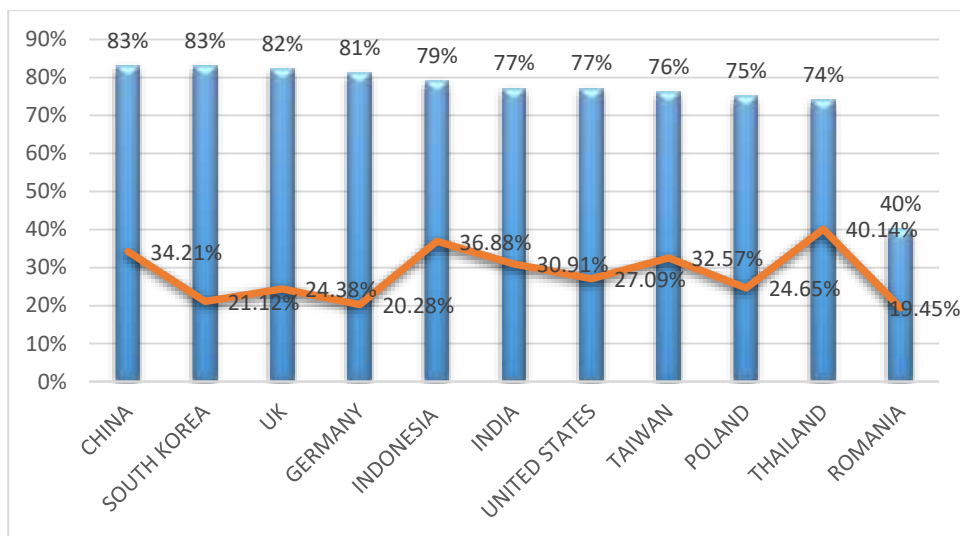


Figure 3. Online shopping penetration rate vs. Time spent on the internet
 (Source: Processing after <https://www.statista.com/statistics/274251/retail-site-penetration-across-markets/>. GlobalWebIndex ©Statista 2018 Additional information: Worldwide, GlobalWebIndex; Q2 2017, 16 to 64 years)

In figure 3 we analyzed the penetration rate of online shopping in different countries, relative to the average time spent by users in those countries on the Internet. The percentage of time spent on the internet was calculated as the ratio of time actually spent in 24 hours. Regarding that in those 24 hours a person has different activities - sleep, meals, work/school, etc. - we notice that the time allocated to the virtual space is very high. Thus, in Thailand, the time spent on the internet exceeds 9 hours a day.

The dynamics of the increase in the use of information to and from the virtual space shows that the number of users increases daily by more than one million. In 2018, the total number of users is over 4,021 billion, up 7% from 2017. The number of social media users is almost 3,2 billion, up 13% from 2017, as we have over 5,135 billion mobile phone users. GlobalWebIndex shows that, on average, an internet user spends about 6 hours a day using Internet-based devices and services. If we evaluate this time at the level of over 4 billion Internet users, we see that in 2018 alone, over one million years, cumulated, will be spent on the internet.

The processing of the data in figure 3 shows that developing countries have, in relation to the value of online shopping, a long time spent on the internet. This is explained by

the fact that these countries have been introduced to technological developments in recent years, the internet being a much newer tool than in developed countries. Emphasis is placed on capturing information, on social media with its advantages and disadvantages. In African countries like Mali, the number of social media platform users increased 6 times in 2017. Accelerating access to these economies will influence Internet experience for users everywhere, companies such as Facebook, Google, and Alibaba will have to adapt their resources to deliver products that meet the needs and demands of these emerging economies.

Risks in cyberspace

The dynamics of virtual space expansion and its intersection with social relationships in the real world are genuine challenges (Dunnigan, 2010). Vulnerabilities and risks tend to arise. **Vulnerability** is a weakness of a hardware or software system that allows unauthorized users to gain access to it.

The main vulnerabilities in computer systems are physical, hardware, software or human. Information systems are primarily vulnerable to classical attacks when a hacker manages to physically penetrate computing systems and evade confidential information. Every computer system has vulnerabilities, so we can say there is no 100% secure system, an attacker can act in many different ways. Ways of responding to these attacks generate, first and foremost, long time resources: identification of the aggressor, vulnerability and threat analysis, methods used, development of response elements, and counterattacks are necessary.

The dynamics of this field's development requires an equally dynamic evaluation and development of Cyber Security policies, the challenge addressed to specialists in cyber security methods/actions being to reduce the extent of damage that can be produced in the short or long term. A cybernetic attack may have a major impact, may affect the economies of some countries, influence policy decisions, or make decisions in adopting a concrete response. Thus, the solution is a continuous, dynamic technical, analytical and intelligent process that integrates the information provided by various specialized sources (Marga, 2017). It is a process that requires at least the same determination, intelligence and thoroughness that attackers have when they aim to gain access to a targeted cyber infrastructure. The solution has a continuous character, an incomplete and sporadic approach produces a gap between the operational and informational needs, leaving valuable assets under the incidence of the **risk**.

The fundamental role in preventing and combating risks and threats towards national security in all areas of manifestation is held by the state through its defense policies. The main feature of the virtual space - the lack of borders - imposes a more active role, an involvement of all its institutions in the prevention of virtual space threats. The overall objectives of cyber security are to identify and classify the vulnerabilities and risks present in the cybernetic environment, to analyze the evolution and structure of cyber-attacks, to identify good practices on preventing and limiting the effects of these attacks, to research the state preparedness, to counter the risks and challenges present in cyberspace and to analyze the cooperation between the public and private sectors.

Cyber security means different things for different stakeholders, often without a total and common understanding of meaning, implementation and risks (Goodman, 2016).

There are also important cultural impediments, not only between sectors, but also within the same sector or within certain organizations. Traditional approaches to security may be inadequate in cyberspace, but the consensus on alternatives has been elusive.

In the field of intelligence paradigm shifts have emerged - from "need to know" to "need to share" and then "need to share capabilities" - which implies overcoming the formal barriers in the exchange of classified information, the framework of public-private partnerships, in order to effectively improve the communication between the two parties and a unitary and efficient coordination.

Increasing the vulnerability of personal systems to cyber-attacks of any kind is directly proportional to the ability to evaluate the data received by each user. Thus, the more we believe in the screen, the more automatic data will be taken, we will consider them real, without a concrete analysis of them, and without considering piracy of data or sources. Efficiency of an IT system should take into account a set of factors such as the value that needs to be defended, identifying attacks and cyber attackers, or analyzing the attack and finding ways to stop or reduce its effects. A first step in making an answer more efficient takes into account the fact that no system is invincible, that we must change the paradigm of the "non-breaking wall" assuming, the awareness that cyber-infrastructures are already penetrated, that there is no total protection. Attackers are interested in penetrating the informational infrastructure to either detect it for as long as possible in order to access as much filtered information as possible.

The global expansion of cyberspace has led to the development/modification of conflict zones and of modalities of action. Thus, the costs of a cyber-attack have made it possible to attack state-level targets with advanced technological levels, even by traditional criminal groups, but without advanced capabilities, but by using tools that exist on the relevant markets. Goodman said that *"Traditional criminal groups have set up cybercrime divisions to exploit the possibility of huge gains and low risks"*.

This context denounces increased efforts by states to collaborate and coordinate cyber-attacks in partnership with international organizations. It is aware of the need to adopt rules for the use of virtual space, standards for assuming responsibilities in the case of cyber-attacks, and practices in the fight against cyber-bullying committed by non-state actors.

To this end, the United States of America (USA) are an active participant in United Nations (UN) meetings in the field, developing cooperation plans with other states to ensure cyber security (v. Council on Foreign Relations, Cyber Threats and International Cooperation, Workshop Summary Report, Washington DC, 26.02.2015). EU policy places cyber security responsibilities on the prerogatives of member states.

Attributable to this the *EU Strategy on Cyber Security* has been developed, *"representing the EU's global vision on the best ways to prevent and manage cyber-disruptions and attacks"* ("Cyber security issue in international organizations and involvement of Romania as a member thereof", www.mae.ro). This document, even if it does not require a unitary approach at the level of the union, states the collaboration with international partners, the private sector and civil society. A key objective is *"to establish a coherent international policy of the European Union on cybernetic space and to promote the*

fundamental values of the EU" and an implementation measure of "international cooperation on cyberspace".

The states, on behalf of a subsidiarity, can control only 10-15% of the cyber space, the rest being in the private and family sphere, a global partnership approach is needed for the first time with a common mission (Rohrig & Smeaton, 2018), clearly defined objectives and globally accepted, firm action directions and generally valid legal provisions.

According to Marc Goodman, in "Future Crimes", which appeared in 2015 (translated in Romanian in 2016 under the title "X-Cyber: The future begins today"), believes that "we entered the era of computing transformed into a weapon, virtually anyone who has a few dollars to spend can have access to levels of unimaginable cyber power" so far and the action to counter these attacks has to be done voluntarily by every internet user using crowdsourcing strategies ("the action to direct a task to a vast and undefined group of people through a public appeal"), gamming, a "new field of study that allows playful thinking and mechanics in real contexts to motivate and engage players in solving problems concrete" or even improving the public-private partnership.

In 2013, Romania had implemented, the *Cyber Security Strategy of Romania*, whose main directions of action are: *"to conclude international cooperation agreements to improve the response capability of major cyber-attacks; participating in international programs that target cyber security; promoting the national interests of cyber security in the international cooperation formats of which Romania is part of"* (Decision No. 271/2013 for the approval of the Cyber Security Strategy of Romania and the National Action Plan on the Implementation of the National Cyber Security System, Annex no. 1).

Frauds, thefts

According to the Nilsen Report, one of the biggest fears in the online space is fraud. According to this study, in the last 4 years, fraud has developed faster than e-commerce, for every 100 \$ profit, 5.65 cents are stolen. Among the most used methods of fraud, Worldpay has identified identity theft - 71%, phishing - 66%, account theft - 66%, friendly fraud, clean fraud, subsidiary fraud, triangular fraud and trader fraud.

According to CERT.ro, in Romania, in 2015, a number of 2,321,931 IP addresses, representing 26% of the total number of IP addresses valid nationally, were involved in at least one cyber-security alert, and a number of 17,088 .ro domains (6.5% of all .ro active domains) were reported as compromised - up 58% over the previous year.

Manipulation

According to the Sociology Dictionary, *"manipulation represents the action of determining a social actor (person, group, etc.) to think and act in a way that is compatible with the interests of the initiator and not his interests, using techniques such as persuasion that deliberately distorts the truth, leaving the impression of freedom of thought and decision"*. On social networks, manipulation means imposing the interests of some groups by misleading, distorting information, or influencing opinions and behavior of an individual or a group. Manipulation can take many forms: misinformation, intoxication, lies, rumors, persuasion, temporal distortion, attribution, etc.

Manipulation, as a form of deviation from objective information, and plays an active role in influencing the social network user in determining choices, behaviors, action or inaction. In this way, the digital economy becomes a tactical field for professionals in handling. The risk of using the Internet is the presence of disinformation professionals, especially on new media channels, the stake being the large number of consumers of this type of information and their concern for a particular topic (Iancu, 2010). Political manipulation has the greatest impact, by imposing new media as an alternative/competitive form of written media, by eliminating divergences of interest and extending targets.

Terrorism

The most aggressive form that relies on social media networks is terrorism. Terrorist organizations have thus found a way of developing, several main directions: intimidation - by presenting executions or attributing terrorist attacks, in order to create a sense of insecurity - coordination, positioning - by exemplifying the activity that it does - or recruit it. Beyond the social media communication aspects that terrorists use in their work, another extremely violent side of their work is cybernetic terrorism, meaning the use of cybernetic tools for attacks on private or public targets. (Grigorescu, & Chitescu, 2017).

More and more extensive Internet facilities allow the use – without much knowledge- of a "dark net" part of the encrypted Internet, which is not registered by search engines, and which offers a higher degree of anonymity to its users. In this way, tools that help cybercrime develop very quickly and can create state-of-the-art security breaches. Twitter social network closed over a quarter of a million accounts linked to jihadists from the Islamic State, Europol estimates there are no fewer than 90 different platforms and social networks currently used by the State of Islam.

All these negative, harmful, secondary effects of electronic services are not able to determine approaches that restrict the rights and freedoms that cyberspace are offering. There would be a situation in which people interacting in the virtual environment would benefit from different legal protection than those in the real world. Extremely dynamic technology development leads to extremely complicated legal issues (Radziwill, 2015), a natural situation in this context.

The censorship of content handled in the electronic space must take into account the cultural, social, political and economic differences of a user community in a globalized context. Globally accepted legal rules will be established with great difficulty, by identifying and accepting moral norms that each state promotes. In this context, well-defined democracies will better understand the positive valences of the virtual environment, access to vast information resources in all fields - science, education, culture -, and will not lift legal barriers in the cyberspace. Censorship in this environment will be directed to information users/receivers rather than to information issuers.

Cambridge Analytica Case study

An extremely important opportunity offered by virtual space is that it creates a space for debates, opinions of any kind, as well as components of a stable democratic process.

This facilitates the participation of a large number of users in the debates of political ideas and the adoption of certain political decisions on different levels. This type of debate allowed the possibility for low costs in relation to the number of present users, sent messages, the rational arguments presented and the interaction with the other participants in the debate. The reverse of this type of meeting consists in the possibility of manipulating the data of interested organizations for political purposes. Goodman thinks we are now entering "the computer scientist turned into a weapon era".

One of the most recent examples of virtual data security was that of Cambridge Analytica. It has illegally accessed the data of 2.7 million Facebook users in the countries of the European Union. The European Commission said that *"Facebook has confirmed that the data of up to 2.7 million Europeans - or, more specifically, people in the EU - were probably inadequately accessed by Cambridge Analytica"*. Statistically there were 1,079,031 people in the UK, 309,815 people in Germany, over 6,000 Maltese people, 214,134 people in Italy, 211,667 people in France, 136,985 people in Spain and 112,421 people in Romania, 89,373 users in the Netherlands, in Portugal 63,080, 60,957 people in Belgium, 59,480 people in Greece. In Poland, 57,138 people are affected, 55,337 in Sweden, 44,702 in Ireland, and 41,820 in Denmark. In Bulgaria, 35,718 people were accessed, 33,568 users in Austria and 32,067 people in Hungary and 29,376 in the Czech Republic, 21,517 in Croatia, 19,693 in Finland, 15,123 in Lithuania, in Slovakia 14,846, in Slovenia 11,255, in the Republic of Cyprus 7,455, Estonia 5,510, Latvia 4,757 and 2,645 people in Luxembourg.



Figure 4. Country distribution on affected people
(Source: Facebook)

The consultancy firm has thus taken advantage of the vulnerability of data protection in the virtual environment, in this case on a high-impact social networking site, to steal Facebook accounts for use for undeclared purposes, in political interest, with serious repercussions in real life.

In 2014, the company, by interpreting data extracted from social accounts, achieved the political profile of American voters to whom election was influenced by sending personalized political ads. An observer mentioned: *"we have exploited Facebook to get millions of voters' profiles. (...) This was the basis on which the company was built"*. The information was collected through an application called "thisisyourdigitallife" created by Professor Aleksandr Kogan independently of his Cambridge University work, which, through his company, Global Science Research (GSR), in collaboration with Cambridge

Analytica, has contacted hundreds of thousands of Facebook users to complete personality tests under the pretext of using data for academic studies. However, the application also collects the data from the "friends" lists of those who accepted the tests, so the profiles of tens of millions of people have been obtained.

Cambridge Analytica was involved in US President Donald Trump's campaign and the pro-Brexit campaign, that is, Britain's out of the European Union. Named by Steve Bannon as a *"psychological war tool"*, the company exploited Facebook data of tens of millions of American citizens, for electoral purposes, using their Facebook profiles fraudulently to build a powerful software program to anticipate and influence electoral preferences. Facebook Vice President said *"it's a scam. We'll take all the necessary steps to erase the stolen data, we'll initiate legal actions against the authors of the illegal activities"*, Facebook initially did not warn users and took only limited measures to secure data over 50 million people. According to The New York Times, copies of Cambridge Analytica data are still online.

Facebook defended their actions, claiming that *"Most users gave the app access to information such as their public profile, but also the pages they liked, the friends list, and the birthday. It was the same for friends whose settings allowed sharing"* and that it is *"important to remember that bank account details, credit card information, or national identity card numbers have been distributed were not distributed"*, and *"the developer of the application involved in this leakage sold Cambridge Analytica data US users, not users in the EU"*. Facebook will not pay compensation to the 2.7 million European users whose data were improperly transferred to Cambridge Analytica.

Following the scandal, Facebook's CEO, Mark Zuckerberg, apologized for his company's mistakes for using personal data, and assured that he is committed to making changes to that. However, mistrust, suspicion and uncertainty among users did not lead to the creation of an individual culture of information security, meaning the lesson was perhaps only the first step in the informational war.

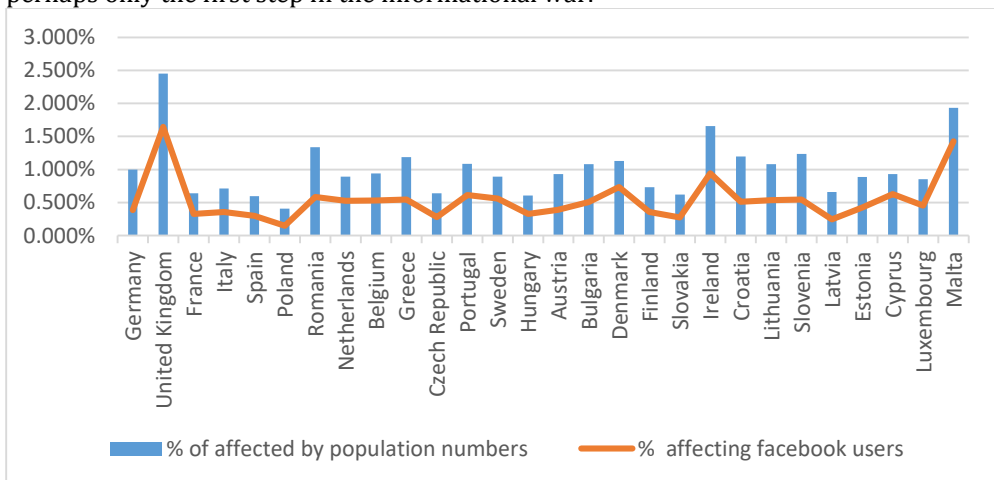


Figure 5. People affected inside the EU regarding the number of Facebook users and population (Source: Facebook)

In figure 5 we highlighted the percentage of users affected directly compared to the total number of persons in the country. We can observe that there is a balance between these

two values in almost all the EU countries. Therefore, there were no countries regarded as direct targets of this data theft, but it was only the clear tendency to obtain data from as many Facebook users as possible. This is more worrisome because we can observe the global dimension of this attack. The possibility of an economic, social, political manipulation or even a security attack would have regarded as a whole and not a particular case. The effects would have been felt at the EU level as well as globally. Not a country or community was the target, but the extended community of Facebook users, which represents more than 2.23 billion people. At a European level, nearly 3 million people have been affected.

Conclusions

The Cambridge Analytica case is one of the events that has affected a huge number of users and which, thanks to the measures taken by the affected states, have become extremely visible. Similar cases, of a greater or lesser magnitude, but which have not been discovered or have not caused a response of such intensity exist and will still exist. Due to political manipulation, this scheme can also be used in the case of economic, social or even terrorist manipulation. We do not have access to data about such schemes, but they certainly exist. These areas are not dispersed, but there is an interconnection and influence between each. Social manipulations are reflected in the economy, the economics of society, the reactions of society and implicitly, the safety of citizens, as terrorist manipulation manipulates the trust of the population and strongly influences the economic and political area: certain unsustainable social needs to potentiate the importance of terrorist attacks to the extent of society's dissatisfaction. These can have a great impact, with local, national or global influences: for example, a terrorist action dressing the globe's environmental action can become an extremely easy and profitable source of finance.

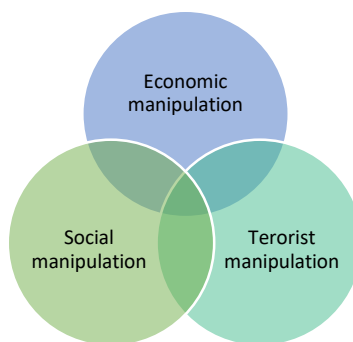


Figure 6. Manipulation forms, shift and interferences
(Source: Authors conception)

This case highlights a very real and very worrisome issue: the reaction to this scheme was felt only at the level of the authorities, and Facebook users did not have a prompt reaction to amend these practices. Understanding the power of such manipulation, the mechanisms and the possible consequences, but also the connection between some simple data and the power given by these databases and their use for unfair purposes or the link between the simple postings of a user and very important elements of economic, social, political or safety evolution from the individual to the interstate level cannot be perceived.

Each of us, as Internet users, can help create a safer virtual space by implementing additional measures against cyber-attacks. Max Goodberg believes it is an urgent "*technical literacy of the general public*" by running programs to promote full encryption of internet traffic and to educate society on the safe use of the Internet, but they would not be possible without unified legislation regarding cybernetics crime. He considers that the issues that should be taken into account in the legal provisions should be protection against the sale of personal information on the Internet and the publication of the vulnerabilities of a system.

An expanded ability to respond to computer aggressions and implicitly, to secure virtual environments should take into account a constant education of all users. They should be aware of the dangers they are personally exposed to or the way they are vulnerable to a community, even a state, through cyber-security actions or inactions is at risk. Together with users, developers of software and technological equipment should find the way to have early security alerts, to develop permanently and in a sustained manner the tools to fight against computer aggression attempts in collaboration and cooperation with state institutions and with respect for citizens' rights and freedoms in the virtual and real world environment. We believe it is necessary to create a warning function implemented by online application developers and create a warning registry where users can individually report possible fraud attempts, cyber security incidents, or even non-compliant practices. The law will need to be amended to ensure that there is a global level of non-conforming concepts of how to report these incidents, but also the authorities' response to collaborators with the developers of the risk-creating applications.

The main directions of action should be to modify and adapt the legislation, to the unitary control, supervision and action procedures, supported by a permanent and sustained education of all involved - users, application developer and authorities, the answer to a cyber-attack can only be effective with an active and professional collaboration of the three categories.

The analysis of this phenomenon cannot be contextual in order to be relevant and sufficient, but must have the dynamics of the technological and conceptual evolutions of the users, in a geopolitical and economic context, with a constant and sustained effort of cyber intelligence officers and analysts who have the duty to observe the "*elements of finesse*" of daily changes on the geo-economic-political scene, thus ensuring the "*anchoring to the present*" of the cyber-attack investigation.

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THEORETICAL CONSIDERATIONS REGARDING THE USE OF „MACHINE LEARNING”. CONCEPTS AND PARADIGMS FOR ADVANCED TECHNOLOGY ORGANIZATIONS

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Abstract. *The highly complex phenomenology approached by modern business models makes them difficult to understand, model and solve, without interdisciplinary tools, taken from the adjacent scientific field of competence, such as „Artificial Intelligence”. The elaboration of mathematical models for the study, understanding and solving of the theoretical issues of operational-strategic applied business models is the most important paradigm of the scientific thinking that makes the transition to the economic performance generated based on the rational decisions with an optimal degree of efficiency developed by the top organizational management. Artificial Intelligence is the scientific branch that provides an infinite horizon for building algorithms, procedures and mathematical models of computing, with wide applicability in business and economic issues.*

Keywords: *Artificial Intelligence; Machine Learning; Data Mining; Support Vector Machine.*

Introduction

The choice of this study is the "Machine Learning" area applied to the operational-strategic business models, with the notions, concepts and paradigms specific to the field. This entity of Artificial Intelligence knows the greatest development in computer sciences applicable to a variety of challenges coming from the economic macroenvironment. Along with "Machine Learning", the study of economic processes specific to advanced technology organizations has seen a growing development with the help of disciplines underlying Artificial Intelligence, such as „Data Mining”. This has stimulated the development of related fields such as "Pattern Recognition" (recognition of forms, patterns) and "Mathematical Statistics", modern, flexible, easily transposable, software-deployable tools used to develop successful business models involved in the processes of generating superior organizational added value.

The fundamental „target” of DATA MINING, inductive inference, „forecasting” based on operational examples is approachable through a multitude of different paradigms and techniques. Some of these raise major operational difficulties within the implementation processes, others are systemic processes structured on the classical cybernetic "black box" concept. A punctual but generic, powerful and with a high-efficiency level case is that of the "Support Vector Machine" (S.V.M.) which has proven to be relatively simple to implement within the advanced economic technology organizations applications.

The results of the activity of the economic organizations who have chosen this approach being achievements from good to excellent, compared to other approaches of the same type. The concept is introduced by Cortes & Vapnik, 1995, Boser, Guyon and Vapnik

1992. Support Vector Machine is a well-argued mathematically and complexly classification technology, applications to advanced economic technology organizations are favored by numerical data to be processed, interpreted and analyzed from the organizational economic performance perspective.

The technique underlying this type of approach is to identify a separating line, called the "maximum margin hyperplane", this leads to a process of separation between current data. The process does not always have a high degree of relevance, the fundamental use in artificial intelligence processes subsequently translated for economics models, actively and directly participate in the transformation of data into a different space where the dividing line is rigorously defined.

Designed for operationality in classification issues that occur in high technology process management, characterized by a high degree of complexity, subsequently paradigms of approach are extrapolated to regression tasks, the classification process is based on identifying the location to the division line where the new data is recorded.

Support Vector Machines are, for example, usable in data with a high degree of complexity, recognition of internal economic organization documents, facial recognition for the Human Resources Department, image classification. Precision level in such applications exceeding that of classical neural networks used in processes modeled with the help of Artificial Intelligence. S.V.M. presents economically measurable technological performances at the level of complexity of choosing features, algorithms for the extraction of specific features are identified in their system structure, a technology for identifying the proportion of white pixels in each internal document of an advanced economic technology organization is developed.

Among the advantages of the operational applications of S.V.M. within the used business models, it is necessary to specify the higher speed of classification of the new data, therefore the approach is operational with performant results even for a mix of data categories, the size of S.V.M. is from robust to very high. Comparing Support Vector Machines with Bayesian classifiers and decision trees, S.V.M. raises the issue of implementation complexity. It is possible that the classification process conducted with a S.V.M to contain a relevant degree of performance, but simultaneously it has a transparent degree of data for the low human decident factor. The amount of information provided to the economic organization in these cases is large enough in order for the approach to be operational-functional. Other types of approaches used in the specialized scientific literature are graphs and decision trees, competitors of the Support Vector Machines that provide much more efficient results in operational cases with low data volume.

Another vulnerability identified in the present study to address the issue of advanced technology organizations with S.V.M. is the lack of on-line access, the update process is re-initialized each time new training data appears. However, addressing processes specific to business models requires a high degree of understanding of algorithms and mathematical methods from top management decision makers. By identifying the business processes specific to the technological economic organizations as having the availability implementation and transposition into operation of some learning predictors in large spaces generated by the economic macroenvironment. We consider that it is necessary the position within the support vector machine paradigm (S.V.M.)

(see several studies such as Shalev-Shwartz, 2007; Shalev-Shwartz, Shamir & Sridharan, 2010; Shalev-Shwartz & Ben-David, 2017).

In the "Machine Learning" approach to business models, support vector machines, S.V.M., are supervised learning models with associated learning algorithms, thus analyzing the data used in the analysis and classification processes of the involved economic entities. An S.V.M. trainer algorithm type is built based on a model that assigns new operational case studies to a particular type of technology economic organization, transforming it into a non-probabilistic linear classifier. S.V.M. model types are a formalism as marks (points) in space (the external business environment), the examples of the categories are separated through as large as mathematically possible spread.

Image, Identification	THE EFFECTIVENESS OF APPLYING THE SUPPORT VECTOR MACHINE	Analyzing Economic Processes Making Them More Efficient
Classic Text Hyper Text Categorization		Digital Signature Recognition
Image Hierarchy		Systemic Generalized System Prognosis
Computerized Operational Processes		Macro Business Environment

Extrapolating the linear classification phenomenon, S.V.M., is the non-linear classifier of phenomenology of business processes specific to the technological economic organizations, the use of algorithms and kernel procedures mapping the inputs into large, possibly infinite spaces.

In the operational practice of the technological economic organizations there is the possibility that the data is not labeled, the supervised learning process becomes very difficult to implement, the correct approach for these cases is unsupervised learning, the used cognitive technology searches for the natural grouping of the data to the groups, the new economic data used are grouped into the already formed entities.

For this type of algorithm, we have to mention the Siegelmann and Vapnik support vector grouping algorithm, it applies the support vector statistics in the support vector machine algorithm for the classification of the non-labelable data used by the technological economic organization, the algorithm is one of grouping with the widest spread within the organizations economic actors in the IT environment and the modern industrial one.

The dimensionality of the characteristic (proper) business processes space is determined both by the complexity of the economic entities used (data, samples), but also by the complexity challenges of specific computational processes, specific to the S.V.M. algorithm. is to address the complexity of economic evidence by identifying as large as possible margin separators.

The macroeconomic space in which the technological business phenomenon is operational is identifiable by about half of the surface as a possible set of training.

Learning and testing with a larger dimensional margin, the concrete cases of used technological business models being positioned not only on the right side of the hyperplane, but on the other one too, we observe that in a marginalization process, limiting the algorithm generating a large margin separator.

It is possible to develop a representative sample of relatively small complexity, spatial characteristic being large, with the possibility of development to infinity. In the operational applications of business models used by technology economic organizations, even in the case of function space with increased dimensionality. The complexity is diminishable by limiting, restricting the outputs generating algorithm for larger margin dividers. Thus, we introduce the concept of margin, which it is reported to the regularized paradigm that aims to minimize the losses, but also to the convergence rate of the Perceptron algorithm for such economic processes. Challenges coming from specialized markets, components of a macroeconomic structure that is undergoing globalization and a growing dynamic development, demand a computing power and data storage within the economic business technology organizations.

The fundamental idea pursued by top decision makers in close collaboration with the managers of research development departments, is that of transforming algorithms and data use technologies into a direct economic advantage, quantified in higher rates of earned profits.

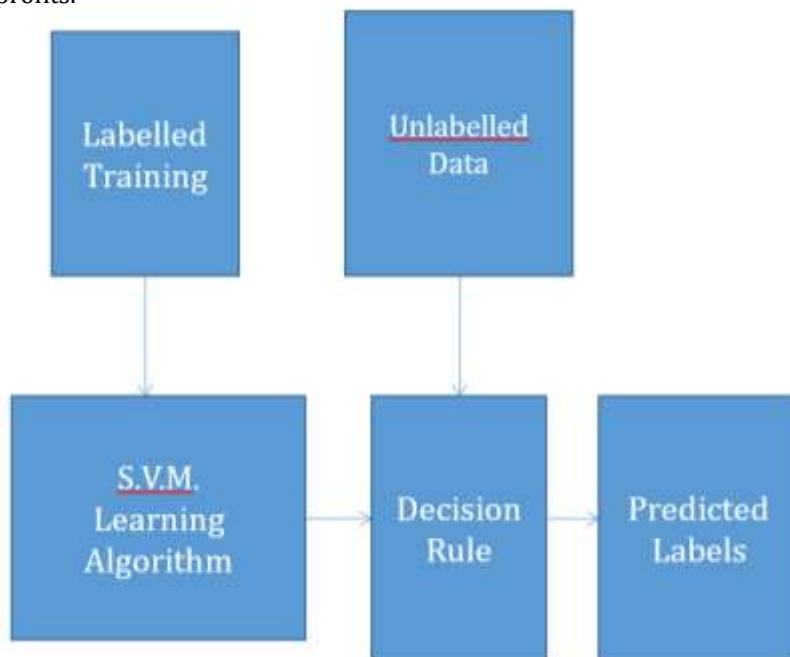


Figure 1. Transforming algorithms, use technologies into economic advantage

The formally chosen operational developed model has the following structure:

Domain Multitude: Let an arbitrary set, X , this is a collection of objects that are desired for a labeling process, the range of points is represented by an image vector, otherwise it is represented by value points, and X is a space of these values.

Label set: Labels set is restricted to two numeric values, $\{\pm 1\}$, and Y is the set of possible labels.

The learning data: $S = ((x_1, y_1), \dots, (x_m, y_m))$ is a finite sequence of pairs of $X \times Y$, a sequence of the labeled point range, is the input level at which the person that learns, inures, has access.

Learning outcomes: In the end of the learning process, a "predictive rule" must be issued, $h: X \rightarrow Y$, also known as a "predictor" or "hypothesis," this is used for predicting point labels in the new defined domain.

Simplified Data Generation Model: The values generated with a certain distribution probability are acquired (assumed), representing the business macroenvironment. We introduce the probability distribution on the X set of D , within the learning process everything is known about the distribution, we consider that there is a correct labeling function $f: X \rightarrow Y$, with the property $y_i = f(x_i), \forall i$, each pair used in the learning process from the data set S is generated through a sampling process started in x_i in accordance with D labeled with the help of f .

Quantification of success: We introduce the notion of "classification error" as the probability of not correctly predicting the label for points representing random data generated by the aforementioned underlying distribution.

Having a subset of domain, A included in X , the condition is that A belongs to a σ -subalgebra of X on the D -domain of definition, with the probability of distribution, assigning a numerical value $D(A)$, representing the probability of observing a point $x \in A$. A is perceived as an event and expressed using a function $\pi: X \rightarrow \{0, 1\}$, with $A = \{x \in X: \pi(x) = 1\}$, using the notation $P_{X \sim D}[\pi(x)]$ to express $D(A)$.

The predictive rule of error, $h: X \rightarrow Y$, is thus defined by the formalism

$$L_{D,f}(h) = P_{x \sim D}[h(x) \neq f(x)] = D(\{x: h(x) \neq f(x)\}).$$

This type of formalism is also identifiable with the notion of "generalized error", the risk or "true error of h ".

Information valid for the learning process: Within the learning process, there is a null perceptive about the distribution of D throughout its entire course and with the labeling function f . We identify the only way through which the "learner" can interact with the environment is to observe the multitude of forming, learning, training.

The Hard - S.V.M. concept, its application in business models

We consider that at the level of the operational activity of the technological economic organization, $S = (x_1, y_1), \dots, (x_m, y_m)$ is a set of concrete cases in the business environment, for each $x_i \in R^d$ and $y_i \in \{\pm 1\}$.

We note that this multitude of concrete cases of training, learning are linearly separable under the condition that there is half the space, (w, b) such that $y_i = \text{sign}((w, x_i) + b)$, for any i the condition can be presented otherwise $\forall i \in [m], y_i((w, x_i) + b) > 0$.

The totality of the space halves (w, b) satisfying these conditions are submissive to E.R.M. hypotheses, if "0 - 1", the error is zero, this represents the minimum possible error. The concept of „Hard - S.V.M.“ is the learning rule in which a hyperplan of E.R.M. which separates the learning set of the operationalized business process with the greatest possible margin, for a structuring and defining process it is necessary to express

the distance between an arbitrary x point of the hyperplan using the semispace definition parameters.

Thus, a distance between a point x and the hyperplane defined by (w, b) where $\|w\|$ is $|(w, x) + b|$.

HARD - S.V.M. Rule is formulated as a square optimization problem. We identify the objective as the elaboration of an optimization process, the objective is a square convex function subject to constraints in the form of linear inequalities. We propose below an operational software structure for the conceptual HARD - S.V.M., previously presented.

$$\begin{aligned}
 & \text{HARD - SVM} \\
 & \text{input: } (x_1, y_1), \dots, (x_m, y_m) \\
 & \text{calculated: } (w_0, b_0) = \underset{(w, b)}{\operatorname{argmin}} \|w\|^2, \text{ s. t. } \forall i, y_i((w, x_i) + b) \geq 1 \\
 & (1) \\
 & \text{output: } w^\wedge = \frac{w_0}{\|w_0\|}, b^\wedge = \frac{b_0}{\|w_0\|}
 \end{aligned}$$

(Shai Shalev-Shwartz and Shai Ben-David, Understanding MACHINE LERARNING)

It is shown that the output of HARD - S.V.M. is the separated hyperplan with the largest margin, we notice that the outputs of HARD - S.V.M. are solutions of the equation: $\underset{(w, b): \|w\|=1}{\operatorname{argmax}} \min_{i \in [m]} y_i((w, x_i) + b)$, which under the constraints $\forall i, y_i((w, x_i) + b) > 0$, represents the HARD - SVM Rule.

It should be remembered for the accuracy of the discussion the homogeneous case and the complexity of the pattern, sample, HARD - S.V.M.

In the case of homogeneity, the choice made reflects more flexibility in the case of homogeneous halves, the spatial halves that contain the origin, by definition the term with $\operatorname{sign}((w, x))$, the term "bias" b is set to (chosen) with a "0" value, and the HARD - S.V.M. structure for half of homogeneous spaces satisfies the relationship:

$$\min_w \|w\|^2, \text{ s. c. } y_i(w, x_i) \geq 1 \quad (2)$$

In the case of regularizing the bias term, the resulting equation is a possible optimization of the economic processes specific to the studied advanced technology organization. If the bias term is not regularized, the optimization problem, (1) is not solved even if half of homogeneous learning space, R^{d+1} , is used, in the case of the complexity of the sample HARD - S.V.M., it should be recalled that the V.C. - dimensionality within the space half belonging to R^d is $(d + 1)$.

We observe that the fundamental learning theorem specifies if there is a significant number of examples smaller than $\frac{d}{\epsilon}$, in this case there is no ϵ accuracy learning algorithm in the half of the allocated space, we introduce the following definition:

Let D be a distribution process placed on $R^d \times \{\pm 1\}$, we assert that D admits a margin separation process (γ, ρ) if there exists (w^*, b^*) , astfel incat $\|w^*\| = 1$, such that with probability 1, along the choice $(x, y) \sim D$, there is the relationship:
 $y((w^*, x) + b^*) \geq \gamma$ si $\|x\| \leq \rho$.

Analogously, we assert that D is separable by the margin (γ, ρ) using half the homogeneous space having the form $(w^*, 0)$.

Observation: Considering D the distribution for $R^d \times \{\pm 1\}$ which is satisfying the separability condition (γ, ρ) with the marginal hypothesis using half of the homogeneous space. With a lower probability of $(1 - \delta)$ for choosing the learning set, training, with size m , the output quantifiable error for HARD - S.V.M. is at most,

$$\sqrt{\frac{4(\rho/\gamma)^2}{m}} + \sqrt{\frac{2 \log(\frac{2}{\delta})}{m}}.$$

We observe that for HARD - S.V.M. expression we assume that the set of learning-training is linearly separable. We present below a simplification of the HARD - S.V.M. exigencies that are applicable also in cases where the learning-training set is not linearly separable, thus, it is possible an exhaustive coverage of the totality of cases. Both cases, linearly separable or non-linearly separable, are identifiable within the operationalities and strategic developments specific to advanced economic technology organizations.

$$\begin{aligned} & \text{SOFT - SVM} \\ & \text{input } (x_1, y_1), \dots, (x_m, y_m) \\ & \text{parameter } \lambda > 0 \\ & \text{solution: } \min_{w, b, \xi} \lambda \|w\|^2 + \frac{1}{m} \sum_{i=1}^m \xi_i \\ & \text{s. c. } \forall i, y_i((w, x_i) + b \geq 1 - \xi_i, \xi_i \geq 0 \\ & \text{output: } w, b \end{aligned} \quad (3)$$

(Shalev-Shwartz & Ben-David, 2011, p.171)

Taking into account the regularized problem of minimizing losses, we assert that (3) is equivalent to the mathematical formalism:

$$\min_{w, b} (\lambda \|w\|^2 + L_s^{\text{hinge (pivoting)}}(w, b)) \quad (4)$$

Where $L_s^{\text{hinge (pivotant)}}((w, b), (x, y)) = \max\{0, 1 - y((w, x) + b)\}$, represents by definition the losses generated by "hinge (pivoting)".

It is more convenient to consider SOFT - S.V.M. specific to the learning processes for half space, where the bias term b is set to zero, the optimization problem is formulated as follows:

$$\min_w (\lambda \|w\|^2 + L_s^{\text{hinge (pivot)}}(w)) \quad (5)$$

where:

$$L_s^{\text{hinge (pivot)}}(w) = \frac{1}{m} \sum_{i=1}^m \max\{0, 1 - y(w, x_i)\}$$

Support vectors, obtaining conditions of optimality

The name of S.V.M., "Support Vector Machine", is induced by the HARD - S.V.M. solution, w_0 has sustainability generated by operational cases located at a distance of $\frac{1}{\|w_0\|}$ from the separation hyperplan, the vectors generated are referred to as "Support Vectors". Economic applications specific to advanced technology economic organizations are structured on Fritz John's optimality conditions. The conditions are presented below.

Sentence: We consider w_0 defined as in relation (2), let $I = \{i: |w_0, x_i| = 1\}$, there are coefficients $\alpha_1, \dots, \alpha_m$, such that that $w_0 = \sum_{i \in I} \alpha_i x_i$, Support vectors are identifiable in structures $\{x_i: i \in I\}$.

Fritz John's Observation: Suppose $w^* \in \operatorname{argmin}_w f(w)$, s. c. $\forall i \in [m], g_i(w) \leq 0$, where $f, g_1, \dots, g_m$ are differentiable, then there exists $\alpha \in R^m$, such that $\nabla f(w^*) + \sum_{i \in I} \alpha_i \nabla g_i(w^*) = 0$, where $I = \{i: g_i(w^*) = 0\}$.

The Stochastic Gradient Descendent (S.G.D.) for minimizing the risk function

We define the operational-functional risk function that occurs during learning processes specific to economic processes, as being expressed by mathematical formalism:

$$L_D(w) = E_{z \sim D}[l(w, z)],$$

We observe that the empirical risk minimization method, $L_s(w)$ as an estimate of the minimization $L_D(w)$. We propose the following operational software structure:

The Stochastic Gradient Descendent, S.G.D., for minimizing $L_D(w)$

parameters: scalar $\eta > 0$, integ $T > 0$

initialization: $w^{(1)} = 0$

for $t = 1, 2, \dots, T$

(sample) $z \sim D$

(pick) $v_t \in \delta l(w^t, z)$

(update) $w^{(t+1)} = w^t - \eta v_t$

output $w^- = \frac{1}{T} \sum_{t=1}^T w^t$

(Shalev-Shwartz & Ben-David, 2011, p.177)

Implementation of SOFT - S.V.M. using the S.G.D.

In the operational practice of the technological economic organizations solving the optimization problem for SOFT-S.V.M becomes a central problem., this admits a representation in the form of the mathematical expression:

$$\min_w \left(\frac{\lambda}{2} \|w\|^2 + \frac{1}{m} \sum_{i=1}^m \max\{0, 1 - y(w, x_i)\} \right) \quad (6)$$

We propose for the regularized problems of minimizing losses a S.G.D. frame implemented software as below.

For loss of "hinge" applications we choose v_j as being 0 if $y(w^{(j)}, x) \geq 1$ and $v_j = -y x$ otherwise, noting $\theta^{(t)} = \sum_{j < t} v_j$.

S.G.D. for solving SOFT - SVM

goal: resolving the optimization equation SOFT - SVM

parameter: T

initialize: $\theta^{(1)} = 0$

for $t = 1, \dots, T$

let $w^t = \frac{1}{\lambda t} \theta^{(t)}$

we choose i randomly uniformly from $[m]$

if $(y_i(w^{(t)}, x_i) < 1$

set $\theta^{(t+1)} = \theta^{(t)} + y_i x_i$

else

set $\theta^{(t+1)} = \theta^{(t)}$

$$\text{output: } w^- = \frac{1}{T} \sum_{t=1}^T w^{(t)}$$

Approach with "Kernel Methods (cores)"

In computer-specific learning processes, "Kernel methods" are a set of algorithms for model analysis, we identify the S.V.M support vector machine. The model has the fundamental objective to identify and analyze the general typology of relationships, clusters, hierarchies, correlations, transformation into series of data. The algorithms of this type are explicitly transformed into vector representations that provide a presentation of the user-specific features. In the case of Kernel's Methods, it is required only one user-specified kernel, a similarity function on pairs of rough representation points. Under Kernel Methods, operation is allowed in a characteristic dimensional implied space, without developing a process of calculating data coordinates in that space. The operation is thus in terms of financially acceptable allocation, costs are greatly reduced, in scientific literature this approach is called the "kernel trick", kernel functions are introduced for sequential data, graphics, text, images, vectors.

Among the algorithms used in analyzing and solving business issues specific to advanced technology economic organizations, we recall S.V.M., GAUSS processes, the processes of the Principal Component Analysis (P.C.A.), the canonical correlation analysis, ridge regression, spectral grouping, linear adaptive filters. The totality of linear patterns is transformable into nonlinear models by applying the concepts and paradigms specific to the "kernel trick", replacing its features, predictors, with the kernel function.

We observe that the totality of kernel algorithms is based on convex optimization, statically well argued, their static properties are studied through static learning theory, a way of approach is the RADEMACHER complexity. The fundamentals of this type of approach are structured on the idea of incorporating data into a high dimensional characteristic space. A core („kernel") is a measuring type of the similarity between sequences, they are perceived as HILBERT's inner space products, the instant space is virtually incorporated.

We consider the field of data used by the advanced technology economic organization as being the real number axis, limited to a certain set of numeric values, $\{-10, \dots, 0, \dots, 10\}$, the labels for the total $|x| > 2$ are +1 and -1 otherwise. A learning process for half space, in its initial representation, is replaceable by using a function $\psi: R \rightarrow R^2$, having the formalism, $\psi(x) = (x, x^2)$.

We call the characteristic space of the function set ψ , half of the space is characterized by the relationality, $h(x) = \text{sign}((w, \psi(x)) - b)$, where the corresponding numerical values are $w = (0, 1), b = 5$.

The approach model used, so the thinking paradigm within the "Kernel Methods" is developed on the following hubs:

- considering a lot of X domains, a learning task (objective), choosing mapping, $\psi: X \rightarrow F$, for a characteristic space F , operational from R^n , for certain n values.
- we consider a lot of labels, $S = (x_1, y_1), \dots, (x_m, y_m)$, the images sequence is generated, $S^\wedge = (\psi(x_1), y_1), \dots, (\psi(x_m), y_m)$
- is prepared, trained a linear type predictor, h during $S^\wedge$.
- the label of a test point, x , is predicted to be expressed by $h(\psi(x))$.

Several studies address these aspects (Shalev-Shwartz, Shamir & Sridharan, 2010; Japkowicz & Shah, 2011).

The Kernel innovative approach

Specifically, to the economic activities, incorporating entry space into a large size space, make the learning process in half the space more efficient. The complexity of computational processes, a feature of advanced technology organizations, for learning activities represents a linearly efficient computerized data separator, usable for large volumes of information-data to process, induced processes requiring significant financial allocations.

The concept of „kernels” („cores”) is used for a proper description of the interior products in the characteristic space, having a functional relationship ψ and an area of space X positioned in a HILBERT space is defined as the „kernel” („core”) in the form of the relationality $K(x, x') = (\psi(x), \psi(x'))$, we observe K an argument expressing the similarity between sequences and the incorporation mode ψ as a mapping of the set domain X , positioned in a space where the two similarities are inner products (Shalev-Shwartz, Shamir & Sridharan, 2010). Many algorithms specific to learning half-space processes are made based on the value of the kernel-expressing function, the structuring is done on pairs of points in the field, we identify a main advantage of this type of algorithmic approach, the implementation of linear separators in large dimensionalities spaces, without specifying the points located in that space or the expression ψ incorporated into that space.

We note that the totality versions of the S.V.M. are specific situations of the general form:

$$\min_w \left(f((w, \psi(x_1)), \dots, (w, \psi(x_m))) + R(|w|) \right) \quad (7)$$

in which $f: R^n \rightarrow R$ is an arbitrary function and $R: R_+ \rightarrow R$ is a non-decreasing monotonous function.

In the operational economic applications, it is necessary to substantiate the decisions with the help of a sentences of fundamental truth, "Theorem of Representation".

The Representation Theorem: Assuming that ψ is a („mapping”) a lui X in a HILBERT space, then there exists a vector $\alpha \in R^m$, such that $w = \sum_{i=1}^m \alpha_i \psi(x_i)$, which represents an optimal solution for the equation (7).

Specifying the previous presentation of SOFT - S.V.M., as in equation (5), the problem is reformulated as:

$$\min_{\alpha \in R^m} (\lambda \alpha^T G \alpha + \frac{1}{m} \sum_{i=1}^m \max\{0, 1 - y_i(G\alpha)_i\}) \quad (8)$$

where $(G\alpha)_i$ is the i^{st} element of the vector obtained by multiplying the GRAM matrix, G with the α vector, we notice that equation (8) is in the form of a square program, so an efficient solution exists.

The coefficients α are calculated for forecast, prognose for a new sequence, as follows:

$$(w, \psi(x)) = \sum_{j=1}^m \alpha_j (\psi(x_j), \psi(x)) = \sum_{j=1}^m \alpha_j K(x_j, x)$$

In the case of the concrete operational situations of the advanced technology organizations, addressing the problems arising from the business environment with the help of the "kernel method" rather than inducing a directly process of optimization w in the characteristic space is supported by the fact that in certain concrete cases, the size of the characteristic space is extremely high on the time axis, the implementation of the "kernel method" is simple and extremely flexible.

The kernel perception as a way of expressing previous knowledge

A mapping of the ψ characteristics is perceived as an extrapolation of the linear class to a larger one, corresponding to the linear classifiers out of the characteristic spaces. We observe that the adequacy of any set of assumptions, hypotheses about the task of learning objectively depends entirely on the nature of this type of task. We develop a paradigm of thinking in which the incorporation of ψ is perceived as a way of expressing and using the knowledge available to the top organizational decision-maker regarding the challenge to be solved. There is a possibility that the learning task can be used to identify a sequence of characters, „signature“, in a data file that made available to the top organizational decision maker, indicating a virus that alters the quality of the information or not.

Formally, we consider X a set of strings finite on a set of alphabet Σ , and let X_i the set of all strings with a maximum length d , the set of assumptions, working hypotheses wanted to be learned is $H = \{h_v: v \in X_d\}$, where for a string $x \in X$, $h_v(x)$ is 1 if v is a substring of x si $h_v(x) = -1$, otherwise. We consider a mapping function ψ on the space R^s , where $s = |X_d|$, the coordinates of $\psi(x)$ on the space R^s , where $s = |X_d|$, the coordinates of $\psi(x)$ correspond to a few strings v , they indicate if v is a substring of x , this means for any $x \in X$, $\psi(x)$ is vector in $\{0, 1\}^{|X_d|}$.

Each member of the set H is achievable by composing some classifiers on $\psi(x)$, more than one half of the space, with the norm 1 and reaching the margin of 1.

For each $x \in X$, $\|\psi(x)\| = O(\sqrt{d})$, the learning process is developed using S.V.M., a pattern sample of complexity showing that it is polynomial in d .

At the level of the applications specific to the advanced technology economic organizations, we find that the dimension of the characteristic space is exponential for d , the implementation by S.V.M. becoming a difficult process. We observe, however, that there is a computing feature of the inner product within the characteristic space, the kernel function, without an explicit cartographic presentation of the characteristic spatial sequences. We observe $K(x, x')$ as the number under the strings of x and x' easy to calculate for a corresponding time allocation for the polynomial d . It is thus demonstrated the mapping mode of the features, thus allowing spaces allocated for non-vectorial domains.

Kernel functions characteristics

The kernel matrix is a way of expressing the previously acquired knowledge. We consider a similar function given by the form $K: X \times X \rightarrow R$, the problem that arises is the possibility of representing an inner product between $\psi(x)$ si $\psi(x')$.

Observation: A symmetric function $K: X \times X \rightarrow R$ implements an inner product in certain HILBERT spaces if and only if it is positive semi-definite, called for the totality $x_1, \dots, x_m$, GRAM matrix, $G_{i,j} = K(x_i, x_j)$ is a positive semi-definite matrix.

Discussion: It is obvious that if at K level an inner product is implemented in a HILBERT space, it results that the GRAM matrix is positively semi-defined.

Extrapolating the discussion for the totality of possible operational situations, defining spatial functions over X as $R^X = \{f: X \rightarrow R\}$, for each $x \in X$, let $\psi(x)$ is the function $x \rightarrow K(\cdot, x)$.

We define a vector space taking the totality of linear combinations of $K(\cdot, x)$ elements, an inner product of this vector space admits a representation of the form;

$$\left(\sum_i \alpha_i K(\cdot, x_i), \sum_j \beta_j K(\cdot, x'_j) \right) = \sum_{i,j} \alpha_i \beta_j K(x_i, x'_j)$$

We affirm that this is a valid inner product as long as it is symmetric, property correlated with the symmetry of K , the product presented is linear and positively defined.

Result:

$$(\psi(x), \psi(x')) = (K(\cdot, x), K(\cdot, x')) = K(x, x')$$

Implementation of SOFT – S.V.M. with kernel, proposed model

Previously presented was the challenge of SOFT - S.V.M., the approach with the help of the "Kernel Method" is the subject of the scientific analysis developed further.

Equation (8) admits an algorithmic solution, but a simpler way to solve it is to address the problem of SOFT – S.V.M. optimization in spatial or characteristic,

$$\min_w \left(\frac{\lambda}{2} \|w\|^2 + \frac{1}{m} \sum_{i=1}^m \max\{0, 1 - y(w, \psi(x_i))\} \right),$$

(9)

using kernel ratings.

We note that vector $w^{(t)}$ introduced by S.G.D. procedure (Stochastic Gradients Descent) previously introduced is always in the linear span of $\{\psi(x_1), \dots, \psi(x_m)\}$, maintaining of $w^{(t)}$ is equivalent to maintaining the correspondence of coefficients α .

We define $K(x, x') = (\psi(x), \psi(x'))$, $\forall x, x'$, maintaining two vectors of R^m , corresponding to two vectors, $\theta^{(t)}$ and $w^{(t)}$ defined in the S.G.D. procedure $\beta^{(t)}$ is a vector such that

$$\theta^{(t)} = \sum_{j=1}^m \beta_j^{(t)} \psi(x_j) \quad (10)$$

si $\alpha^{(t)}$ is such that

$$w^{(t)} = \sum_{j=1}^m \alpha_j^{(t)} \psi(x_j) \quad (11)$$

The two vectors α, β are subject to an update process according to the proposed later procedure.

S. G. D. used to solve SOFT – S. V. M. with Kernel

$$\text{Purpose: solution } \min_w \left(\frac{\lambda}{2} \|w\|^2 + \frac{1}{m} \sum_{i=1}^m \max\{0, 1 - y(w, \psi(x_i))\} \right)$$

parameter : T

initilialization: $\beta^{(1)} = 0$

for $t = 1, \dots, T$

let $\alpha^{(t)} = \frac{1}{\lambda t} \beta^{(t)}$

let i uniformly randomly from $[m]$
 for all $j \neq i$, we choose $\beta_j^{(t+1)} = \beta_j^{(t)}$
 if $(y_i \sum_{j=1}^m \alpha_j^{(t)} K(x_j, x_i) < 1)$
 we choose $\beta_i^{(t+1)} = \beta_i^{(t)} + y_i$
 otherwise
 we choose $\beta_i^{(t+1)} = \beta_i^{(t)}$
 (Output): $w^- = \sum_{j=1}^m \alpha_j^- \psi(x_j)$, $\alpha^- = \frac{1}{T} \sum_{t=1}^T \alpha^{(t)}$

See several studies (Shalev-Shwartz, Shamir & Sridharan, 2010; Shalev-Shwartz & Ben-David, 2017).

It is demonstrable that the previous implementation is equivalent to the launching in execution of the S.G.D. for the characteristic space.

Considering w^- - the outputs of the S.G.D. described above, when applied on a spatial characteristic, let $w^- = \sum_{j=1}^m \alpha_j^- \psi(x_j)$ outputs after applying S.G.D. with kernels, then $w^- = w^\wedge$.

It is obvious that for $\forall t$, the result of running S.G.D. program, $\theta^{(t)}$ is held by equation (10) within the characteristic space.

By definition $\alpha^{(t)} = \frac{1}{\lambda t} \beta^{(t)}$, $w^{(t)} = \frac{1}{\lambda t} \theta^{(t)}$, the statement shows that $w^{(t)}$ is held by equation (11).

For $t = 1$ the statement is obvious, if $i \geq 1$, then:

$$y_i (w^{(t)}, \psi(x_i)) = y_i (\sum_j \alpha_j^{(t)} \psi(x_j), \psi(x_i)) = y_i (\sum_j \alpha_j^{(t)} K(x_j, x_i).$$

The condition of the two algorithms is equivalent to the updating of θ , it follows:

$$\theta^{(t+1)} = \theta^{(t)} + y_i \psi(x_i) = \sum_{j=1}^m \beta_j^{(t)} \psi(x_j) + y_i \psi(x_i) = \sum_{j=1}^m \beta_j^{(t+1)} \psi(x_j),$$

Which leads to the asserted conclusions.

Conclusions

The modern business environment contains economic organizations that operationalize and develop top technologies and even frontiers, the totality of which are faced with a strong need to increase computing power and storing used business data. From the perspective of the business models developed and implemented, it means that the vast majority of the economic organizations currently have very large size archives of data and information products, the human decident is most often overwhelmed by them. The challenge addressed to the top organizational decision-maker is to transform the huge volume of corporate data into an economically competitive advantage.

By translating the solving of some of the problems from the engineering sciences in the economic field, common applications are developed, from the anticipation of the products with a high degree of purchasing possibility by a client, the answers elaborated on the basis of questionnaires. Operational, engineering and economic reality imposed „Data Mining“, a component of Artificial Intelligence, related field to „Machine Learning“, Model Recognition, Mathematical Statistics, „Data Mining“ performs a part of the suboptimal and random analyzes needed to develop the decision making process,

regardless of its positioning within the structure of the studied advanced technology economic organization.

It is a unique possibility of strategic development of the new field, the arguments that offer this opportunity are the very large numbers of algorithmic approaches and algorithmic paradigms available. The fundamental task of „Data Mining” is that of inductive inference, prediction based on operational realities, approachable through a variety of different techniques. The degree of complexity of these paradigms requires human resourcing departments, involves high-skill entities, and their simplification often leads to "black box" approaches.

Vector Machine Support – S.V.M. is a method with a high degree of generality, efficiency, and powerful mathematics, generating results which at the outputs of the „output data” processes are evaluated from good to superlative, even optimal, compared to addressing issues through other methods. Understanding and transposing in operability of the concepts and paradigms of S.V.M., requires that there is a high standard of mathematical education at the level of top organizational management. The present study identifies and presents the relationship between S.V.M. and the scientific methods of analysis of the approached business issues, for the economic organizations using top I.T. and virtual technologies. Also described are the ways and algorithms needed to transpose in operability the S.V.M., the set of guidelines and the fundamental rules for the application of the S.V.M. concept, in all complexity and with all the advantages that result from it are specified. The theoretical and applicative considerations of the present scientific investigation, without claiming to be exhaustive, introduce the ideas, the methodology, as well as a succinct presentation of the specific software structures of S.V.M., intended for the applications. The general problem is that of induction, an important one that generates significant added value for organizational databases. The analysis and understanding of the existing correlations within these databases is a fundamental one with a high degree of complexity, flexible and relatively easy to implement operationally, the case of S.V.M. study. The S.V.M. approach is based and further developed on a simple and intuitive concept involving the separation of the two data classes in the first part using a linear function that shows the maximum distance of the used data.

The idea then becomes a powerful and efficient learning algorithm, when the problem of separability (marginal errors) and the implicit mapping of characteristic, more descriptive spaces by operationalization of the kernel functions are overcome. At the operational-strategic level, software packages are developed which allow for their implementation and launch in operational life, obtaining very good results with human effort and minimal organizational allocations. Taking into account the accelerated scientific progress, the complexity of the problems and challenges coming from the economic environment, as well as the competition of the economic organizations and the development of business models, well founded theoretically, we consider the field to be just in the beginning, major future developments becoming inevitable.

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CREATING RELATIONSHIPS WITH CLIENTS IN THE IT ENVIRONMENT

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Abstract. *The course of the relationship building process that may turn out to be the key element depends on several factors, for example the behavior and style of human being, both the customer and the salesperson, the form of sales, networking of business and marketing processes, building trust between the parties, as well using the latest IT solutions in the sales process. In the contemporary world of business, where the Internet is a very important medium for the promotion of an enterprise, brand or product, various IT systems help in managing the customer information or adapting the offer for him/her. In the article the authors will try to present the following elements in the area of creating customer relations: basic assumptions of the concept: client-relationship-IT environment, identification of dominant attributes of the IT environment in the context of e-business, networking of business and marketing processes, virtualization of processes that enhance the value of the product in contemporary organization or enriching information resources about the product. This is a theoretical and empirical article (based on the case study of Apple company) and its objective is to show the process of building the relationship with customers in the contemporary enterprise, mainly concentrating the issue on the IT environment. The article tries to answer to, among many others, the following questions:*

- 1. What are relations with clients and types of the building relationships with customers?*
- 2. What are the basic concepts of creating the relationship between the customer and the firm in the IT environment?*
- 3. What are the determinants of good practice in the researched enterprise?*

Keywords: *relationships with clients; IT environment; e-business; IT management systems; Apple company.*

Introduction

In terms of behaviors in the "sale-purchase" process, one can find relations between the company and the customer, which are based on a variety of strategies and activities of both sides. This area is one of the most important elements of the functioning of companies because without the recipient there is no entity on the market (Ogilvy, 1983, pp.22-23). This correlation causes each party to perform its functions in the sales process, which leads to maintaining parity in the context of the strategic importance of both parties. In order to determine the current position of the client in the company's strategies, it is necessary to pay attention to the very evolution of consumer-market

contacts (Doligalski, 2013, pp.9-10). Analyzing communication between clients and enterprises, two trends can be observed in the 20th and 21st centuries. The first one depicts one-sided contact, where the company appointed a close group of clients, to which it directed its offer without conducting an open dialogue with other consumers. Since the late 1980s, the communication between the pillars described has been observable until now. Communication has become a two-way name, on the basis of which the idea of relationship marketing was created; what is more, both the customer and the company are more focused on the use of ICT technologies and systems in everyday functioning. The following figure introduces the discussed evolution of communication in building relations between the consumer and the supplier of products or services (Figure 1).

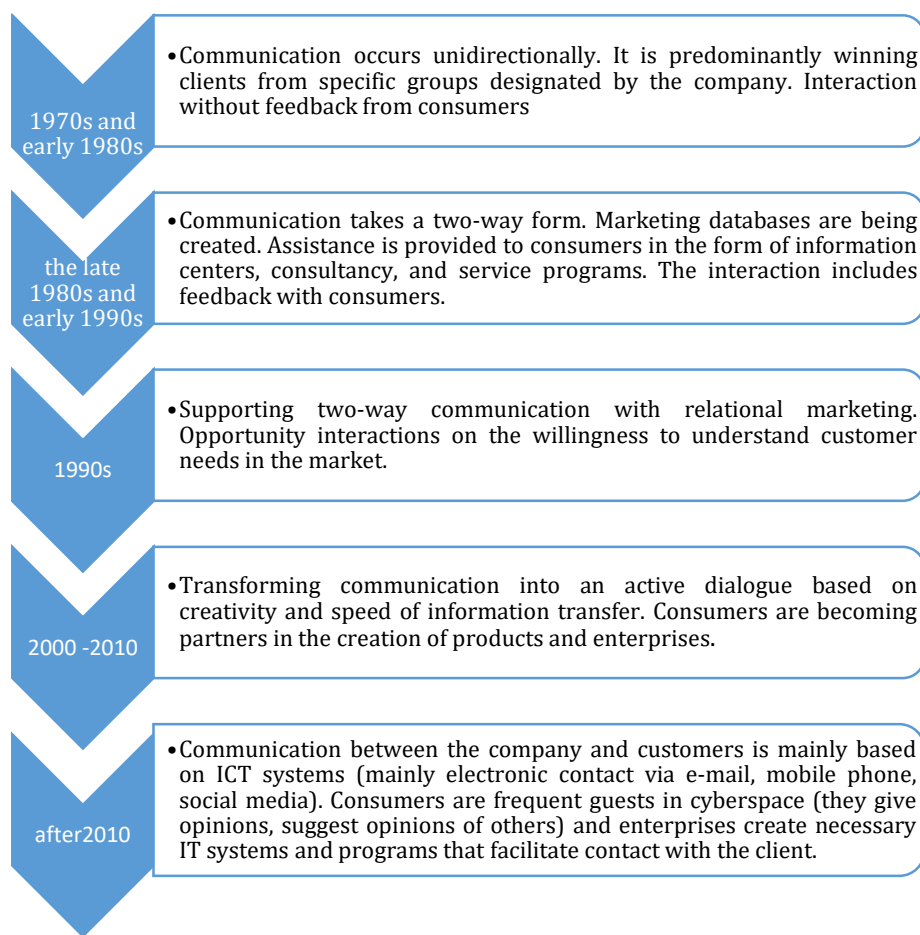


Figure 1. Communication and client-enterprise interactions over decades
(own study based on Maciejewski, 2012, pp.39-40)

Continuing the discussion on consumer relations with enterprises over the decades to come, one can distinguish another category helping to understand the evolution of the concept of "consumer, customer, buyer". The role and character of clients in the economic market can be considered, along with the perception of these groups by enterprises (Wereda, 2009, pp.50-53). This consumer viewpoint goes from mass perception to individual perception. The very role of consumer units is transformed

from passive buyers into members of the culture-forming part of enterprises who are active in cyberspace, doing most online shopping, suggesting opinions on portals, blogs or social media, and on the other hand placing their insights and seeking information in IT programs and systems. The purpose of this article is to present the process of building customer relations and improving these relationships through the IT environment, both from the theoretical side and the example of a case study.

Creating relationships with clients – theoretical overview

The basis for the customer-company relationship is a number of individual transactions between the seller and buyers, leading to an increase in the customer's sense of value. The correct cycle of relationships consists of three elements: value offer, customer satisfaction and, in effect, customer loyalty based on trust (Kotler, 2005, p.13). In connection with the above, building a customer relationship is a process that requires patience, commitment and reliability on the part of the enterprise. Building long-lasting relationships with customers is simply profitable because customers who are offended by poor service quality often do not return to the company in which they are badly served, while well-served buyers can bring new consumers to the company. According to Harker, building a solid relationship with the client consists of seven values: creation, development, maintenance, interaction, long-term, emotional content and result (Harker, 1999). What's more, a very important process in building a customer relationship is communicating with one. Many marketing authors and practitioners indicate that to be effective in communicating with the client, one should show:

- empathy;
- show proper respect to the interlocutor and take into account his/her beliefs and views;
- cordiality without intrusion;
- create bonds without elements of favor or subjectivism;
- authenticity; which means openness of behavior and freedom, sincere reactions and rejection of a defensive attitude (Burnett, 2002, p.260);
- attract attention and gain customer engagement;
- use all possible forms of mobile communication and use all the Internet functions to advocate a product and brand knowledge (Kotler et al., 2017, pp.14-15; Stawarz-Garcia, 2018, pp.10-12).

In modern relations with clients, the company must demonstrate: knowledge of the subject, conviction about the propriety, communication skills, not only in the context of vertical relations but above all in horizontal relations, that is obtaining information and knowledge from external sources, for example, consumers or market partners (prosumption). Customers should be perceived as equal to the brand of the company, i.e. as friends, and the brand should present its true character and show its value fairly, only then will both parties build credibility in a mutual relationship (Kotler et al., 2017, p.27).

An important aspect is the fact that the company can build various types of relationships with the client. Depending on the aspect of the relationship and the form of commercial transactions or behavior on the part of the company, relations can generally be divided into:

1. **Reactive relationships** consist of the fact that the company sells products to customers and encourages them to contact in case of any doubts or problems.

2. **Proactive relations** boil down to the fact that the company periodically contacts clients to inform about new products on offer or to provide suggestions for using the product. Currently, such materials are sent mainly by e-mail (e.g. in the form of newsletters or calls from the Call Centre).
3. **Responsible relationships** consist of the fact that the company contacts the customer after the purchase to check whether the product meets the expectations of the consumer. The company also tries to systematically learn about the possible improvement of the product and determine the reasons for possible dissatisfaction with the purchase. In responsible relations, communication on the company-company line takes the form of a dialogue. Such feedback allows the company to best match the offer to the customer's needs (Dejnaka, 2013, pp.396-397).
4. **Relations based on trust** consist in creating trust between the client and the company. Because this is the foundation of the mutual commitment of the parties and striving to maintain the continuity of the relationship. The occurrence of trust both within the organization and in relations with the environment is not obvious, especially in the conditions of uncertainty, crisis or the high value of the object of relational exchange (Jonczyk, 2010, p.141).
5. **Customer relations** in the network consist in conscious building positive relationships with the consumer on the Internet, from the very beginning of the company's existence on the website, also through the social media platform or creating blogs or company portals.
6. **Relations based on intercession** rely on creating in the minds of customers a sincere and honest image of a service/product provider so that in conversations about the company with other clients in the social circles, both "face to face" and online influence the purchasing behavior other people. Such social contacts have more influence on the choice of brand or loyalty to the company than false promises or advertising tricks of big marketing companies (Kotler et al., 2017, p.21).

The division of customer relations is presented below (table 1) due to different criteria and authors (Czakon, 2012, pp.49-54; Cygler, 2002, pp.163-165; Todeva, 2006, pp.160-213; Witek Hejduk et al., 2016, pp.37-41; Wereda 2009, pp.71-77).

Table 1. Classification of business relationships with clients due to selected criteria

Criterion	Type of relationship
Power on the market	relations dominated by the enterprise relations dominated by clients relations of equal partners
The degree of ordering of contacts	ordered relations (in the form of long-term commercial contracts) unstructured relations (orders are carried out continuously, but without the conclusion of commercial contracts) sporadic relationships (depending on the order) fuzzy relations (depending on market factors)
The degree of stability and mutual loyalty in relation	stable relations unstable relations relations of intercession relations of advocate loyalty
Number of contacts	frequent relations rare relationships

Criterion	Type of relationship
Geographical scope of the company's operation on the market	relationships with local clients customer relations within a regional range customer relations at the national level customer relations at an international level customer relations in a global range
Long-term relationships	ad hoc relationships created without loyalty, only for a limited time relationships created on the basis of long-term contracts
Formalization of relationships	formal relations in the form of bilateral agreements informal relations on the basis of an oral contract
The strength of the company's connections with the customer	strong relationships weak relationships
Place of transaction and relationship	off-line relations (making purchases and building relationships at stationary points) on-line relations (making purchases and building relationships only in cyberspace)
Product innovation and relationship service	quick innovation relations (focused on quick creation by companies of innovative products and offering customers before they are released on the market) slow innovation relationships (focused on creating innovative products by companies and offering customers after they are released on the market) open innovation relations (clients in the course of long-term cooperation and purchases in the enterprise become prosumers and also co-design market novelties)
Location in the value chain network	vertical relations horizontal relations mixed relations

In the contemporary business world, each enterprise must be based on a certain market orientation. Depending on what stage the company operates, the orientation indicates further activities of the organization. Currently, companies operate mainly in customer orientation, technological or business orientation. In reference to the observance of the belief that customer's needs and its satisfaction for the company is the most important, resources and processes in the organization should be subordinated to creating value for the client and building long-term relationships with one (Doligalski, 2013, p.21).

Generally, it should be noted that building customer relationships is critical to the existence of a product, brand or company on the market. It is now necessary to ask a question about what can help these relationships, so that, on the one hand, the company is sufficiently informed about the customer's needs and had customer data, and on the other hand, the buyer was able to freely obtain information about the company. All these processes can be improved by ICT. What's more, in the era of the information society, organizational models and structures are strongly determined by the tools and information technologies used, and above all communication platforms and systems that support the creation of knowledge in the company and its environment. Therefore, the relationship between the company - the customer - information resources becomes the key attribute of the operational efficiency. The information structure is an integral tool for organizing elements and logical grouping of resources (human, material, financial, information) on the basis of established and defined relations between various elements of operating systems, such as modern enterprises. In addition, the

organizational structure appears as a dynamic creation, subject to changes in accordance with the tasks and objectives and the strength of the relationship with the environment, including business partners, in particular with clients.

Basic assumptions of the concept of building and improving the customer-IT environment-enterprise relationship

The IT environment is today a real determinant of the efficiency and effectiveness of modern organizations and a prerequisite for the implementation of the concept of process organizations, based on a model of multidimensional relations, both in executive teams and relationships with clients. The communication system in the company and beyond is thus becoming the dominant component of the entire information system in the organization. Contemporary business entities often rely on working in a dispersed geographical environment and demonstrate the possibility of transferring some of the activity to the network environment with an emphasis on virtuality and multi-entity nature of process organizations. The efficiency of their functioning is often referred to as the criterion of such shaped action structures. One of the important assumptions is to expect that process structures should be favorable (Zaskorski, 2012a, pp.55-189) maximizing the synergy effect, especially in the case of multi-stakeholder organizations. The dominating attribute of modern IT tools should, therefore, be the possibility of strengthening the flexibility of operation and shortening the communication path from the manufacturer to the client and the decision processes themselves by creating conditions for the development of business entities with regard to time-cost criteria.

Contemporary information and teleinformation technologies are a potential for virtualization (Zaskorski, 2012b, pp.24-33) structures based on network and the informal combination of action entities (including clients) around shared values. An important assumption is first of all the ability to quickly adjust the company's configuration to the challenges and requirements resulting from the needs of its potential customers. Such a model should be based on a trust in the knowledge and skills of cooperating entities, which requires the introduction of standards limiting the risk of incorrect matching of tasks to the capabilities of individual co-developers of processes and, above all, customer expectations. Therefore, the activities of such an organization can be developed through the implementation of ICT technologies on the Internet platform, including the use of cloud computing services (CC/Cloud Computing).

It is worth paying attention to the important assumption about the possibility of the so-called "danetization" of all objects and processes using IoT/Internet of Things by collecting data about any object, customer or process with no time limits or geographical, but with access to the Internet (Dominique & Vlad, 2017). This means using IoT technology to monitor the so-called "smart" things that can emit information about themselves and their location. The communication platform is complemented by the so-called Big-Data systems (Zaskorski & Zaskorski, 2016), which are able to collect, store and analyze this multiform information (data, films, texts, etc.) and generate useful knowledge.

Identification of dominant attributes of the IT environment in the context of e-business

The Internet platform combined with integrated information management systems, in which CRM systems play a highly creative role - is an important challenge for modern e-business. In addition, information services can be transferred to the cloud computing (CC services) and can be scalable in relation to the needs (costs adequate to the duration of the service or the size of "consumed" information resources), which becomes an important attribute especially for smaller enterprises. The previously mentioned Internet of Things (IoT) and systems for collecting a very large number of multiform data strengthen modern management systems by providing their ability to discover knowledge (Data-Mining model) about the customer or product and market trends related to quality or even to individual phases of the cycle product life.

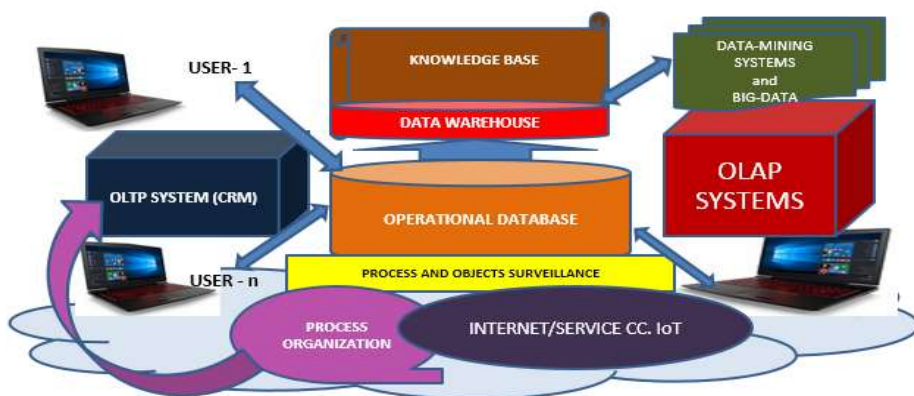


Figure 2. Virtualization of information services in the context of IT technology and the functionality of process-oriented organizations

Contemporary IT solutions and ICT platforms provide the opportunity for a global reorientation of information and decision processes and communication processes both within the company and its surroundings (Figure 2). Such opportunities are primarily related to access to the Internet platform and to virtual resources residing in the cloud in order to provide information business continuity (Zaskorski, 2011, pp.145-170) of a given entity. Services available on the Internet platform with access to various types of information resources and technical and technological resources in the so-called cyberspace is a great opportunity to counteract information exclusion of enterprises. Reaching for solutions related to the collection and processing of current data online (OLTP/On-Line-Transaction-Processing systems, including CRM systems) and the collection of large amounts of historical data (OLAP / On-Line-Analyzing-Processing systems) together with access to multi-aspect analyzes, it gives business entities the possibility of a flexible impact on the client-company relationship. These analyzes can be based on cluster models, behavioral similarity, time series analysis, regression analysis, etc., and give the chance to get answers to the question "we do not know what we do not know?".

For several years, access to the so-called Big-Data systems gathering large amounts of information of a global and local nature in any form with the mechanisms of their selection and knowledge discovery according to similar models, as in OLAP class

systems. These systems complement the possibility of using services and various data in the network access mode without time-space constraints. A good complement to these services may be the so-called business geoanalysis, which is related to access to geographic information systems and the use of geographical dimension for analysis, which can be dynamically redefined (region, set of countries, area within the country, a collection of selected places or cities, etc.).

As previously mentioned, the functional extension of the possibilities of obtaining and collecting data for the needs of process-oriented business organizations are IoT or more broadly IoE (Internet of Everything). These technologies belong to one of the fastest growing information technologies that can integrate various devices and objects related to the activities of specific entities in the global space. IoT/IoE are technologies that use all the advantages of the Internet and other information technologies - enabling building networks of interconnected devices (including devices connected directly with the client). Further development of this technology can become the basis for the development and effective communication process in any business space. It is worth noting here that the security of data processing and the security of the organization and its continuity are of great importance, which is conditioned by the effectiveness and credibility of information-decision processes in cyberspace. Therefore, it is necessary to take into account the resulting threats.

Implementation of process models is today a certain pattern of flattening structures in a modern enterprise. Access to common, consistent, reliable and up-to-date data becomes a prerequisite for effective operation and coordination of business operations (Timmers, 1998, pp.3-8). Network and network-centric structures (with the so-called "crawling" competence center) determine the model of communication and interaction with the client and other stakeholders of the organization. The advantages of the Internet as a universal network are well exposed, but also the limitations and weaknesses of this should be identifiable. The aforementioned possibility of cooperation of various business process executors through standardized access to a common data repository without major time and geographical constraints becomes a driving mechanism in a modern group work model and shaping a new work culture based on mutual trust in the network not only corporate but also global. This process can be enhanced by the functionality of internal and external communication systems in the company and in particular CRM class systems. A comprehensive model of this strategy is the use of resources and services located in the cloud with dedicated access for selected groups of clients, and even with the possibility of conscious (acceptable) monitoring of the behavior of a single customer or product (e.g. using Big-Data analyzes – see details on the complexity of this topic in Crişan, Zbucăa & Moraru, 2014). The systemic requirement should, however, be to protect the privacy of each client according to its indications and requirements in this respect.

Networking of business and marketing processes

Process structures and cooperation of entities as well as using the potential of other clients and stakeholders in online mode is one of the attributes of modern organizations (Fig. 2). A global network of Internet type enriched services in cloud computing today is not innovation, but still remains a phenomenon which creates opportunities for the development of information and communication services without major restrictions especially for smaller businesses. Still, technical and technological investments in the IT

area are quite expensive. Cloud computing (CC) evidently mitigates these limitations. In the era of globalization and computerization of enterprises, information and constant access to current information resources - is one of the areas of competitive struggle. This change follows the model of the communication system in companies through the wider use of network models, since in many cases, smaller companies cannot afford to buy professional equipment, and custom applications, the cost of which could be many times their financial possibilities.

Nowadays, functioning without integrated and efficient IT solutions becomes less effective regardless of the nature of the business. The network services platform (fig. 2) enriched with access to virtual, unlimited resources residing in the computing cloud (hardware, data centers, applications/software) is a technical and technological base supporting solutions to problems of both large organizations and individual entrepreneurs taking into account the current preferences of clients. The network model based on CC services (Cloud Computing) therefore fosters the informational integration of not only service and production processes, but also the improvement of more effective activities through the improvement of the communication system and contact with the client. It is nothing else than a new business model based on solutions provided in cyberspace with the possibility of creative use of the Internet phenomenon by creating a new type of process organization (Amazon Web Services, 2018). CC IT services allow to use unlimited data resources about own operations and competitors, as well as from advanced applications and the computing power available in the network without the need to incur expenditures to purchase licenses and software. These services are offered in the mode of outsourcing by external entities are an economically very profitable solution (Mateos, 2011, pp.26-27). The modern process organization based on the network model has, therefore, the possibility to market many internal relations thanks to the access to the Internet (a communication system almost without boundaries), taking into account such attributes (Mateos, 2011, pp.27-31) as:

- availability of computational resources for all registered users and the possibility of their maximum use thanks to virtualization;
- scalability of the service depending on the specific needs and adjustment of the level of costs to the resources used.

The availability of resources for registered users is adequate to the computing power used. Starting a business can be considered in principle at no cost, and then with a relatively low fee. In addition, data in the enterprise network model should be protected and secured with the appropriate level of attributes (Lidermann, 2000, p.12), data security secrecy (proper protection of information according to the level of data sensitivity), integrity (consistent, complete and reliable data) and availability (according to the accepted access rights according to the requirements of the user/customer). Depending on the nature of the business, some of the attributes may be considered as priorities (confidentiality, authenticity, and non-repudiation as necessary elements of information security).

In reference to all aspects of presenting the offer to the customer, it can be noticed that there is more and more often the product virtualization, which includes two processes: product digitization and its enrichment in information. Digitization of the product is a total or partial conversion of the product form from material to digital, exchange of atoms into bits. In each company it goes differently, e.g. airlines have only digitized part of the product, which is a ticket (replacing a traditional ticket for an electronic ticket),

however, computer equipment or the air transport service itself requires material infrastructure. Fully digitized products are characterized by zero marginal costs and are easily distributed over the Internet, which reduces the client's transaction costs (e.g. musical works that were originally inseparably connected with such carriers as a CD or cassette now appear in the form of a digitized music record between others in the form of mp3 (Doligalski, 2006). The second element of product or service virtualization is its enrichment in information, i.e. the product itself does not have to change its form, but it receives an information layer that increases its value (e.g. enrichment in information is a frequent form of innovation values on the Internet). Examples of this type of process are courier services, which are enriched with the service of identifying the current location of the shipment (Doligalski, 2013, p.81).

Apple as a leader in the implementation of IT innovation in the world and a company building customer relations based on the "walled-garden" approach - a case study

Short history

Apple is one of the leading and most valuable companies in the world, which consistently follows the path of permanent innovation, as well as built a leading position among global brands in the electronics industry. The company's activities are focused on both creating new markets and giving value to innovation and a new pace on existing ones. Apple was founded as a result of cooperation between Steve Jobs and Stephen Wozniak. In 1976, both men started their activities in Jobs' bedroom, moving it to the garage. In the same year, a personal Apple I computer was created, which cost 666.66 dollars, and it was produced in 200 copies. A year later, Apple II was created, which was already mass-produced. The successor was easier to use and had more functions. The second model was the basis for education in the 80's and 90's (www.applecenter.pl, 2018). Over the next years, an Apple III computer was created for business, as well as an enhanced Apple IIe and an Apple Lisa computer. Over the last, Jobs did not work, so he took care of the project called Macintosh. These activities, however, were not successful, because the price of the computer fluctuated around 10,000 dollars. Unfortunately, in 1985, Steve Jobs left Apple for 10 years, after a quarrel with another employee. The founder himself had a difficult character, and the crisis in sales caused a violent reaction, so after his departure, Apple was in an increasingly bad financial condition. Subsequent products were not successful and were not popular among customers. In addition, Microsoft released the Windows 3.0 market, which became a direct rival of Apple. The advantage of Microsoft was the fact that the software was compatible with products from various, cheaper manufacturers (Primack, 2011). Apple regained good standing only when Jobs returned as the operations director.

Already in 1998, the founder released a computer that was given the name iMac. On the computer market, it turned out to be a revolution, and moreover, as many as 800,000 iMac computers were sold over 139 days (www.applecenter.pl, 2018). The next steps that Steve Jobs made were: the liquidation of many production lines, leaving only four: a home desktop computer, a professional desktop computer, and portable computers, respectively. Recovering the competitive edge on the market, Jobs's next moves led to additional products bringing huge profits (for example, the breakthrough was the introduction of the legendary iPod in 2001 - it was a portable player with iTunes software, and the user was able to move data freely from computer to iPod and vice

versa). What's more, an online store has been created, from which you can buy different content, which has revolutionized the music industry (Osterwalder & Pigneur, 2010, pp.50-53). Since the return of Steve Jobs, Apple's shares have increased sevenfold. The founder himself did not want to take over any packet of shares. But if he did, after a short time his stock would reach \$ 400 million (Isaacson, 2011). The next big steps Apple made in 2007 launching the first iPhone, and in 2010 the iPad (www.apple.com, 2018). In 2011, Steve Jobs died, leaving Apple with a value of over 300 billion dollars. The power over the company was taken over by one of the trusted employees - Timothy D. Cook, who was responsible for minimizing costs and simplifying production processes (www.applecenter.pl, 2018).

Activity and business strategy of the company towards building relationships with customers

The company deals in the design and production of consumer electronics, software and personal computers. In recent years, thanks to new business models, created in the direction of building a specific culture on the market and innovative rules of competition in the IT industry, Apple has become the most recognized global brand. In reference to the "BRANDZ TOP. 100 most valuable global brands in 2018" the Apple brand is gaining in value both from the investors' point of view and customer experience. It is generally seen that the rise of technology is most apparent in the 12-year change of the Top 10 ranking. All but two brands are technology-related in 2018, compared with only four brands in 2006 (figure 3).



***Figure 3. Top 10 global brands in 2006 and 2018
(Report „BRANDZ TOP....”, 2018, p.22)***

Continuing the overview of the report the creators stated that “leading brands, such as Apple and Amazon continued to raise the bar on expectations for customer experience at every customer touch point—both online and offline—from trial to pick-up or delivery. And brands used more tools, such as augmented reality (AR), to improve the experience. AR software contained on smartphones made it easier for brands to develop relevant AR apps and for consumers to use them. People could shop at furniture stores

like IKEA and view how a particular item of furniture would look in an actual room in their house. Customer experience becomes an even more important driver of differentiation. The challenge for brands was not just to use tools like AR, but to find new, creative, and different ways to use them" (Report, 2018, p.25).

Conclusions and discussions for managerial practice in the area of building customer relations in the IT environment

The technical and technological base of modern platforms and IT solutions indicates the special rank of network models and their usefulness in creating dynamic process structures. Internet as a universal network in connection with the Internet of Things (IoT, IoE) is a technology that changes the perspective of perceiving the world through so-called "datazing", means the ability to collect and store data about "everything, anytime, anywhere" where there is access to the Internet. Thus, the basic canon of the future is the inevitability of the description of each information object (including the client) and the collection and exploration of data in order to discover previously unknown regularities. Connecting more and more devices/sensors to the Internet and using this to monitor their work status gives an idea of the potential of the future use of the Internet in various aspects of managing production, service and marketing processes. Further development of this technology may become the basis for the next dynamization of activities in network models in order to improve the efficiency of business processes (including e-business). The effectiveness of these activities may be directly related to the collection of large amounts of data (the petabyte government) of various stakeholders, including clients and their multi-aspect exploration on-line (Big-Data systems) which may change the level of effectiveness and adequacy of business activities aimed even at the individual customer. Building relationships on the web is an increasingly popular form of contact between the company and the customer due to the technological development of the client himself/herself, who makes purchases online, uses electronic money, and more often transmits information to friends and family electronically than in person, because he/she does not want to waste time or bear costs. Is such a situation conducive to interpersonal contacts? - this question is not the responsibility of today's enterprises, for which an increasing number of transactions counts, not limiting their activities to the chain of stationery stores, because in the first place the speed, efficiency, satisfaction, and trust of the customer to the company count, a good example is Apple.

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THE UTILIZATION OF THE HUFFMAN CODE TO IMPROVE MANAGERIAL PERFORMANCE FOR ECONOMIC ORGANIZATIONS USING TOP-LEVEL TECHNOLOGY

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Abstract. *The new challenges arising from the confrontation of the economic organizations with the broadest and complex process generated by modern human civilization, the globalization, the meeting of the needs and desires of the more and more educated end customers, with the skills of use and profound understanding of the new technologies, the responses for vectors of competing economic organizations, require innovative approaches at the level of top organizational decisional-management. In their complexity, the present economic phenomena bring to the human decision an increasing amount of data with particular volumes and structures characteristic of the types of processes represented, so the process of decision making becomes a particularly difficult, interdisciplinary task, the human responsible is required a high standard of professional training. Any economic organization that proposes in its developing strategies to maximize generated added value and profitability, should develop at the level of I.T. compartment policies and methods of prevailing, managing and storing information as effectively and optimally as possible. Compressing this data without losses and preserving its quality is one of the arguments that make the difference in an economy of the successful decisional-management competition. We present in this paper, possibilities of saving the memory spaces allocated to the information used in the operational processes, possibly later extrapolated strategically, with a percentage rate of 20%, up to 90%, depending on the dependence on the type and characteristics of the compressed data in the studied processes. For operational, concrete cases, solutions such as variable length code tables are proposed, thus source code symbols are coded, whose interpretation is essential in developing optimized managerial decision generating organizational performance. In this paradigm of approach, the data used is perceived as character sequences, with the "HUFFMAN Code" algorithm developed, the approach selected in the study is a succession of tabloid structures, is developed step by step, the optimal way of representation to each character as a binary string. For a top organizational decisional-manager this is a competitive alternative in developing an improved, efficient and successful decision-making process. The selected example involves the design of a binary code, in which each character is represented by a string, also binary, unique. The selected operation, a business model used in an economy of performance, substantiates the structures within the "HUFFMAN Code".*

Keywords: Memory Spaces; Compressing Data; Business Model; Binary Code; HUFFMAN Code.

Introduction

Developed on theoretically well-founded principles, they analyze the advantages but also the vulnerabilities induced for this type of alternative approach, of coding, and

finally data compression, using fewer bits than symbols which have a much lower frequency. The efficiency level of this mathematical method, the "*HUFFMAN Code*" method, offers alternatives for efficient implementations, when developing and presenting a linear code, identifiable in a well-defined temporary process, implicitly a sorting process being imperatively developed at input of data. Among the methods that separately encode the symbols used in data processing, the algorithm has an optimality character, but this type of method is not always the optimal choice in the highly diversified portfolio of current data compression methods that are easy to subsequent transpose operationally, is not always the optimal choice.

The present scientific paper, we consider it to be a concrete, pragmatic point of view, with the subsequent possibility of extrapolation, in the case of the practice of the top deciding managers for understanding, modeling, processing, implementing the informational processes, involving a significant number of data, with connotations and valences operational-strategic specific to them. Efficient management, accessibility to the data sequences used, the speed at which such a phenomenon is approached become decisive factors in the hierarchy of business models in a modern business macro-environment, with the totality of its characteristics.

In an economy of competition, the promotion of advanced technologies and avant-garde innovative managerial concepts are vectors for the extensive and intensive consolidation and development of the economic organization in the economic macro - environment. The selection, analysis and understanding of data are fundamental approaches in increasing the performance of the business model selected to be transposed into operability by top decisional management. The value of working with extrinsic informational flows but also intrinsic organizational flows is the factor that delimitates the managerial performance of failure, the key element that provides the competitive advantage, fundamentally the most solid of future success. The lack of development of the informational component within the business model deprives the economic entity of a powerful and aggressive vector of strategic development in well-defined time horizons.

The phenomenology of sampling, optimal analysis and storage of data provides organizational decision makers with the ability to understand the internal operationalization of the business in a multitude of well-defined states over time. Each informational data sequence must be stored, the totality of transactions recorded and ordered according to predefined criteria, thus all the aspects of the data complex are presented in a complete and clear picture to the decision makers and responsible organizational factors, allowing the improving to optimization of the underlying strategies and operationalities. The information must be sorted according to criteria clearly defined by the top decisional-management and registered, the memory space at the economic organization level has a finite capacity, given by the allocated hardware infrastructure, compaction-compression of the data thus becoming an obvious option for the elaboration of a process of generating superior added value, performance of the selected business model, implemented and subsequently operationalized.

The systemic data analysis process is the strategic vector that offers the possibility to identify the most favorable decision for the positive evolution of the economic organization. Data analysis from a conceptual point of view is generally an area of informational science that has become extremely useful in the quasi-totally of the

market segments that make up the modern, globalized and hyper-dynamic business macro-environment. The way of sampling, analysis, sorting, understanding and storage are the factors that condition the present managerial performance but also strategic, on well-defined time horizons, this systemic decision-maker effort provides an exhaustive vision of the entire business. At the same time, it is possible to identify the strengths of the business models, innovative trends and model alternatives, accurately identify the deficiencies and possible directions of model development, changes in strategies and operationality to generate an improving trend towards optimization. In addition to improving and quantifying economic performance by mathematical indicators, data analysis, their compaction and compression, it provides software and hardware facilitation to anticipate and develop predictions regarding the performance of the economic organization in terms of performance, with constraints and rigor of the business macro-environment, as well as internal structural limitations.

The clear and profound understanding of the business model, which elaborates the organizational strategy and the operationalization of the economic entity's activities, is the premise of developing the most correct managerial decisions. The organization's resources at the conceptual software and hardware logistics level require systemic compression-compaction of data processes as viable alternatives to performance identification.

HUFFMAN code

The concept and paradigms that are subsequently positioned make the "*HUFFMAN Code*" an algorithm, a way of compressing data extremely efficient. Approaching the data compression issue for business models is equivalent to implementing a special type of optimized prefix codes, developing the compression process in its entirety does not induce any kind of informational losses. The *HUFFMAN coding* is not conceptually encrypted, this feature is engineered with structure customized and dedicated to operationalized business models, by modifying the *Mainly Mutated HUFFMAN TABLE, MHT*, and *Chaotic HUFFMAN TABLE, CHT* chaotic mass (Atallah, 1999; Cormen, Leiserson & Rivest, 2009).

In systemic data compaction processes used by the top organizational decision management for the elaboration of managerial decision, these are operable with or without losses, including subsequent storage processes admitting successive improvements, at this level some distortions are identifiable. Only certain information has value and influence on the implemented business models, therefore a clear and transparent selection process is absolutely necessary, a relevant amount of data encoded under a particular bits structure is declared to be useful to the intended purpose. In the case of data-loss compaction phenomena, these must be positioned within a tolerated error range such that the re-built replica for the original data sequence does not become a corrupted or false information provider. To select certain types of data compression algorithms, adaptable and useful in understanding, adapting, implementing organizational business models, these are quantified as an initial approach. Concepts such as the operating speed on a certain type of computer, the mathematical complexity of the functional entities that make up the algorithm, the calculation procedures and structures, the amount of data compression and the time allocated for such processes. The similitude degree after the reconstruction of the information from the original, are criteria for choosing data compression algorithms for

economic business organizations. Subsequent distortion of inward data is evaluated using loyalty and informational quality coefficients, the degree of similarity between the reconstructed version and the original sequence of their succession. Systemic data compression and storage phenomena are directly reflected in the analysis and control of organizational strategic operational costs. Thus they identify their value and usefulness of effective elements at the service of the top decisional-management.

The *HUFFMAN code* has a specific "greedy algorithms" structure, the process itself takes place by recording the emergence frequencies of each symbol in a file, and then an optimization process is developed to represent the symbols as a binary string. The fundamental idea of managing information for an economic organization is that of using shorter binary codes. The problem of binary characters code representation ("code", for ease) induces, presents each character as a unique binary string, called "codeword". In the case of a fixed length code, the number of bits which need to be assigned to represent a number of characters is of a very large order. Thus the necessity to enter the variable length code occurs, from our point of view, the most adapted requirements coming from the business environment. The typicality of this new approach is the frequency of emergence of short codeword characters and the rather rare emergence of long codeword characters. Concrete calculations show a 25% saving of memory space allocated within the file used. We only analyze the codes in which code words and a prefix of a certain word code are not identifiable. This concept is referred to in the specialty literature as "prefix-free codes" or in a standard way "prefix-codes".

For economic information used in managerial decision processes concatenation is a process with an improved degree of simplification for any binary code, concatenating codewords defining each character of the storage file. The usage of code prefixes simplifies the reverse process of decoding the information. We find that no wordcode, in operational business practice, is a prefix of another wordcode with which a file begins, the decoding process is unambiguous, not having more interpretations. We identify the initial codeword translated into the original characters, the process is repetitive for the rest of the decoded file. The decoding process requires a conventional representation for a prefix code, the initial codeword can be used easily at any time, the selected binary tree has the characteristics required for such representation. The binary representation for a character codeword is the way, the pattern which needs to be traced from the root of the tree to the character, the truth value "0" involves moving to the lower left branch, the truth value "1" involves moving to the lower right branch. An optimal code for an informational file used by the economic organization admits representation as a complete binary tree, in which each non-final node has two options ("two child branches").

We introduce the formalism in which we consider C as the alphabet for which we use the characters used within the binary tree. All the characters with a certain frequency are positive. It results that the tree for an optimal prefix code has exactly $|C|$ leaf-nodes, one for each letter of the alphabet, exactly $|C| - 1$, internal nodes, after which the search process goes up to the end nodes.

In the practice of the *HUFFMAN code*, management decision at the level of the *I.T.*, department, in order to solve the occurred challenge, the developed model starts with the identification of a T tree corresponding to a prefix code, the development of algorithm and calculation procedures it follows, to quantify the number of bits required

for coding the file in which the information underlying the process is stored and structured.

For each character c in the C alphabet, the $c.freq$ attribute shows the c frequency within the file, let $d_T(c)$ the depth of the "leaf" c within the tree, also to be mentioned that $d_T(c)$ represents the length of code-word for the character selected from the alphabet c . (Cormen, Leiserson, Rivest & Stein, 2009, p.431)

We identify the number of bits needed to encode the file,

$$B(T) = \sum_{c \in C} c.freq \cdot d_T(c), \quad (1)$$

the formula is, from an economic point of view, the value of the binary T tree cost browsing.

Operational implementation, approach through HUFFMAN Code

The algorithm of the *HUFFMAN Code* is a particular case, but from our point of view, flexible and adaptable to business issues, the classic "greedy" type algorithms. Within this algorithm we identify the construction of an optimal code-prefix, which provides exactly the solution and the finality for the complex problem facing the top organizational decisional-management. Considering C selected set with n characters, each character $c \in C$ is a target with an attribute $c.freq$ attached to it, given its frequency of occurrence, the algorithm develops a T - graph tree which corresponds to the optimal coding for a scroll-up process. The process is initiated with the help of a set having the cardinal $|C|$ by the nodes ("leaves") of the graph, going through a sequence $|C| - 1$ of a merging operation leading to the creation of the final tree.

We identify in the implementation conditions of the algorithm the existence of a minimum priority queue, Q ordered by the " $freq$ " attribute, which identifies the objects with the lowest frequency in the merging process.

The result of the development of a merging operational process for business models implemented for economic organizations is the appearance of a new systemic object with an individualized frequency equal to the sum of the frequencies of each of the two objects that participated in the merger phenomenon. An executable pseudocode structure for processes and their transposition into operability previously presented has the structure below.

HUFFMAN calculation algorithm (C)

```

1 → n = |C|
2 → Q = C
3 → for i = 1 to (n - 1)
4 → Allocation of a new nodes
5 → z.left = x = EXTRACT - MIN(Q)
6 → z.right = y = EXTRACT - MIN(Q)
7 → z.freq = x.freq + y.freq
8 → INSERT (Q, z)
9 → return EXTRACT - MINQ
Return the root of the tree

```

(Cormen, Leiserson, Rivest & Stein, 2009, p.431)

Beneficial for the implementation and operational transposition of compression (compaction) of the data used by organizational business models is the development of

possible changes to the *HUFFMAN coding tree*, depending on the main target task. Modeling the Huffman coding tree-specific processes demonstrates that encryption and subsequent data compaction operations are performed only together. The data encoding approach used by the business models specific to economic organizations employs moving processes and algorithms adapted to *HUFFMAN coding*, these are transfers between labeled branches of the tree. Changing the *HUFFMAN encoding tree* structure provides a high degree of compression accuracy of the data used in the decision making process, this has a dual structure, is used in the encryption process (coding), but also in the key switching mechanisms. The process induces a series of multiple mutations, the data streams are shared in segments considered to be representative, "key", depending on the information encoding sequences in the form of representative bit structures.

We note with $T(k)$ the mutations performed in the tree graph level. Each data segment (information) has a number of bits dependent on the number of nodes in the Huffman tree, the segment-level moving process (transfer) is applied to the tree in the case of logical value 1 – "truth", 0 – "false" occurrence, the node is not modified.

The analysis of the proposed Huffman algorithm

The degree of accuracy of the Huffman algorithm, its implementation and operational transposition mode are essential for continuous improvement, up to optimizing business models for economic organizations.

The problem of determining the optimal prefix code has a greedy-type exposure for the data which need to be compacted in the optimal structure, in subsequent mathematical formalisms approached, this approach is detailed.

Observation 1: We consider C a selected alphabet, each $c \in C$ character has an expressible frequency by $c.freq$, considering $x, y \in C$ two characters with the lowest frequency, then there is an optimal prefix code in which the previously defined words, "Codewords" for x, y have the same length, the last bit is the only different element.

Comment: We present a using frequency table of the elements (letters) of Latin alphabet, for data sequences transmitted in English to the studied economic entity (organization), functioning on a particular business model that undergoes a compaction process.

<i>Character</i>	<i>Frequency (%)</i>	<i>Character</i>	<i>Frequency (%)</i>
<i>A</i>	8.167%	<i>N</i>	6.75%
<i>B</i>	1.492%	<i>O</i>	7.51%
<i>C</i>	2.782%	<i>P</i>	1.93%
<i>D</i>	4.253%	<i>Q</i>	0.10%
<i>E</i>	12.70%	<i>R</i>	5.99%
<i>F</i>	2.23%	<i>S</i>	6.33%
<i>G</i>	2.02%	<i>T</i>	9.06%
<i>H</i>	6.09%	<i>U</i>	2.76%
<i>I</i>	6.97%	<i>V</i>	0.98%
<i>J</i>	0.15%	<i>W</i>	2.36%
<i>K</i>	0.77%	<i>X</i>	0.15%
<i>L</i>	4.03%	<i>Y</i>	1.97%
<i>M</i>	2.41%	<i>Z</i>	0.07%

Consider the T tree that represents an optimal code prefix and we modify it to become another optimal code prefix such that the x, y characters appear as adjacent Leaves positioned at maximum depth in the new tree graph, we study whether it is possible to develop a tree for which "codewords" of x and y have the same length, the difference between the two data informational structures is made only by the last bit.

We consider a, b two characters which are Leaves positioned on the same level, "sibling leaves" as depth in the T tree. Without loss of generals, suppose $a. freq \leq b. freq$ and $x. freq \leq y. freq$, until the two values $x. freq$ and $y. freq$ become the leaves positioned with the lowest frequency level, in order, $a. freq$ and $b. freq$ having two random frequencies (arbitrary), in order, result $x. freq \leq a. freq, y. freq \leq b. freq$. There is the possibility of occurrence of the point case, $x. freq = a. freq$ or $y. freq = b. freq$, if the equality $x. freq = b. freq \rightarrow a. freq = b. freq = x. freq = y. freq$, the observation previously presented becomes obviously true.

Scientific analysis continues for $x. freq <> b. freq \rightarrow x <> b$.

A process of changing the location of a and x in the T tree leads to the occurrence of the T' tree, when the position of b and y in the T' tree is changed, the T'' tree is generated in which x, y are "sibling leaves" (the same level of importance) at maximum depth, if $x = b$ but $y <> a$, then the T'' tree x, y does not have "sibling" leaves at the maximum depth in the graph tree, the assumption that $x <> b$, the situation is not likely to occur in the operationalities of the selected business model.

Starting from mathematical relational (1), the cost difference between T and T' trees is:

$$B(T) - B(T') = \sum_{c \in C} c. freq \cdot d_T(c) - \sum_{c \in C} c. freq \cdot d_{T'}(c) = x. freq \cdot d_T(x) + a. freq \cdot d_T(a) - x. freq \cdot d_{T'}(x) - a. freq \cdot d_{T'}(a) = x. freq \cdot d_T(x) + a. freq \cdot d_T(a) - a. freq \cdot d_{T'}(x) - x. freq \cdot d_{T'}(a) = (a. freq - x. freq)(d_T(a) - d_{T'}(x)) \geq 0,$$

because both relationships, $a. freq - x. freq$ si $d_T(a) - d_{T'}(x)$ are non-negative, $a. freq - x. freq$ is non negative because x is the "leaf" of the minimal frequency tree, and $d_T(a) - d_{T'}(x)$ is non negative because a is the maximum depth "leaf" within the T tree.

Analogously it is possible to change $y \rightarrow b$, which does not induce any change in cost, because $B(T') - B(T'')$ is non negative, thus $B(T'') \leq B(T)$.

As long as T is optimal, results $B(T) \leq B(T'') \rightarrow B(T'') = B(T)$, so T'' is an optimal tree in which x, y , appear as "sibling leaves" at maximum depth in the studied tree, which confirms the correctness of the mathematical observation made and the correctness of the developed logical reasoning.

We notice that in compaction of data-information accessed for business models, in order to save and optimally use the used memory space.

The problem of optimal code prefixes is a mathematical property of the optimal graph arborescent substructures. (Cormen, Leiserson, Rivest & Stein, 2009, p.434)

Observation 2: Considering C an alphabet with the $c. freq$ frequency defined for each character $c \in C$, we choose x, y two characters of C with the minimum frequency.

We consider C' to alter the alphabet C in which the characters x, y are displaced and a new character z is added such that the equality $C' = C - \{x, y\} \cup \{z\}$ tooks place, we define $freq$ for C' as for C we identify the mathematical relation $z. freq = x. freq + y. freq$, we consider T' any tree representing an optimal prefix code for the C' alphabet, then the T tree is obtained from T' replacing the "Leaf" node for z with an internal node

having the x, y "children" within the tree-graph structure, this is the representation of an optimal prefix code for the C alphabet.

Comment. It is to be discussed how the cost $B(T)$ of the T tree in terms of the cost $B(T')$ of the T' tree, considering the component costs of equation (1), for each character $c \in C - \{x, y\}$, result the relationality $d_T(c) = d_{T'}(c)$, therefore $c.freq \cdot d_T(c) = c.freq \cdot d_{T'}(c)$ until $d_T(x) = d_T(y) = d_{T'}(z) + 1$, results $x.freq \cdot d_T(x) + y.freq \cdot d_T(y) = (x.freq + y.freq)(d_{T'}(z) + 1) = z.freq \cdot d_{T'}(z) + (x.freq + y.freq)$, from where results:

$$B(T) = B(T') + x.freq + y.freq < - > B(T') = B(T) - x.freq - y.freq$$

Suppose that T is not an optimal prefix code for the alphabet C , then there exists an optimal T'' tree such that $B(T'') < B(T)$, with no generality restriction of the analysis and reasoning developed, T'' have x, y as "sibling leaves". We consider T''' the T'' tree with common parts x, y replaced by the z graph leaf, with $z.freq = x.freq + y.freq$ frequency, results that:

$$B(T''') = B(T'') - x.freq - y.freq < B(T) - x.freq - y.freq = B(T')$$

What reveals a contradiction by subtracting the hypothesis that T' represents a code with the prefix optimal for C' . We conclude that T represents an optimal code prefix for any type of C initially selected alphabet.

Observation 3: The operational callout to Huffman's procedural structure type, generates as an immediate consequence an optimal prefix code (Cormen, Leiserson, Rivest & Stein, 2009).

The operational computing structure for the implementation of the mutational process

The business models for which data is compacted (compressing) using the Huffman code method, are characterized by a variable operating speed of work with the accessed informational structures. The mutation, modification, of the arborescent graph technology using the S.H.T. ("Swapped Huffman Tree Coding"), therefore of transformation-modification of the Huffman codes, for operationalized business models with relative low speeds, is implementable at the level of different algorithms and procedure software, subsequent digitally transposed. The computer structure below is an operational-functional presentation of the mutational process of compaction-compression of data used in the service of business models - the development of top organizational management in the elaboration of the decision

```

OPERATIONAL – FUNCTIONAL STRUCTURE
INPUT: Original – Code, Encryption – Key
char*function mutation
{
    check = maxlenght(OCs);
    while(maxlenght(maked) == check)
    {
        making
        (" ", "0", "1", "00", "01", "11", "000", "001", ...)
    }
}

```

```

        }
        for(i = 0; i < count(maked); i++)
        {
            if((Oc! = maked)or(OC_and maked_is_completely_same))
            {
                that_maked_delete;
            }
        }
        divided Encryption – Key according to count (maked);
        for(j = 0; j < count(maked); j++)
        {
            if(OC_left == maked)
            {
                OC_left's-next = toggle;
            }
        }
        return OC;
        goto NextCode;
    }

```

For a correct understanding of the functioning of the pseudo-code entity, we proceed to a brief description in the structural steps of the previous computer entity. The pursued characteristics are the structure that has been developed, but also its transposition into operationality with the totality of the consequences implicitly derived from it.

- Stage 1 → The coding key is defined in M segments
- Stage 2 → We are in the process of developing a confirmation – verification list
 - "S" of the $T^{(n)}$ tree, $n = \{0, \dots, M - 1\}$
 - The maximum length of each symbol in the checklist is defined
 - $l = k - 1$ bits, k the maximal number of bits from $T^{(n)}$
 - Confirmation – verification list is defined starting from:
 - " " , 0, 1, 00, 01, 10, 11, 000, 001, ... }
 - Confirmation – verification list created, improving it
 - Comparison process with the corresponding tree symbol list
 - Replace Huffman codes with identical ones
 - Or that does not exist in the list of symbols
- Stage 3 → The confirmation – verification list from "Stage 2" is accessed
 - Corresponding to the key encryption segment of "Stage 1"
- Value of 0s in the cipher key segment ignores the mutation, for 1s mutated effected
- Moving verified lists → every symbol belonging to the verified lists
 - M. S. B. = list of the most significant bits, Most Significant Bit
 - Comparison process with the most significant bit $\in$ M. S. B.
- If the symbol is the same, we switch to the next bit in M. S. B., $0 \rightarrow 1, 1 \rightarrow 0$
- Stage 4 → Return to Stage 2 and repeat the process
 - Until the last key segment is reached
 - After generating $T^{(1)}$ we go from step c to stage 2
 - We use $T^{(1)}$ instead of $T^{(0)}$ as a base tree to generate $T^{(2)}$
- Repeat process until the end segment of the cipher key is reached

Redundancy of Huffman codes, main results

The enormous amount of information with which the selected business model is confronted within the macroeconomic environment, makes the sorting processes and its subsequent compression to store two fundamental choices for achieving the highest added value and generating organizational performance. The Huffman codes are subjected to a redundancy of a certain intensity; their subsequent operationalization is conditioned by solving this type of challenge. Scientific studies show that a characteristic of Huffman codes is the existence of a relatively "tight" upper limit, the lower limit of this process of data compression resulting from derivation.

We consider a non-memory source S to belong to a finite N dimensional alphabet, of the structure $S = \{s_1, \dots, s_N\}$ and a multiple set of probabilities, which may contain repeating members due to different source symbols but with equal probabilities, $P = \{u_1, \dots, u_N\}$, $u_i \Pr(S = s_i)$.

A source code with the variable length D for the S source is defined by the one-to-one coding function, $f_C: S \rightarrow \{0, 1, \dots, (D - 1)\}$, thus we can calculate the average length of a code, C specific to the compression Huffman processes with

$$L(C) := \sum_{i=1}^N u_i l_C(u_i) \quad (2)$$

One of the fundamental goals pursued in data compression processes for business models is that of developing minimal length codes, the average minimum length of a code without prefix cannot be less than the entropy source, regardless of the degree of code efficiency, the entropy in the base D is represented by the symbolism

$$H(S) := - \sum_{i=1}^N u_i \log_D(u_i) \quad (3)$$

an important indicator of quantification of source code performance is redundant, redundant is the difference between the mean length and the entropy of the informational source (of data), expressible by

$$R(C) := L(C) - H(S) \quad (4)$$

The Huffman coding algorithm and data compression algorithm provides an optimal prefix code for a memory-free source of information, no code for the P distribution can not have a shorter length than the Huffman code. (Cormen, Leiserson, Rivest & Stein, 2009; Dasgupta, Papadimitriou & Vazirani, 2008; Lewis & Papadimitriou, 1998)

A D – Huffman code is represented by a $D - T$ tree whose leaves are the correspondence of the source symbols, the sides of D that go from each intermediate node of T are labeled with one or more D -sides of the previous presented alphabet, the word code is the "codeword" corresponding to the symbol is the (indefinite) label vector positioned along the path from root to leaf in the corresponding tree graph. Thus, we identify the situation where, for selected organizational business models, Huffman's compaction-compression data algorithm is a functional recursive bottom-up construction of T , where at each step of D there are nodes with the least probability combined in a new node, thus adding a number of symbols from an inactive source having zero probability. The number of N source symbols is expressed in mathematical form $k(D - 1)$ for k integer, from now on they represent intermediate nodes in the tree.

In the majority of applications of the economic models, Huffman's operationalized codes are binary type, $D = 2$, Huffman's redundancy within the used business model analysis

is always non-negative, but neither exceeds numerical value 1. The upper limit of $R(T)$ redundancy by addressing binary Huffman codes when $p_1 := \max_i u_i$ and u_i correlates with the probability that the most commonly used symbol of the source is known. The problem of the superior margin of redundancy in probability terminations in mathematical formalism $p_N := \min_i u_i$. The probability that the smallest operationalized symbol of the source is known, the upper margin, $R(T)$ in the case of the Huffman type codecs, is well defined when both probabilities for extremes p_1 and p_N are known. The upper limit of the redundancy margin is derived from a function having the probability conditioned by the two source symbols p_{N-1} and p_N .

In the following is presented a well-controlled upper limit of the redundancy addressed with the help of Huffman codes, for a source that contains a symbol with a certain given probability p .

Observation 4: We consider a Huffman code for a finite alphabet source, that includes a symbol with the probability p , otherwise being arbitrary.

Redundancy of this code is superior to

$$R_{\max}(p) := \begin{cases} 2 - p - H(p), & \text{daca } 0.5 \leq 1 < 1 \\ 1 + p - H(p), & \text{daca } 0 \leq p < 0.5 \end{cases}$$

where $H(p) := -p \log p - (1 - p) \log(1 - p)$ is a binary entropy function, the relation shows a strong interconnection, so are identifiable distributive sequences whose redundant Huffman converge to the value $R_{\max}(p)$.

This observation shows the superior margin in the case of Huffman redundancy.

Observation 5: We consider the Huffman code for a finite alphabet source, which includes a symbol with the probability p , otherwise being arbitrary.

Redundancy of this code is inferior limited by

$$R_{\min}(p) := mp - H(p) - (1 - p) \log(1 - 2^{-m})$$

where $m > 0$, let the value $[-\log p]$ or $[-\log p]$ which minimizes expression, we identify the interconnection between the distribution source of the symbol having the probability p with the Huffman code redundancy equal to $R_{\min}(p)$.

Observation 6: The redundancy of a Huffman code D – set contains a letter with probability p has a "tightly" limitation, computable by

$$R_{\min,D}(p) = mp - H_D(p) - (1 - p) \log_D(1 - D^{-m})$$

Observation 7: We consider p the characteristic probability of any source symbol, then the corresponding redundant for the upper margin of the Huffman code is

$$R_{ub} := \begin{cases} 2 - p - H(p), & \text{daca } 0.5 \leq p < 1 \\ 0.5, & \text{daca } \pi_0 < p < 0.5 \\ 1 + p - H(p), & \text{daca } p \leq \pi_0 \end{cases}$$

we note that $\pi_0 \cong 0.18$ is the smallest root of the equation $1 + p - H(p) = 0.5$

The calculation of the superior redundancy for a known probability source is one of the concerns that influence the phenomenology approach of compressing-compaction data with the help of Huffman code methodology.

Observation 8: Considering p_1 the symbol probability of the most known source, the Huffman redundant of this source is superior margined by the function

$$f(p_1) = \begin{cases} 2 - p_1 - H(p_1), & \text{daca } 0.5 \leq p_1 < 1 \\ 3 - 5p_1 - H(2p_1), & \text{daca } \pi_1 \leq p_1 < 0.5 \\ \gamma, & \text{daca } p_1 \leq \pi_1 \end{cases}$$

where $\gamma = R_{\max}\left(\frac{1}{3}\right) = 1 + \frac{1}{3} - H\left(\frac{1}{3}\right) \cong 0.415$, $\pi_1 \cong 0.491$ is the root of $3 - 5x - H(2x) = \gamma$

Observation 9: If p_1 is the probability of a letter in a source, if its value $p_1 \geq 0.4$, then the length corresponding to the codeword in the Huffman coding approach is one that satisfies the condition $l(p_1) = 1$. (Dasgupta, Papadimitriou & Vazirani, 2006)

Conclusions

Modern economic organizations, actors in the modern economic macro-environment, regardless of the strategic operational business model selected, are confronted with an enormous amount of data, these coming from the intrinsic but especially the extrinsic economic entities. Relevant conducted business activity information needs to be sorted, analyzed, interpreted and subsequent transposed into arguments for the taken decisions. The programs for encryption, compression and storage of data useful to top organizational management are conditions, facilities that make the most of generating added value, sustainable growth vectors in modern, globalized, and particularly dynamic economic competition. The Huffman coding and compression algorithms do not induce data loss at file level, thus the organizational economic history is not affected, the determining role in their operational transposition is the frequency of the occurrence of a symbol in the compression file.

Statistical coding is fundamental to the usage of the Huffman algorithm in the complex economic issues, therefore the probability of symbols has a direct influence on the length of its representation, the more probable the occurrence of a symbol, the shorter the representation of the bits sequence. Comparing with other types of approaches, A.S.C.I.I. coding, for example, fixed length code, the Huffman encoding is a variable length system, assigns smaller codes for characters with a high degree of usage, smaller codes for less frequently used characters, thus the files are reduced and the data transfer process is much simplified.

Several studies (Lewis & Papadimitriou, 1998). Economic competition, strengthening and developing the position of the economic organization in the specialized market, where it is an actor, becomes in the digital age a competition for the understanding, analysis and operational transposition of the information. Organizational software and hardware structures are active parts of the systemic process to achieve economic performance through correct, optimized managerial decisions.

Huffman's data compression methods are a fundamental argument in achieving these central targets, as well as fundamental research trends, subsequent applicative transposition and quantification in increasing profit returns demonstrating their importance.

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DETERMINING THE DIFFERENCES BETWEEN COMPANIES AND CUSTOMERS FROM THE PERSPECTIVE OF USING SOCIAL MEDIA NETWORKS

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Abstract. *The purpose of this paper is to determine the differences between companies and customers from the perspective of using social media networks. Social media networks have a tremendous potential in terms of bringing the companies closer to customers. Through social media, consumers can interact with businesses to get the value they are looking for, whether we are talking about discounts or specific information. Unfortunately, not all companies are aware of customers' needs and do not properly use social media networks to facilitate experiences and collaborative dialogue that customers value. In this regard, the authors used a questionnaire containing 11 items that can be divided into 4 sections: social media networks used by employees and customers, employees' perceptions about the reasons consumers interact with companies via social media, the reasons employees think companies interact with customers via social media, social media networks used by companies to interact with customers for different reasons. Data were collected from a group of engineers who graduate from Politehnica University of Bucharest and who work for companies from different domains. Then, data were statistically analyzed using SPSS 20.0 Software. The conceptual framework contains 3 variables: Customers' reasons for using social media, Companies' reasons for using social media, and Social media networks, each being defined through different items. Our findings indicate that Facebook and LinkedIn are the internet users' favorite platforms for interacting with companies or customers, while unlike other countries, Twitter is one of the social media networks used very little by internet users from our country. The results pointed out that there are positive moderate correlations between why consumers use social media for seeking information and why companies use social media for marketing and social interaction. There are also positive moderate correlations between companies' and consumers' reasons for using social media for communication, and also between why companies use social media for their development and why consumers use social media for improving services/products offered by a company. The results of our study should be interpreted with caution, this study being an exploratory one, with a few limitations. Only the perceptions of the people surveyed have been considered. The people surveyed played a double role in our study: customers who use social media and employees who are working in companies that use social media. Therefore, in the future, the authors want to reconsider studying companies' reasons for using social media by analyzing the managers' responses that are responsible for marketing and online marketing in organizations.*

Keywords: *social media; social media marketing; social networks; social media usage; Web 2.0; organizational innovation.*

Introduction

Social media has started to evolve into a necessary part of our society. According to The Statistics Portal (2018), in the last 6 years, the number of minutes spent on social media by internet users worldwide increased by 50%, daily media usage of social media users being 135 minutes per day. By making a simple calculation, it can be said that an internet user spends an average of 821 hours per year with social media. Furthermore, in 2016, there were more than 2 billion social users all over the world.

Taking into account these statistics and trends, companies have also begun to use social media and its various tools found in this area in order to be as close as possible to users. Thanks to social media, companies can improve customer relationships which allow them to gather more information about customers and adapt their services/products according to the demand. Also, by using social media, companies can increase their brand awareness, a larger audience meaning more potential customers. Unfortunately, not all companies know how to use social media networks to their own advantage, and the time they spend on this activity is wasted in vain. They need to do more research on social media networks, about their customers' needs, then they should establish a strategy and implement it without compromise.

The purpose of this paper is to determine how aligned companies and their consumers are in their intentions when communicating on social media. The authors investigate whether there is a perception gap between the reasons consumers interact with companies via social media and the reasons businesses use social media in their interactions with customers.

Theoretical backgrounds

In the last decade, social media has entered the marketing and communication mix of companies, its transformation being extremely dynamic. Businesses of all sizes have boosted marketing through social media platforms and their number has increased from year to year.

As indicated by Safko (2010), social media is a collection of sites that are used for communication and social interactions by millions of people from all over the world, but also to reach targeted audiences. Through these social media networks, platforms and tools, internet users can publish or share different type of content (text, photos, videos, music), using as well different functions such as multiplayer games, review of purchases, shopping online, recommendation, event locations, and personal, professional or informal social networks (Cavazza, 2012). Also, Kaplan & Haenlein (2010) defined social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content".

Social media facilitates the communication between internet users and between customers and companies that use social media networks, tools or platforms available on the Internet. Social media has reinvented the ways organizations relate to the economy and society, improving various parts of a business, from marketing and operations to finance or human resource management (Aral et al., 2013).

Social media utilization is a popular research topic, with almost 200,000 results on Google Scholar targeting the last five years. According to de Araújo & Zilber (2016), using social media networks can alter the relationship between companies, their employees, suppliers, customers, and other partners, and also their relationship with people from outside the companies who want to interact with them as job candidates, potential customers or partners.

There are some studies that demonstrate how social media positively influences organizational innovation or organizational performance (Garcia-Morales et al., 2018; de Araújo & Zilber, 2016; Kärkkäinen et al., 2010; Hartono & Sheng, 2016; Palacios-Marques et al., 2015) or studies that analyze how social media influence the customer relationship component (Baird and Parasnis, 2011). Kärkkäinen et al. (2010) presented in their paper that social media can be used by companies for: branding, information sharing, public relations, understanding customers, lead generation, collaborative work, internal communication, sales support. De Araújo & Zilber (2016) mentioned that the relative advantages of using social media can be represented by: improving exposure to the company's brands/products, differentiating the company from its competitors, increasing company revenues, operating in unexplored market niches, improving customer, employee, and supplier relationships, the process of hiring new employees and also increasing the amount of information provided to customers about the products marketed.

In Romania, there are few studies about social media and their degree of usage in companies. According to The Like & Share study - Social media marketing in Romanian companies 2017 (Valoria, 2017), social networks are used by Romanian companies mainly for communication (90%), marketing (75%), sales (39%). Although at some distance, 35% of companies use social networking for recruitment, 32% for customer relations, 27% for research, and 25% for competitive analysis. The most used social media marketing platforms in Romania are: Facebook - 96%, LinkedIn - 70%, YouTube - 44%. The top three places worldwide are: Facebook - 93%, Twitter - 76% and LinkedIn - 67%, both Facebook and LinkedIn having higher usage percentages in Romanian companies than globally.

Another study made by Ernst and Young Romania (2015) analyze the answers of some company representatives from various industries in Romania about how they approach marketing through social networking and the impact that this type of marketing currently has on their work.

In the specialized literature there are also some studies about why consumers use online communities (e.g. Koh et al., 2007; Wiertz & de Ruyter, 2007; Sledgianowski & Kulviwat, 2009). Sledgianowski and Kulviwat (2009) found that playfulness and critical mass attract consumers most, Dholakia et al. (2010) discussed about the consumers' benefits of using social media, while others tried to identify the impact of new media on customer relationships (Hennig-Thurau et al., 2010).

Whiting and Williams (2013) mentioned that customers use social media in their interaction with companies for seven reasons: social interaction (communicate and interact with others); information seeking (seek out information or to self-educate); pass time (occupy time and relieve boredom); entertainment (provide entertainment and enjoyment); relaxation (relieve day-to-day stress); communicatory utility

(communication facilitation and providing information to share with others) and convenience utility (providing convenience or usefulness to individuals).

Baird and Parasnis (2011) identified that companies have some misperceptions regarding why consumers interact with them via social sites. For example, their findings show that most of the customers use social media when they interact with a business for “getting discounts or coupons”, “purchasing products and services” and “reading reviews and product rankings”. In contrast, those three activities were at the end of the reasons list that companies believe customers use social media for their interaction. Taking into account the information found in the analyzed studies, the authors decided to determine the differences between companies and customers from the perspective of using social media networks. In this regard, the authors wanted to answer to the following questions:

Q1: What are the most used social media networks by the consumers and employees from Romania?

Culnan et al. (2010) presented in their paper that Twitter, Facebook and blogs are the most popular social media platforms used in the US by companies that were presented in Fortune 500's top. Thus, the authors are looking to see if these three social media platforms were also the most used in Romania by both consumers and employees.

Q2: What are the most used social media networks by the consumers and employees from Romania for: seeking/providing information, social interactions, company development, marketing, promotion, relaxing, entertainment, communication?

After they will gather information about what are the most used social media platforms, the authors' target is to verify if there is a dominant platform that is used for some different reasons by the Romanian internet users.

Q3: Why consumers use social media in their interaction with companies?

In order to get an answer for this question, the authors measured the consumers' perceptions about seeking information, social interactions, company development, marketing, promotion, relaxing, entertainment and communication in relation to social media usage.

Q4: Why companies use social media in their interaction with customers?

In this case, the authors measured the employees' perceptions about why they think companies that hired them use social media. The following factors can be: help their customers with providing information, making social interactions, communicate, getting entertained, contribute to the development of the company or be closer to it.

Conceptual framework

The aim of this paper is to analyze the perception gap existing between the reasons consumers interact with companies via social media and the reasons businesses use social media.

The conceptual framework is presented in Figure 1, which shows the customers' and companies' reasons for using social media networks. In this study, we identified three variables. Customers' reasons for using social media can be defined through the following items: seeking information; buying new products/services; communication; relaxing, entertainment; social interactions. The construct Companies' reasons for using social media can be defined through the following items: providing information; marketing, special offers; communication; company development; relaxing, entertainment; social interactions.

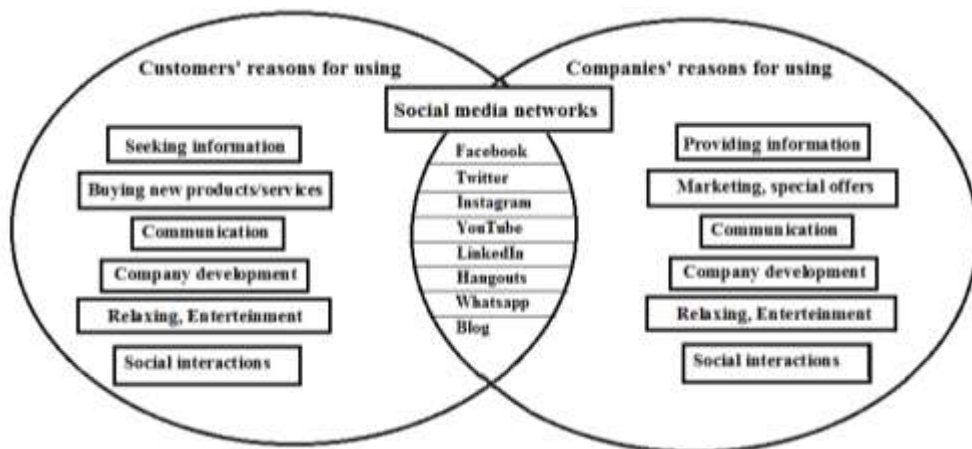


Figure 1. The consumers' reasons vs. companies' reasons to use social media networks

Research design and methodology

The research in this paper was an exploratory one in order to have an overview of the perception gap existing between the reasons consumers interact with companies via social media and the reasons businesses use social media when they want to interact with them.

In this case, the authors used the respondents' perceptions. The respondents played a double role. First, they were considered customers who interact with companies, and then they were considered employees of the company where they were working in order to present the companies' reasons for using social media with customers' interactions.

For collecting the data, the authors used a questionnaire containing 11 items that can be divided into 4 sections: social media networks used by employees and customers, employees' perceptions about the reasons consumers interact with companies via social media, the reasons employees think companies interact with customers via social media, social media networks used by companies to interact with customers for different reasons.

For this study, during June 2018, the authors collected data from a group of engineers who graduate from the Faculty of Entrepreneurship, Business Engineering and Management from University POLITEHNICA of Bucharest. The majority of the respondents work in companies with more than 250 employees (43.2%), while 61.4% of these companies are founded at least 10 years ago. This study is an exploratory one,

the number of respondents for this analysis being 44, 79.5% of the respondents being very familiar with the term “social media”.

Variable measurement

The authors identified 34 variables that can be divided into 4 sections (as it can be seen in Table 1), each variable receiving a code name (CN). Constructs from Sections 3 are defined later in Table 2.

Table 1. Identified variables and their codes

Section 1		Section 2		Section 3		Section 4		Section 5	
Variable	CN	Variable	CN	Variable	CN	Variable	CN	Variable	CN
Knowing the term “social media”	SM	Consumers’ perception- Seeking information	RA	Employees’ perception- providing information	FRA	Social media used by company for Providing information	ChR1	Age of the company	Age
Social media used by respondents	SMR	Consumers’ perception- Marketing, promotion	RB	Employees’ perception- Marketing, promotion	FRB	Social media used by company for Marketing, promotion	ChR2	Number of employees	NrE
The most used Social media network by respondents	USM	Consumers’ perception- Communication	RC	Employees’ perception- Communication	FRC	Social media used by company for Communication	ChR3	Domain of company	D
Social media used by company	SMC	Consumers’ perception- Company development	RD	Employees’ perception- Company development	FRD	Social media used by company for Company development	ChR4		
		Consumers’ perception- Relaxing, Entertainment	RE	Employees’ perception- Relaxing, Entertainment	FRE	Social media used by company for Relaxing, Entertainment	ChR5		
		Consumers’ perception- Social interactions	RF	Employees’ perception- Social interactions	FRF	Social media used by company for Social interactions	ChR6		

In section 1, the authors identified what is the people’s surveyed level of knowing the term “social media” (SM), what social media platforms are used by respondents (SMR), what is the most used social media platform by consumers when they interact with a company (USM), what is the most used social media platform by companies when they interact with a customer (SMC). For section 2, the authors analyzed the main reasons a respondent use social media for his interaction with a company, while in section 3 the authors analyzed the employees’ perceptions about why companies use social media when they interact with customers. In section 4 were identified the most used social media platforms by companies for different reasons. In the last section, the authors have analyzed three control variables (age of the company where the respondent works, the number of employees of that company and the domain where the company operates).

Table 2. Identified variables from Section 3 and their codes

Variable	Code	Final Code
Provides information about companies, products, services	A1	$FRA=(A1+A2+A3)/3$
Provides information about companies' promotions	A2	
Provides information about companies' events	A3	
Job offers	B1	$FRB=(B1+B2)/2$
Brand awareness	B2	
Sharing information, reviews	C1	$FRC=(C1+C2+C3)/3$
Suggestions	C2	
Complaints and check statuses	C3	
Customer loyalty and sales growth	D1	$FRD=(D1+D2+D3)/3$
Developing new partnership	D2	
Differentiation from competitors	D3	
Relaxing, entertainment	E	$FRE=E$
To be informed about companies' concerns	F1	$FRF=(F1+F2+F3)/3$
To be informed about consumers' concerns	F2	
To be informed about employees' concerns	F3	

A part of these reasons were taken and adapted from Whiting and Williams' study (2013), Baird and Parasnis' paper (2011) and others from de Araújo and Zilber (2016) (who presented some indicators for the variable Relative Advantage that defines Perceived Innovation Characteristics of a company in their paper). The authors used the most known social media networks, where a part of them were identified in a study made in 2015 by Ernst &Young Romania.

For this study, the authors averaged variables identified in section 3 in order to obtain a value for each main reason a company uses social media in order to be in touch with customers. Most of the variables were measuring perceptions of the people surveyed. For the variables identified in section 2 and 3, the items were measured on a 5-point Likert-type scale ranging from 1 (never) to 5 (always).

Results and discussions

All measurements were based on the respondents' perceptions, while data was analyzed using SPSS 20.0 software. First, the authors identified the most used social media networks by companies. As it can be seen in Table 3, 81.8% of the analyzed companies are using Facebook, 45.5% are using LinkedIn, 43.2% WhatsApp and 31.8% Skype.

In Table 4, the authors presented the social media platforms that are used often by users when they want to interact with a company. From this point of view, it seems that LinkedIn is the internet users' favorite platform for interacting with an organization (36.4%) followed closely by Facebook (34.1%). Also it seems that 11.4% of the people surveyed still use the companies' official site for any interaction to the detriment of social media networks.

Table 3. Social media platforms used by companies in relation with internet users

Facebook (%)	Twitter (%)	Instagram (%)	Skype (%)	YouTube (%)	LinkedIn (%)	Hangouts (%)	WhatsApp (%)	Blog (%)
81.8	18.2	25.0	31.8	27.3	45.5	2.3	43.2	18.2

Table 4. Favorite social media platform used by customers in their interaction with companies

Facebook (%)	Twitter (%)	Instagram (%)	YouTube (%)	LinkedIn (%)	Blog (%)	Official site (%)
34.1	2.3	6.8	2.3	36.4	6.8	11.4

Another aspect tested by the authors was to determine if there is any correlation between the reasons customers interact with companies via social media and the reasons businesses use social media (Table 5), using the interpretations for R-values suggested by Evans (1996).

Table 5. Correlation matrix among main variables

	RA	RB	RC	RD	RE	RF	FRA	FRB	FRC	FRD	FRE	FRF
RA	-											
RB	.572**	-										
RC	.409**	.302*	-									
RD	.112	-.033	.528**	-								
RE	.379**	.375*	.297*	.039	-							
RF	.513**	.505**	.372*	.243	.651**	-						
FRA	.353*	.137	.384**	.306*	.133	.178	-					
FRB	.521**	.406**	.322*	.16	.170	.315*	.675**	-				
FRC	.198	.114	.418**	.356*	.041	.252	.683**	.430**	-			
FRD	.206	.103	.341*	.425**	-.029	.248	.590**	.376**	.727**	-		
FRE	.101	-.130	.109	.323*	0	.013	.660**	.443**	.554**	.591**	-	
FRF	.401**	.081	.247	.212	.120	.236	.720**	.487**	.695**	.664**	.603**	-

Note. N=44; *p <0.05, **p<0.01

As it can be seen in Table 5, there are some moderate positive correlations across consumer and company uses of social media as follows:

- R=0.521 (p<0.01) between consumer use of social media to seek information (RA) and company use of social media for marketing (FRB);
- R=0.406 (p<0.01) between company use of social media for marketing (FRB) and customer' desire of using social media for buying new products/services (RB);
- R=0.418 (p<0.01) between using social media for communication by consumers (RC) and companies (FRC);
- R=0.425 (p<0.01) between companies use of social media for their development (FRD) and customers use of social media for improving services/products offered by a company (RD);

- $R=0.401$ ($p<0.01$) between customers use of social media for seeking information (RA) and companies use of social media for social interaction (FRF).

It can be seen that, between some variables which describe the reasons companies use social media, there are strong correlations that are significant at 0.01 level (2-tailed), like:

- $R=0.675$ between providing information (FRA) and marketing, promotion (FRB);
- $R=0.683$ between providing information and communication (FRC);
- $R=0.660$ between providing information and relaxing, entertainment (FRE);
- $R=0.720$ between providing information and social interactions (FRF);
- $R=0.727$ between company development (FRD) and communication (FRC);
- $R=0.695$ between social interactions (FRF) and communication (FRC);
- $R=0.664$ between social interactions (FRF) and company development (FRD);
- $R=0.603$ between relaxing, entertainment (FRE) and social interactions (FRF).

Those strong correlations can be explained by the fact that companies already have some goals for their development and those goals are interdependent. When companies decide to use social media, they also adapt their goals, but they have in mind the main aim of their existence: profitability. This profitability can be achieved only if customers are happy with their interaction with the firm.

After that, the authors wanted to establish what social media networks are used the most by the companies where the respondents were working for the following reasons: providing information, marketing, promotion, communication, company development, relaxing, entertainment, social interactions.

According to our results (Table 6), Facebook is the most used social media network for all of the reasons mentioned before. This network is especially used for marketing, promotion (81.82%), providing information (75%), communication and social interactions (63.64%). It is important to highlight that Google Hangouts is used in a proportion of 27.27% for company development.

Another aspect treated by the authors was the frequency of using social media networks by the customers or by the companies for the main reasons identified before in this paper. In Table 7 it can be observed that customers use social media to interact with companies to seek information (45.5%), to buy new products/services (63.6%), for communication (54.5%), entertainment (56.8%) and social interactions (50%), but they do not really use social media for company development (for example by offering suggestions or recommendations about the company's products or services).

Table 6. Social media networks used by companies and the reasons of their using

	ChR1	ChR2	ChR3	ChR4	ChR5	ChR6
	%	%	%	%	%	%
Facebook	75.00	81.82	63.64	36.36	59.09	63.64
Twitter	2.27	-	2.27	2.27	-	2.27
Instagram	-	-	-	-	4.55	-
Skype	2.27	9.09	-	2.27	9.09	-
YouTube	6.82	-	9.09	6.82	4.55	15.91
LinkedIn	-	-	4.55	4.55	2.27	4.55
Hangouts	2.27	-	6.82	27.27	6.82	4.55
WhatsApp	4.55	2.27	-	-	-	-
Blog	6.82	6.82	13.64	20.45	13.64	9.09
Total	100	100	100	100	100	100

Table 7. Frequency of using social media networks by customers for different reasons

Frequency of using social media networks	Customers' reasons of using social media networks					
	Seeking information (%)	Buying new products/ services (%)	Communication (%)	Company development (%)	Relaxing. Entertainment (%)	Social interactions (%)
Never	4.5	2.3	4.5	11.4	9.1	6.8
Rare	22.7	11.4	9.1	45.5	13.6	13.6
Sometimes	22.3	22.7	31.8	34.1	20.5	29.5
Frequent	36.4	34.1	29.5	4.5	31.8	29.5
Always	9.1	29.5	25.0	4.5	25.0	20.5

Table 8. Frequency of using social media networks by companies for different reasons

Frequency of using social media networks	Companies' reasons of using social media networks														
	Providing information (%)			Marketing. Promotion (%)		Communication (%)			Company development (%)			Relaxing. Entertainment (%)	Social interactions (%)		
	A1	A2	A3	B1	B2	C1	C2	C3	D1	D2	D3	E	F1	F2	F3
Never	0	2.3	13.6	2.3	0	9.1	4.5	15.9	9.1	11.4	4.5	9.1	4.5	4.5	6.8
Rare	4.5	4.5	15.9	9.1	4.5	11.4	22.7	13.6	13.6	20.5	15.9	18.2	27.3	6.8	13.6
Sometimes	25.0	13.6	22.7	27.3	15.9	29.5	25.0	27.3	34.1	27.3	25.0	25.0	34.1	45.5	43.2
Frequent	27.3	43.2	22.7	22.7	15.9	25.0	29.5	22.7	22.7	22.7	31.8	31.8	18.2	18.2	11.4
Always	43.2	36.4	25.0	38.6	63.6	25.0	18.2	20.5	20.5	18.2	22.7	15.9	15.9	25.0	25.0

Besides, looking at our results about companies' reasons of using social media networks for their interactions with customers (Table 8), we can see that for almost every reasons identified, the companies try to use social media network as often as they can, focusing on brand, products and services promotion (always- 63.6%). It is curious to see that companies not really use social media to be informed about other companies' concerns

(at least frequently- 34.1%), customers' concerns (at least frequently -43.2%), employees' concerns (at least frequently- 36.4%) or to develop new partnerships (at least frequently- 40.9 %) and they rarely provide information about companies' events or parties (29.5%).

Discussions and conclusions

This study presents the differences between companies and customers from the perspective of using social media networks. The results pointed out that Facebook and LinkedIn are the internet users' favorite platforms for interacting with companies or customers, fact that has also been demonstrated in Valoria's study from 2017. On one hand, Facebook is the most used social media networks, being well known by the internet users and also publicly advertised such as in TV commercials. On the other hand, LinkedIn is the professional platform that someone uses when it comes to more serious and official things about the possible partnership between customers and companies.

According to our findings, there are some positive moderate correlations between identified reasons, like those between why consumers use social media for seeking information (RA) and why companies use social media for marketing (FRB) ($R=0.521$, $p<0.01$) and social interaction (FRF) ($R=0.401$, $p<0.01$).

Companies should track Google Trends and social platforms to identify the most popular information searched by customers and check through market research or case studies what are the customers' needs in order to improve the company's marketing strategies or their social interactions with the clients. If companies are concerned about these issues, then customers will use social media platforms more often to look for information about products, companies, events, or available jobs.

Furthermore, there are some positive moderate correlations between using social media for communication by consumers (RC) and companies (FRC) ($R=0.418$), using social media by companies for their development (FRD) and using social media by customers for improving services/products offered by a company (RD) ($R=0.425$), all the mentioned correlations being significant at 0.01 level (2-tailed).

On one hand, companies can use social media to attract customers, to develop new partnerships or to differentiate themselves from competitors, all of these activities contributing to the development of the company, which is also stimulated by the use of social media platforms for purchasing new products or services.

On the other hand, through social media platforms, customers can read or provide reviews of companies' products or services, express their opinions on how to improve existing products or services, which the company can use to develop it. In addition, if companies want to develop themselves through social media, they should organize various contests to stimulate their clients to participate in the company's development process. Thus, the communication between companies and customers will be improved. Our study is an exploratory one, with a few limitations. First, only perceptions of the people surveyed have been considered. The people surveyed played a double role in our study: customers who use social media and employees who are working in companies that use social media. Therefore, in the future, the authors want to reconsider studying

companies' reasons for using social media by analyzing the managers' responses that are responsible for marketing and online marketing in organizations.

Second, the sample was represented only by 44 people, which is why in the future, the authors want to conduct a more elaborate study, on a much larger national sample in order to see if the differences between companies and customers from the perspective of using social media networks will be the same as those identified in this study.

By taking into account the issues presented, companies should carefully consider their social media experience and adapt their every social media network to the needs and preferences of their targeted internet users. In order to do that, companies should start with recruiting digital marketing managers with experience or at least with starting to think like a customer. If companies knew why and how a potential customer uses social media to facilitate their interaction, then they could adapt their strategies to focus on giving customers the value they seek. More important than that, if companies do not know what are the most important things for customers, then they should ask them, making them feel important and contribute to developing new ideas, processes, products or services. Future studies look to present more in-depth recommendations for companies so that they align with their customers' needs when engaging with them on social media.

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THE INFLUENCE OF ONLINE SOCIAL NETWORKS IN THE DECISION-MAKING PROCESS OF ONLINE SHOPPING

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Abstract. *The paper presents some characteristics of the ways online social networks influence the selection of online shopping websites. This research aims to identify the factors that lead to the behavior of searching for information on online social networks when considering to buy a product or a service online, specifically to identify the roles of trust, community commitment, and perception of member affiliation (we-ness) in the decision-making process. As most research papers in the e-commerce field analyzing the factors that influence purchase behavior, this paper uses a quantitative research method, the questionnaire, which was applied in May 2017. The research sample consisted of 166 Facebook users. Facebook is representative considering the large number of users and the amount of time spent on this social network. All of the participants are students at the College of Communication and Public Relations, at the National University of Political Studies and Public Administration, from Bucharest, aged between 18 and 24 years old. The research results revealed that there is a relationship between propensity to trust community members and seeking information on online social networks, even though users are not highly trusting online social networks. According to the results, the Facebook community represents an important source of information where the users have the possibility to consult details, opinions, reviews related to online shopping experiences, but the attachment to the community is to a low degree. The participants from our study mostly use Facebook as a space for obtaining the relevant information for their intention to buy specific products or services, passively consuming the content from this channel. These findings suggest the importance of online shopping websites to communicate on online social networks, where individuals gather information in their intention and selection process of online buying.*

Keywords: *online shopping; information seeking; online social networks.*

Introduction

The growing number of online users and the development of applications that are designed to develop habits (Eyal, 2014) represent just some of the factors that

encourage businesses to engage in e-commerce or e-sales in general. According to Eurostat's study (2017), one out of five EU-28 enterprises conduct electronic sales, with rising figures annually. The wide-spreading e-shopping is common among all age groups, as the numbers in 2016 demonstrate: the highest share of EU e-shoppers is represented by users aged between 25 to 34 (75%), followed by 35 to 44 (69%) and 16 to 24 (68%) (Eurostat, 2016). According to GPEC (2017), 44% internet users shopped online at least once a month, and 62% of these users are aged between 18 to 34. Romanian online shoppers visit 9 online stores per year with a frequency of 3 or 4 times per week, suggesting that the interest and information seeking behaviors are present on an ongoing basis.

While social media applications offer businesses the possibility to connect and deliver their message to a large pool of users (Kietzmann et al., 2012), or to promote products and build reputation (Broekemier, Chau & Seshadri, 2015), the effort of gaining user attention to various products and services represents a consistent endeavor. Only some studies have been focusing on investigating user behavior on online social networks and the factors enhancing or relating to purchase decisions or intentions (Mahrous, 2015, Mahrous & Abdelmaaboud, 2017). Elsharnoby and Mahrous (2015) identified users' tendency to use social media as a primary source of information before making a purchase, which is evident considering the interactive platforms that allow asking questions, posting answers and evaluating users in the same time. By considering the comments posted by other users, the potential consumer's behavior can be influenced (Kannan & Hongshuang, 2017). The affiliation of members inside a virtual community has been found to represent an important factor when engaging in this space of interaction (Fayard & Metiu, 2013), while the trust was identified as a factor increasing purchasing decisions when social commerce is concerned (Farivar, Turel & Yuan, 2017). But further research is needed in order to develop a more thorough approach to the antecedents of information seeking behavior. Therefore, the following research questions were established for the purposes of this research:

RQ1. Which are the *factors* that influence users in the online buying process?

RQ2. What is the relationship between the *propensity to trust*, the *perception of member affiliation (we-ness)*, *community commitment*, *trust in online shopping*, and *online social network consulting*?

RQ3. What is the relationship between the *propensity to trust* and *information seeking* on online social networks?

Theoretical background

Advantages and challenges of online shopping websites

Online users have access to many online sources that assist them in becoming informed consumers. They have access to information related to costs, characteristics, quality, replacement options, ease of delivery and shopping experiences of other users. As Kotler (2009) stated, the consumer is the one controlling the interaction, and not the seller (p.325). Specifically, online marketing allows (1) potential buyers to advise with the shopping website in taking the best decision possible, (2) to access information fast, especially information that favors the business in comparison with other businesses, and (3) to make the purchase in a timely manner, as even automatic sales agents can assist the buying process smoothly. Utilitarian value including saving time, the cost of

searching for products and services, purchasing efficiency represent the primary advantages of choosing online shopping (Chang et al., 2015).

Besides advantages, consumers can also encounter challenges in the buying process. Studies have shown that challenges specifically include safety of electronic transactions and payment security systems (Liao & Cheung, 2001; Chang et al., 2015). Additionally, lack of trust can also be an issue, as online users can distrust online sales agents because they do not have the possibility to directly interact with these people, nor with the products that they are interested in. Some users experience a fear-based feeling when buying a product without directly touching it (Zaman, Anadarajan & Dai, 2010, p.295), looking for cues that allow them to get a proper understanding of the physical characteristics of the products.

Online buying behaviors and online social networks

Thanuskodi (2015) states that the need to be informed determines individuals to develop a process through which they identify the necessary information, which includes seeking, evaluating, selecting and using the information they need, and it can be referred as *information seeking behavior*. This process includes other behaviors which can be either intentional or passive, such as the occasional search or accidental encounter with a piece of information (Case, 2002). Ikoja-Odongo and Ochalla (2004) describe information seeking as the process that requires the cognitive capacity of the individual, but also their knowledge and abilities. By posting product or service related questions on online social networks, for instance, it can be suggested that the user is actively seeking for information (advice, opinions, details etc.), while combining this information with what was previously stored cognitively, from other sources and types of interaction with the online shop or other shops or online experiences.

The way in which users decide to get informed on online social networks related to the products or services they intend to acquire from online shops can be influenced by various factors, like what other users posted about products they bought (Kannan & Li, 2017). eWOM or electronic word-of-mouth “encompasses customers’ knowledge about the products, their usage, experience, recommendations, and complaints, and is generally perceived as trustworthy and reliable” (p. 27) and more effective compared to traditional marketing tools (Rauniar et al., 2014).

Jedrzej and López Locés (2017) found that most people tend to discredit sellers that have negative reviews even if these reviews are fewer than the positive ones, suggesting that a bad opinion has more weight than a positive one (p. 126). Considering the fact that users who buy online generally tend to perceive the behavior as being riskier, trustworthiness becomes the factor that can influence their decision making positively. Pappas (2016) identified three main risks that can influence decision making in the buying process: (1) the inability to examine whether the product will satisfy their needs before receiving it, (2) the post-selling services, (3) the inability to fully understand the system and the language that is being used in electronic sales. These sort of perceptions can lead potential e-shoppers to ask for advice on online social networks, so they can evaluate how other existing buyers or other users perceive the desired product or online service.

Trust represents an important factor associated with the development of the interest in using online stores in the buying process. The tendency to trust is seen as a personality characteristic leading to generalized expectations referring to the trust of others. Mayer, Davis and Schoorman (1995) suggested that trust is “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (p.712). On the other hand, propensity to trust or the generalized tendency to trust others represents a stable factor within the group, affecting the probability that the group is trustworthy. For determining whether something is trustworthy or not, consumers look for indicators for trust and the effect of propensity to trust is to raise or reduce the signals of these indicators. Arora and Rahul (2017) demonstrated that consumer attitudes toward online shopping are significantly impacted by trust, which is a product of perceived web quality, website reputation and electronic word-of-mouth (p.373).

As far as information searching is concerned, studies demonstrated that there are positive relationships between the perceived benefits of social media information searching and the initial usage of this space for obtaining information (Mahrous, 2016). But on social media, users get involved in communities, and community belonging becomes essential as people get more and more engaged in distributed and inter-organizational groups (Fayard & Metiu, 2013), allowing individuals to identify with other community members and start thinking about “we” instead of “I” or “them” (Fayard & DeSanctis, 2010). This can be another factor that could influence the way users choose to advise their community when considering buying a product or service.

Methodology

The objectives of this research paper were to identify the users’ attitudes towards using Facebook as a means for information in the online buying process and to identify the factors influencing the use of Facebook for this purpose. The online social network Facebook was selected as this is one of the most frequently used social media platform in Romania. For the purposes of this research, a quantitative method was used, the survey. For data collection, an online questionnaire was used, which was applied in 2017. The questionnaire was distributed via Google forms platform and shared through Facebook.

The sample consisted of 166 students from the College of Communication and Public Relations, NUSPA, from Bucharest, Romania. The respondents, aged between 18 to 24, answered the invitation to respond to the online questionnaire after the invitation was posted on an online group on Facebook. The students are undergraduate (67%), master’s graduates (22%) and Ph.D. graduates (1%). 69% are females, while 31% are males; the majority of the participants live in the urban area (90%), while 9% live in the rural area. The questionnaires were completed online and the anonymity to this completion was guaranteed.

Scales of measurement

For measuring *we-ness*, referring to the affiliation of members to the community, we used a 3 items scale asking students whether they think of Facebook friends as “we” instead of “them”, how much friends on Facebook mean to them and whether they

identify with the community. In order to measure *propensity to trust*, a 3 items scale which included questions regarding the easiness to trust another person, the level of the tendency to trust and the disposition to trust without having information about the other party. *Online social network consulting* was For measuring *trust in internet shopping*, we used a 5 items scale which included questions regarding the attitude towards trusting online acquisitions, uncertainty perception, attitude towards online sellers and promise keeping, perception regarding others who shop online and on trusting the online stores they use. Community commitment was measured through a 3 items scale requesting participants to rate the degree to which they agree to the statements referring to their attachment to the Facebook community, to their emotional involvement and to their predisposition to enquire information from the community. For measuring these scales, students were asked to state their agreement level or value on 5 point Likert scales.

For measuring the internal validity of the proposed scales, Cronbach Alpha was applied; the results revealed high values in this sense: *consulting online social networks (Facebook)* $\alpha=0.952$, *trust in online shopping* $\alpha=0.802$, *community commitment* $\alpha=0.933$, *perception towards member affiliation (we-ness)* $\alpha=0.914$, *propensity to trust* $\alpha=0.900$.

Table 1. Descriptive statistics (means, SD, Cronbach Alpha) of factors that influence the decision-making process

No.	Item	Mean	SD	Cronbach's α
1.	Trust in online shopping	2.60	0.84	0.798
2.	Propensity to trust	2.34	1.04	0.900
3.	We-ness	2.71	1.29	0.914
4.	Community commitment	2.77	1.33	0.933
5.	Online social network consulting	2.01	1.26	0.952

Results

Firstly, the survey results showed that the students from our sample shop online a few times per year (42%) and once in every 2 or 3 months (23%), while only a less than a quarter are heavy shoppers, buying a few times per month (20%). Regarding their *information seeking behaviors*, our respondents use Facebook most of the times (22% very frequently, 20% on a frequent basis), while 15% confirmed that they do not use Facebook at all when they are researching for information for a new acquisition. Furthermore, most of the students agreed that online stores need a Facebook presence (more than 80%). As far as the page content they expect to see, the respondents mostly mentioned they agree that it should be less oriented towards sales (more than 70%).

Regarding *trust in online shopping*, the means ($M=2.6$, $SD=0.84$) showed that students are most trusting of online stores, specifically, more than 50% agree that a virtual store inspires them trust, while 22% agree that they are not trustworthy as they present plenty uncertainties. Also, more than 50% of the participants did not agree that online sellers are not able to keep their promise, while 23% is undecided, and over 23% considers this to be true to a high and very high degree. Regarding the trustworthiness

of the online stores where they buy products or, 64% agree with this statement to a high and very high extent.

As far as *community commitment* is concerned, 29% of the participants are emotionally attached to a very low degree and 23% to a low degree to their Facebook community, while 20% have a neutral standing point. Around 28% feel attached to their community members. On the other hand, members seem to represent an important source in obtaining the needed information when considering to buy something online, as 23%, respectively 21% go to Facebook for information, while 35% do this to a little extent or very rarely. This suggests that the Facebook community could be perceived as a valuable source of getting information by more than a third of the research sample, but there is also a consistent percentage not committing to this idea. The mean of this scale was $M=2.77$ $SD=1.33$, indicating a somewhat balance perception of community commitment within the sample that was studied.

By measuring *we-ness*, or member's affiliation to the community, the results showed approximatively similar values with the previous scale ($M=2.71$, $SD=1.29$). Almost a half of the respondents confirmed that the Facebook friendship does not mean a lot to them, 25 % being undecided, and around 30% confessing to this attachment. However, most of the respondents do not agree with the statement that they think of their Facebook friends as "we" instead of "they" (61%), while 16 % consider this to be true for them. 42% of our sample agreed that they do not identify themselves in the Facebook community which helps them trust in buying a specific product or service online, while 38% confirm this attitude.

The *propensity to trust* scale was developed for measuring the general tendency towards trust of the respondents. The values were rather inclined to a low degree ($M=2.34$, $SD=1.04$). Only 19% agreed that they can easily trust another person, 22% remaining undecided, and almost 60% did not agree with this statement. The second item asked the participants to rate the extent to which they agree that their tendency to trust another person is high, most of the participants (51%) shared that they did not agree to this to a low and very low extent. 26%, however, believe this to be true for them. As far as trusting other individuals that they do not know, the majority (76%) admitted not having this attitude. Thus, the results showed a low level of general trust for our sample.

Online social network consulting was measured by asking the study participants whether they post questions or advice about the products or services they buy online. In this sense, the mean value indicates that students barely participate in this type of behavior ($M=2.01$, $SD=1.26$). 46% of the respondents mentioned they never post questions on Facebook in order to obtain information about a product or service they intend to buy, while 30% rarely do this, and only 9,1% proceed with this for getting advice. Moreover, less than 17% post advice after buying a product or service from an online store, with 52% of the respondents never engaging in this sort of behavior, and 23% rarely doing so. These results prove a low contribution with valuable information for the community.

Regarding the factors influencing the acquisition process, 50% of the students reported that they are influenced by comments on the Facebook pages of online stores, while 28% are influenced by this to a low degree. Negative comments posted on Facebook photos of the products influence 46% of our sample, while 23% report not being influenced by this, and 18% are undecided whether this is important to them or not. Over 62% of the

respondents, however, are more inclined to buy a product if they find photos and information on Facebook about it, and 19% are influenced by this to a low degree. Responsiveness seems to be important according to our results: over 60% believe that their level of trustworthiness increases when the Facebook admin page answers all the questions that are asked on the page.

Considering the normal distribution of the tested variables, a Spearman correlation test was applied in order to identify whether there are statistically relevant relationships between the variables that were presented. The analysis showed a positive relationship between *we-ness* and *online social network consulting* ($r_s = .693, p < .01$), showing that the extent to which students perceive themselves as part of the Facebook community increases, the behavior of posting advice or questions regarding online stores also increases. The same positive relationship was identified when considering *community attachment* ($r_s = .646, p < .01$), indicating that once the attachment to the community increases, users tend to engage in informative behaviors on the community.

As far as *information seeking* on Facebook is concerned, the analysis reported a positive relationship with *trust in online shopping* ($r_s = .274, p < .01$), with *we-ness* ($r_s = .541, p < .01$) and *community commitment* ($r_s = .581, p < .01$), suggesting the possibility that users who are trusting the online environment for buying products or services are also using Facebook as a channel for obtaining information about what they intend to buy, and that this behavior increases with the feeling of belonging and attachment to the community. There is no significant relationship, however, between *information seeking* and the *propensity to trust*. But the *propensity to trust* and *trust in online shopping* both have a positive association with *online social network consulting* ($r_s = .163, p < .05$, and $r_s = .381, p < .01$).

The *frequency of online shopping* increases with *trust in online shopping* ($r_s = .447, p < .01$), with *community attachment* ($r_s = .335, p < .01$), and with *we-ness* ($r_s = .424, p < .01$), putting forward for consideration that the frequency of buying online is related to the favorable perception of the Facebook community and with the increase of trustworthiness of the online stores.

Table 2. Relationship testing between variables

Correlations	P value	R square
<i>We-ness -> online social network consulting</i>	**	0.693
<i>Community attachment -> online social network consulting</i>	**	0.646
<i>Trust in online shopping -> information seeking on Facebook</i>	**	0.274
<i>We-ness -> information seeking on Facebook</i>	**	0.541
<i>Community commitment -> information seeking on Facebook</i>	**	0.581
<i>Propensity to trust -> online social network consulting</i>	*	0.163
<i>Trust in online shopping -> online social network consulting</i>	**	0.381
<i>Trust in online shopping -> frequency of online shopping</i>	**	0.447
<i>Community attachment -> frequency of online shopping</i>	**	0.335
<i>We-ness -> frequency of online shopping</i>	**	0.424

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Discussion

Firstly, the research results proved that a business presence on online social networks is relevant for a number of reasons, as young segments (between 18 to 24) mostly search on Facebook when considering to buy a product or service online, and also believe that online stores should have a business page to be consulted on this online channel. Users appreciate the involvement of the page admin in the comments that are posted on the page also take into account the comments and the impressions, especially the negative ones when they form an opinion about what they intend to buy. Previous research (Jedrzej & López Loces, 2017) showed that negative opinions or comments can impact a large number of people, even if the number of the negative reviews represents a minority, so it is important for online shops to respond to inquiries, with suggestions, recommendations, even to the negative mentions that are posted by clients, because it offers the business' perspective.

The role of trust and its importance in the buying decision process was emphasized before by other researchers (Tuteja et al., 2016; Martin et al., 2011). In our study, it is important to note that the attitude of trusting online shopping is connected to the information-seeking behavior on social networks and to the activity of posting questions and advice related to the acquisitions on the social networks. Online stores should monitor the way their targets get informed and identify the specific questions they ask referring to products or e-shops services. Moreover, the level of community attachment and affiliation are both linked to advising and asking for feedback on online social networks, so this could potentially mean that the users will attribute more value to what their members will be suggesting and to the information or opinion they are offering.

Generally, the participants mostly trust online stores and, particularly, the e-shops they do some research on. However, there is a significant percentage of the study participants who are either undecided or distrusting of online sellers, which could be a potential indicator of bad reputation or some negative claims they interacted with, which were proven to weight more compared to positive word-of-mouth.

In terms of content generation, our study results are similar to others (Romero et al., 2011; Ertiö et al., 2018) that confirm that social media users are rather passive consumers of content, and not engaging in contributing to the network. Very few students of our sample post questions or advice referring to the products or services they bought or intend to buy online, demonstrating their lack of actual involvement in the community.

As far as the third research question is concerned, the data analysis showed that there was no significant relationship between seeking information on online social networks and the general tendency of users to trust, which could suggest that the behavior of resorting to the online community for advice or pre-purchase information could be happening irrespective of the disposition to trust other individuals.

Limitations of the research

The study had a couple of limitations. Firstly, the data was collected online, which could interfere with the quality of the information that was obtained. Furthermore, the quantitative method of research allowed us to evaluate only one perspective of the

online shopping experience and some of the perceptions of the factors that influence the decision-making process and the information seeking experience in the pre-purchase stage of the buying process. More in-depth research is required for advancing the relevance of social media influence, the antecedents and the consequences of the consumer purchase intention in e-commerce. Additionally, the research investigated only the attitudes and opinions about aspects referring to the Facebook community and the functionalities it allows business owners to use for promotion, but the complexities behind the social media marketing efforts are much wider and they also need to be taken into account when evaluating decision making of users who intend to shop online.

Conclusions

Considering the wide variety of digital marketing and social media technologies that allow e-commerce businesses to promote their products or services and build and maintain relationships with publics, there is more need and interest in understanding the most effective ways in using these technologies for business benefits. Social media, in particular, represents a relevant source of information for users in the online purchase experience. Considering social media's interactive nature and the large volumes of user-generated content that it generates, it is especially important for e-shops to monitor and be actively present in this space, facilitating dialogue with interested publics and contributing with attractive content for potential prospects. As the online community can influence the perceptions of publics based on the information it provides, online businesses should invest time in understanding the digital micro-universes the users experience throughout their online journeys, getting more involved in implementing social networking functionalities on their buying platforms.

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THE WAY TO ORGANIZATIONAL EXCELLENCE OF INNOVATIVE ENTERPRISES THROUGH COMMUNICATION WITH STAKEHOLDERS

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Abstract. *The foundation of building the excellence in the organization is the knowledge creation and its diffusion process. Knowledge is, in fact, a kind of "lever" of an organization's development and a source of its widely understood potential. An organization's excellence grows from the knowledge management processes and can be a challenge for managers to satisfy stakeholders. To create excellence in the organization is to follow some key concepts: results orientation, customer focus, leadership and constancy of purpose, management by processes and facts, people development and involvement, continuous learning, innovation and improvement, partnership development, corporate social responsibility. Many contemporary organizations try to find many potential solutions on the market to create good relations with stakeholders. The very important factor in the process of creation the excellence between the enterprise and its stakeholders is the effective way of communication. This is a theoretical and empirical article and its objective is to place the communication process in the contemporary innovative enterprise, as well as specify the role and importance of organization's excellence in the development of good relations with stakeholders. The article tries to answer to, among many others, the following questions: (1) What are the elements of the organization' excellence model? (2) How to build the communication process with stakeholders in the contemporary innovative enterprise? (3) What are the means of the communication in the process of building relationship with stakeholders? The research is based on own research made with top and middle managers in the innovative contemporary enterprises form Poland (listed on the NewConnect market).*

Keywords: *organization; excellence; communication; NewConnect; stakeholder.*

Introduction

Nowadays, the global world systematically "obliterates" geographic and demographic boundaries, because the information and communication technologies (ICTs) has created a new model of inter-organizational communication. The new balance of forces radically creates various relationships that "vertically" transform into "horizontal" relations, integrating various entities on the principles of "equality" and cooperation (including social ties). Contacts between various interest groups (stakeholders) affect many aspects of their business, e.g. economic activity. Despite the fact that today's enterprises focus in most cases on reducing operating costs, they must be reliable to

their nearest stakeholders, that is investors, customers or suppliers. Spontaneous contacts, for example in the form of mailing, telephone conversations or helpline, are the basis of modern communication of enterprises with its stakeholders.

The use of modern information and communication technologies, including the Internet, allows enterprises to design effective advertising campaigns or to improve supply and distribution channels. It is a derivative of the fact that these technologies allow, among others, for interactive and two-way communication between key stakeholders and the organization, for example in the form of asking questions or direct contact with a consultant, as well as creating knowledge (see: Janasz & Janasz, 2018). Striving for excellence, modern enterprises are outdoing themselves in their accessibility to clients, investors, suppliers, etc. – at the communication level, at the company-stakeholder level. This is mainly aimed at creating a competitive advantage and increasing the value of the company in the opinion of different classes of stakeholders (see: Gapinski, 2016; Beyer, 2018; Ziółkowska & Karbownik, 2018; Jabłoński, 2018; Grewiński, 2018).

The objective of the article is to place the communication process in the contemporary innovative enterprise, as well as specify the role and importance of organization's excellence in the development of good relations with stakeholders. The research is based on own research (using the CASI and IDI research methods) made with managers in enterprises listed on the NewConnect market in Poland. The paper consists of the two leading parts referring to the issues as follows: (1) theoretical part – the organizational excellence and building relationship by contemporary enterprises, as well as the main attributes of enterprises listed on the NewConnect market, and (2) empirical part – specification of the communication means used by enterprises in conducting the relationships with stakeholders.

Organizational excellence and building relationship with stakeholders

The concept of "excellence" from the management perspective can be considered in two ways – absolute and relative. In the case of the first approach, i.e. the absolute approach, one can describe the organization in a perfect condition, completely fulfilled on the market, which has no limitations. Of course, achieving such a state in the long run is simply impossible, and the pursuit of such a state may lead to the danger of activity due to the turbulent environment and the emergence of the risk of the organization itself. On the other hand, the relative approach of the organization's perfection describes not so much the state in which it should be found, but the situation in which the given entity is located, which is a kind of benchmark. This approach is related to building a competitive advantage and is a condition that can be achieved in the long run (Cyfert, 2013, pp.29-30). In reference to the organization's approach in the aspect of relativity, many theoreticians and practitioners of management created many business models defining the principles of excellence in organizations, based on the examples taken from the modern world of business. The principles of the organizational excellence model are presented below (Table 1).

Table 1. Principles of organization excellence model
(Farrar, 2004, pp.24-25; Steckel & Lehman, 1997; Yang, 2009, pp.931-943; Grunig & Grunig, 1998, pp.141-159)

Criterion	Explanation
Results orientation and mission fulfilment	Excellence is achieving results that delight all the organizations' stakeholders; employees are cultivated to achieve their maximum potential and recognize organization's stakeholders' needs.
Customer focus	Excellence is creating sustainable value and professional customer care before, during and after purchase.
Leadership and constancy of purpose	Excellence is visionary and inspirational leadership coupled with constancy of purpose (it must be a unique purpose for the each employee); constructive self-criticism is practiced and encouraged.
Management by processes and facts	Excellence is managing through a set of interdependent systems, processes and facts; doing the right thing is standard in the organization.
People development and involvement	Excellence is maximizing the contribution of employees through their development; there is a focus on staff training, besides employees matter in the organization and their needs are a high priority and they are promoted by management.
Continuous learning, innovation and improvement of intelligence	Excellence is using learning to create innovation and improvement opportunities; the organization easily "jump on" the technology and intelligence advanced levels to celebrate successes on the market.
Partnership development	Excellence is developing and maintaining value-added partnerships; the organization creates innovative strategies of cooperation for income generation and further development.
Corporate social responsibility	Excellence is exceeding the minimum regulatory requirements in which organization operates; organization takes care of different groups of employees and pays attention to ecological system of production and used resources.
Developed communication process	Excellence is using communication techniques to support processes within the organization and outside – with its stakeholders.
Continuous improvement of quality	Excellence is incorporating the critical success factors of TQM through quality control and assurance, quality information system, corporate culture committed to quality, quality objectives and strategy, etc.

Based on international literature Figure 1 shows model created by W. Wereda and J. Woźniak showing the main steps of process from learning organization to the intelligent one (more details in: Wereda & Woźniak, 2015, p.65, see also: Brzeziński, 2018). This model also highlights the differences between intelligent and learning and agile organizations, while pointing out that the basic model is the learning one – this framework introduces the basic mechanisms for creating and diffusing knowledge within the organization and between the organization and its external stakeholders. Knowledge management along with investing in human factor and initiating innovative processes in the organization are the foundations of building an agile organization model that stands out from the learning organization through increased operational flexibility (not only operational but strategic), high adaptability to changes in the environment, development of an early warning system, and blurring of organizational boundaries and virtualization of management processes. It is also important that risk management mechanisms are taken into account in the agile organization model. The very important factor in achieving by the organization level of excellence is the relative

approach and increase in intensity of bilateral communication and two-way relations with stakeholders (Fig. 1).



Figure 1. Basic steps of creating organization excellence model through building relationships with stakeholders (based on: Wereda & Woźniak, 2015, p.65)

According to many studies there are presented different aspects of successful stakeholder relationship management (SRM) in various types of organizations. Therefore, achieving success in managing stakeholder relationships is long-lasting and can be reached only by a long-term commitment to a structured process, which is focused on: identifying stakeholders, understanding their expectations, managing those expectations, monitoring the effectiveness of stakeholder engagement activities, as well as continuous review of the stakeholder community (Bourne, 2009, p.4). The whole process must be supported by clear and effective way of communication because both sides must respect mutual goals and accept risk possibilities during value creation delivering. Stakeholders in the contemporary turbulent time look for trust and rely on strong network communication in developing cooperation with any organization or individuals (Wereda et al., 2016, p.38).

Methodology of the research

The empirical study was carried out in three main stages. The first of these was a survey (using the CASI method) on a sample of 60 innovative companies listed on the NewConnect market in Warsaw. The second stage was to conduct 11 in-depth interviews among respondents previously included in the CASI study. The IDI research was aimed primarily at understanding the specific nature of the issues raised in the CASI study, with particular emphasis on respondents' opinions on the scale and scope of use of specific communication tools with different classes of stakeholders, as well as identification of motives for using or not using of specific communication tools in continuous development company. Quantitative research (CASI) has been supplemented with a qualitative study. In addition, the IDI survey's results were to additionally verify the observed trends demonstrated in the CASI study in the use of specific communication tools with stakeholders. An analysis of the market situation (value of shares) of 11 respondents (in the form of IDI) of enterprises was also made and they were referred to general trends in the use of modern or traditional communication tools with stakeholders – it was the third stage of the research.

Thus, the study used a triangulation method (see Mathison, 1988; Flick, 2004; McFee, 2006; Annells, 2006; Carter et al., 2014) on three levels specified by N. Denzin (2006): data triangulation – comparison of research carried out at different time intervals, triangulation of researchers – conducting research by various researchers, as well as

triangulation of methods – combining a variety of research methods (see Jick, 1979; Olsen, 2004).

The basic components of the survey methodology are presented in Table 2.

Table 2. Methodology of the research (own study)

The components of methodology	Specification
Research scope	The means of conducting the communication processes with stakeholders by the NewConnect companies.
Research objective	Identification of basic means used by NewConnect companies in the communication processes with stakeholders, as well as specification of the role and importance of those means in the organization's excellence development (in the framework of developing good relations with stakeholders).
Research tools	Computer Assisted Self-Interviewing (CASI), Individual In-Depth Interview (IDI), as well as market data/shares' value analysis.
Entity carrying out the study (CASI research)	Centre of Marketing Research INDICATOR Limited Liability Company with its registered office in Warsaw, ul. Świętojerska 5/7, 00-236 Warszawa.
Entity carrying out the study (IDI research)	Research Institute IPC Limited Liability Company with its registered office in Wrocław, ul. Ostrowskiego 9, 53-238 Wrocław.
Entity carrying out the study (market data analysis)	Workers of the Institute of Organization and Management (Military University of Technology in Warsaw): Jacek Woźniak, M.A., as well as Wioletta Wereda, Ph.D.
Period of study (CASI research)	2 months (November – December 2016).
Period of study (IDI research and market data analysis)	2 months (March – April 2018).
Scope of study (CASI and IDI researches)	The whole Poland (16 voivodships).
Respondents	Managers or managers responsible for IT, environment or innovation, employed in NewConnect-listed companies (1 respondent per business).
Criteria for selection of research sample (CASI research)	Systematic random sampling (including the criterion of the leading business profile indicated for the purposes of the NewConnect market record) in layers (layers correspond to enterprise size).
Criteria for selection of research sample (IDI research)	Enterprises chosen from the CASI research sample – the main criterion of choosing was the number of enterprises surveyed in CASI research according to the criterion of leading business profile. In the IDI research the chosen groups were: trade, computer sciences, manufacturing, financial services, advice and training, building & construction.
Groups of stakeholders in the survey (CASI and IDI researches)	4 groups: internal stakeholders, institutional clients, individual clients, as well as other entities, e.g. external processes' subcontractors, intermediaries, shareholders.
The size of the research sample (CASI research)	N = 60 enterprises (28% of the population – the population constituted of 214 companies, i.e. SMEs and large enterprises

The components of methodology	Specification
	from the NewConnect market, which are based in Poland and mainly operate in Poland).
The size of the research sample (IDI research and market data analysis)	N = 11 enterprises (chosen from the CASI research sample).
Structure of the questionnaire (CASI research)	The questionnaire included: 4 questions answered using a 5-point Likert scale) – each question dedicated to the specific group of stakeholders.
Structure of the questionnaire (IDI research)	The questionnaire included: 11 opened questions.

Among all 60 companies (CASI survey), 11 entities dealt with trade, 30 entities provided various types of services, while 19 enterprises operated in the industry or industrial processing. The research sample was dominated by small enterprises (10-49 employees) – there were 37. A little less were medium-sized or large enterprises – 23 entities. In terms of the age criterion, the "old" companies were dominant in the study, i.e. 25 entities were operating on the market over 15 years. The smallest group were "young" enterprises, i.e. operating on the market for less than 10 years – there were 16 in the sample. In addition, all surveyed enterprises operated on a regional and national scale – 60 entities, while only 25 entities operated on a European scale, and only 5 on the international scale (Woźniak, 2018) (Table 3).

Table 3. Specification of the research sample – CASI research (own study; N=60)

The basic criteria of the research sample's specification	The size of the enterprise		In general (number of enterprises)
	Small (10 – 49 employees)	Medium and large (≥50 employees)	
Leading business profile – NewConnect classification			
Trade	7	4	11
Services (computer science, advice and training, financial services, eco-energy, recycling, media)	21	9	30
Manufacturing/ industrial processing	9	10	19
In general	37	23	60
The age of the enterprise			
Less than 10 years	13	3	16
10 – 15 years	11	8	19
More than 15 years	13	12	25
In general	37	23	60
The scale of the business (multiple choice question)			
Local (1 city/municipality/district)	35	23	58
Regional (1-8 voivodships in Poland)	37	23	60
National/domestic (9-16 voivodships in Poland)	37	23	60
European (at least 1 country in Europe outside Poland)	14	11	25

The basic criteria of the research sample's specification	The size of the enterprise		In general (number of enterprises)
	Small (10 - 49 employees)	Medium and large (≥50 employees)	
International (at least 1 country in the world outside Europe, including outside Poland)	3	2	5

The IDI study included 2 enterprises conducting commercial activity, 5 enterprises providing services and 4 companies involved in industrial processing (Table 4). It is worth noting that the quantitative structure of enterprises in terms of the criterion of the leading business profile in the IDI study reflects the proportions of the quantitative structure of enterprises in terms of the same criterion for the CASI study (Table 3).

Table 4. Specification of the research sample - IDI research (own study; N=11)

Leading business profile (NewConnect classification)			In general (number of enterprises)
1.	Trade		2
2.	Services	Computer science	2
		Financial services	2
		Advice and training	1
3.	Manufacturing/industrial processing	Manufacturing	2
		Building & construction	2
In general			11

At this point it should be noted that the conducted study is treated as a pilot study, and the obtained results are only an indication of the direction for further research in the selected area and attention to the basic mechanisms of operation of the surveyed enterprises in the use of specific communication methods (to achieve the so-called excellence organization in shaping relations with stakeholders).

Innovative enterprises on the NewConnect market - the main attributes

The NewConnect market is an alternative market (i.e. Over The Counter - OTC) organized by the Warsaw Stock Exchange. Generally, it can be assumed that securities and money market instruments are traded on the OTC markets. Alternative markets offer investors the opportunity to allocate capital in innovative industries, and companies listed on these markets offer investors a high return on investment, while at the same time increasing the risk of investment (NewConnect, 2015; Woźniak & Wereda, 2018, p.418).

The NewConnect market was launched on August 30, 2007. It was created mainly for small and medium-sized enterprises with high growth potential. The main purpose of launching this market was to enable the development of teams that faced difficulties in obtaining financing for development (NewConnect, 2015, p.15). The NewConnect market offers cheaper capital acquisition, which companies use to implement the assumed development strategy. For many companies, this market is the beginning of the way to the Main Market of the WSE (NewConnect, 2015, p.15).

Companies listed on the NewConnect market are characterized mainly by (NewConnect, 2015, pp.9 et seq.; Woźniak & Wereda, 2018, p.419): (1) small or medium size; these are mainly new entities (start-ups) or enterprises in the early stages of development, looking for ways to build value on the market; (2) high growth potential and flexibility; (3) running business in innovative sectors and branches, including ecology, specialist services, advanced technologies and financial services; (4) the desire to quickly raise capital for development, including for improvement of specific production processes (know-how) and activities related to, among others with establishing business relations (B2B), clients (B2C) and with state and local administration entities (B2A); (5) difficulties in obtaining financing, resulting, inter alia, from the low level of development of the markets on which these enterprises operate, the low level of social trust in this type of activity, or the high cost of capital offered by banks.

Attributes of companies listed on the NewConnect market may suggest a high level of risk in operations – mainly operating. The level of operational risk in these entities is also influenced by the broadly understood environment - both internal and external. Limiting the "negative" as well as stimulating "positive" risk is associated with shaping relationships with various groups of stakeholders, both employees of companies, shareholders, clients, administration, etc. It is all the more important because it is generally assumed that the very nature of business operations from the NewConnect market requires entering into interaction with external stakeholders, e.g. in the area of acquiring resources, improving the flow of information, or establishing new and lasting relationships – to gradually reduce the level of uncertainty and risk in the environment, and to build the company's market value and provide the basis for further external financing by shareholders (Woźniak & Wereda, 2018, pp.418-419; Woźniak, 2018).

The pursuit of enterprises from the NewConnect market to organizational excellence – through shaping relations with stakeholders – is currently associated with the use of certain modern ways of communication (ICTs). Thanks to this, these companies can, among others (based on: Woźniak, 2018): (1) support planning and forecasting processes; (2) improve innovation activity, e.g. by supporting processes of knowledge creation and diffusion; (3) enter network structures (also virtual), e.g. in the form of industry clusters, thanks to which they may have access to rare resources of key importance for their development; (4) improve the efficiency of supply, production, promotion and distribution channels of products and services (including innovations); (5) increase the scale and scope of activity – thanks to ICTs, companies from the NewConnect market can operate globally – the criterion of geographical location of operations is not a limitation for their development.

At this point, however, it should be noted that communication with stakeholders not only with the use of ICTs can be the basis for the companies' striving for the so-called organizational excellence. Noteworthy are also traditional forms of communication, such as telephone conversations or traditional letter correspondence or the circulation of paper documentation. In the further part of the study, the results of the empirical study will be presented, showing which ways of communication with different classes of stakeholders are most often used by enterprises from the NewConnect market.

Innovative enterprises and their communication with stakeholders – results of the research and discussions

The empirical study (CASI) lists four basic classes of stakeholders, in shaping relations with which companies from the NewConnect market use specific communication methods (traditional and modern). These classes are: (1) internal stakeholders, (2) institutional clients, (3) individual clients, as well as (4) other entities, e.g. external processes' subcontractors, intermediaries, shareholders. In the case of the above-mentioned groups of stakeholders, 11 basic methods of communication were taken into account (Table 5).

On average, the surveyed enterprises use the following communication methods/tools in communication with internal stakeholders: (1) e-mail accounts – the average value of answers in a 5-point scale is 4.93, (2) traditional phone calls – the average value of answers is 4.48, (3) direct talks and meetings – the average value of answers is 4.43, as well as (4) paper documentation – the average value of answers is 4.40. In addition, in the case of the above methods/tools of communication with internal stakeholders, a relatively strong negative skewness of the response distribution can be observed, which indicates that the majority of respondents' answers are above average values for the frequency of use of particular communication methods – and thus confirms that in the opinion of the respondents, the four ways of communication indicated above are the most important in building relationships with employees and may potentially have the greatest impact on the improvement of the organization "from the inside" (Table 6).

Table 5. Basic means in communication with stakeholders used in CASI research (own study)

No.	Basic means of communication with stakeholders
1.	Traditional way of communication – in the form of paper documentation.
2.	Traditional way of communication – in the form of direct conversations (face to face) and team meetings.
3.	Telephone communication (i.e. traditional phone calls).
4.	Communication with the use of e-mail accounts.
5.	Communication with the use of traditional forms of promotion (advertising in the press, TV, radio, PR, sponsorship).
6.	Communication with the use of intranet (e.g. exchange of electronic documents, execution of orders, development of schedules with tasks, etc.).
7.	Communication with the use of enterprise's/corporate's portals (personalized user accounts).
8.	Communication with the use of teleconferences.
9.	Communication with the use of external messengers, e.g. Gadu-Gadu, GTalk, Hangout, Skype, etc.
10.	Communication with the use of external memory cases, e.g. for storing and sharing documents.
11.	Communication with the use of social networks, e.g. Facebook, Google+, LinkedIn, Twitter, etc.

In the case of shaping relations with external stakeholders – and more specifically institutional clients – the situation is similar. It is connected with the fact that the

surveyed enterprises most often use the following communication methods in communication with this class of stakeholders: (1) e-mail accounts – the average value of answers in a 5-point scale is 4.85, (2) traditional phone calls – the average value of answers is 4.75, (3) paper documentation – the average value of answers is 4.57, and (4) direct talks and meetings – the average value of answers is 4.30. In the case of the above-mentioned methods of communication with institutional clients, a strong negative skewness of the response distribution can be observed, which indicates that the vast majority of respondents' answers are above the average values for the frequency of individual communication methods – thus confirms that in the opinion of the respondents indicated above four communication methods are key in building relationships with institutional clients (Table 6).

Table 6. Leading means in communication with stakeholders used by the surveyed enterprises listed on the NewConnect market – CASI research (own study; N=60)

Leading means in communication	Average	Standard deviation	Skew	Coefficient of variation
Internal stakeholders				
Paper documentation	4.40	0.827	-1.619	18.80%
Direct conversations and team meetings	4.43	0.789	-1.165	17.81%
Telephone (traditional phone calls)	4.48	0.833	-1.854	18.59%
E-mail accounts	4.93	0.312	-5.114	6.33%
External stakeholders – institutional clients				
Paper documentation	4.57	0.945	-2.626	20.68%
Direct conversations and team meetings	4.30	0.997	-1.282	23.19%
Telephone (traditional phone calls)	4.75	0.728	-3.667	15.33%
E-mail accounts	4.85	0.685	-4.719	14.12%
External stakeholders – individual clients				
Direct conversations and team meetings	2.95	1.478	-0.302	50.10%
Telephone (traditional phone calls)	2.43	1.854	0.555	76.30%
E-mail accounts	2.52	1.944	0.504	77.14%
External stakeholders – other entities, e.g. external processes' subcontractors, intermediaries, shareholders				
Telephone (traditional phone calls)	4.80	0.443	-2.124	9.23%
E-mail accounts	4.83	0.615	-4.860	12.73%

However, in the case of shaping relationships with individual clients, the situation is slightly different. Despite the fact that the same means of communication prevail in the respondents' answers, the average values are much lower than for the two above-described classes of stakeholders. On average, the surveyed enterprises most often use the following communication methods in communication with this class of stakeholders: (1) direct talks and meetings – the average value of answers on a 5-point scale is 2.95, (2) e-mail accounts – the average value of answers is 2.52, as well as (3) traditional telephone calls – the average value of the answer is 2.43. In addition, in the case of the above-mentioned methods of communication with individual clients, either a weak negative or a weak positive skewness of the response distribution can be observed,

indicating that: (1) the slightest majority of responses are above average values, or (2) the slightest majority of responses respondents are below the average values for the frequency of use of particular communication methods. This means that it cannot be unambiguously assumed that the three ways of communicating with individual clients indicated above are crucial in building relationships with them. This is also confirmed by the high value of the coefficient of variation – which indicates that the respondents differed significantly in their assessment of the use of these communication methods. In the first two groups of stakeholders described, the coefficients of variation were at a much lower and acceptable level (Table 6).

On average, the surveyed enterprises use the most in communication with the so-called other classes of external stakeholders the following methods/communication tools: (1) e-mail accounts – the average value of responses on a 5-point scale is 4.83, and (2) traditional phone calls – the average value of answers is 4.80. In the case of the above-mentioned communication methods/tools, a strong negative skewness of the response distribution can be observed. Therefore, it is confirmed that in the opinion of the respondents, the two methods/communication tools indicated above are the most important in building relationships with this group of external stakeholders. Moreover, the coefficient of variation is relatively low, which indicates that the respondents did not differ significantly in their responses, i.e. in the assessment of the use of these communication methods (Table 6).

In the case of shaping relations with internal stakeholders, respondents most often declared (among the communication methods indicated in Table 5) that "very often" they use: e-mail accounts (95% of responses), traditional telephone calls (65%), direct conversations and meetings (60%) and paper documentation (57%). Respondents "often" use: paper documentation (30%), direct talks and meetings (22%) and traditional telephone calls (22%). On the other hand, respondents most often declared that they "sometimes" use: direct talks and meetings (22%), as well as traditional telephone calls and paper documentation (12% each). Answers "rarely" and "never" practically did not appear in the respondents' declarations for the indicated ways of communication with internal stakeholders (Fig. 2).

In the case of shaping relationships with institutional clients, respondents most often declared (among the modes of communication indicated in Table 5) that "very often" they use: e-mail accounts (95% of responses), traditional telephone calls (85%), paper documentation (75%), as well as face-to-face calls and meetings (60%). Respondents "often" use: paper documentation and direct talks as well as meetings (17% each) and traditional telephone calls (10%). However, respondents most often declared that they "sometimes" use direct talks and meetings (18%). Answers "rarely" and "never" appeared in the respondents' statements relatively rarely and did not exceed the 3% threshold for indicated ways of communicating with institutional clients (Fig. 3).

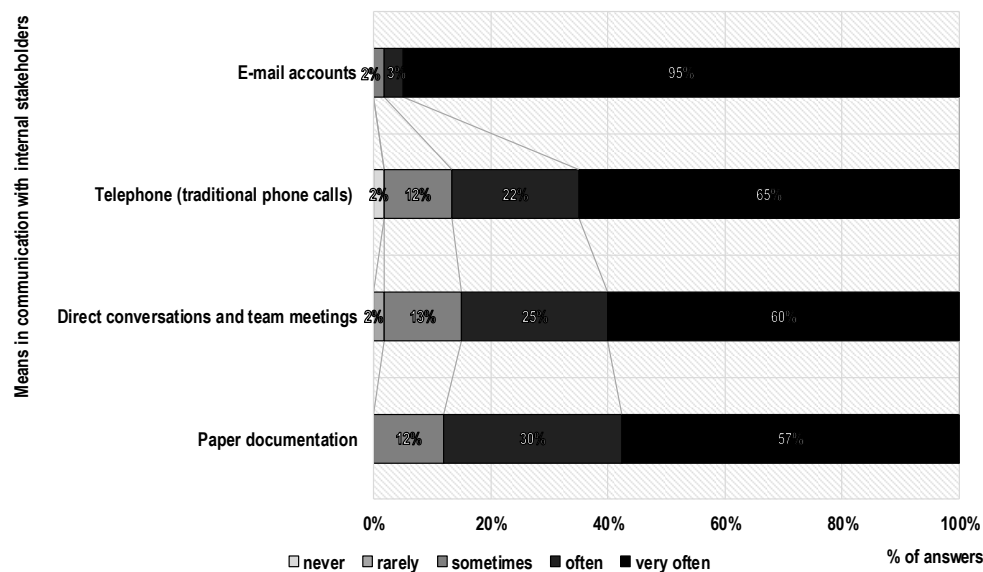


Figure 2. Means most commonly used by the surveyed enterprises in communication with internal stakeholders (own study; N=60)

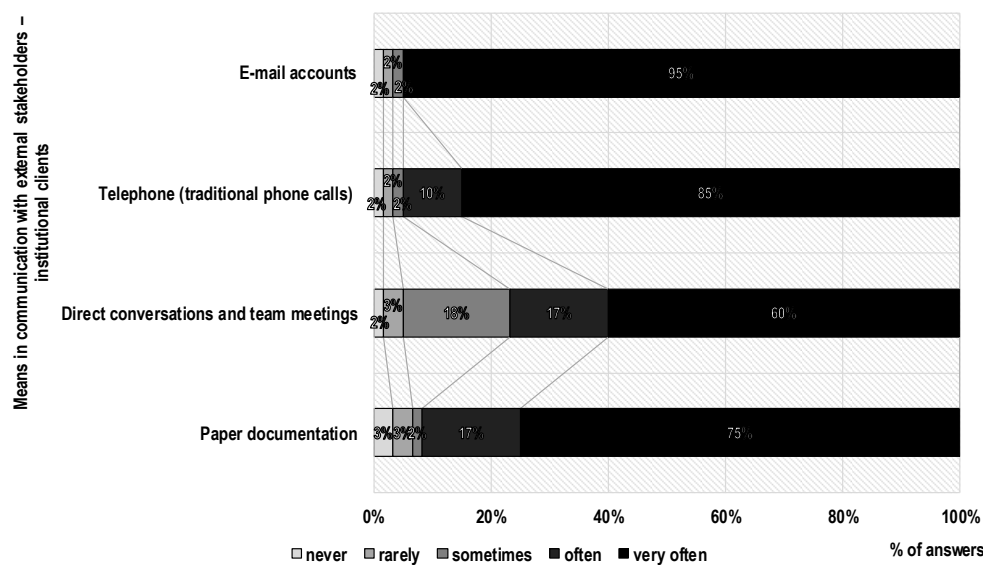


Figure 3. Means most commonly used by the surveyed enterprises in communication with external stakeholders - institutional clients (own study; N=60)

In the case of shaping relationships with individual clients, respondents most often declared (from among the communication methods indicated in Table 5) that they "very often" use e-mail accounts (37% of responses) and traditional telephone calls (28%). Respondents "often" and "sometimes" use primarily direct conversations and meetings (respectively: 38% and 15%). For this class of external stakeholders, the answer "never" is the most exposed – such a declaration of respondents usually appears for email and

traditional telephone calls (62% each), as well as face-to-face calls and meetings (32%) (Fig. 4).

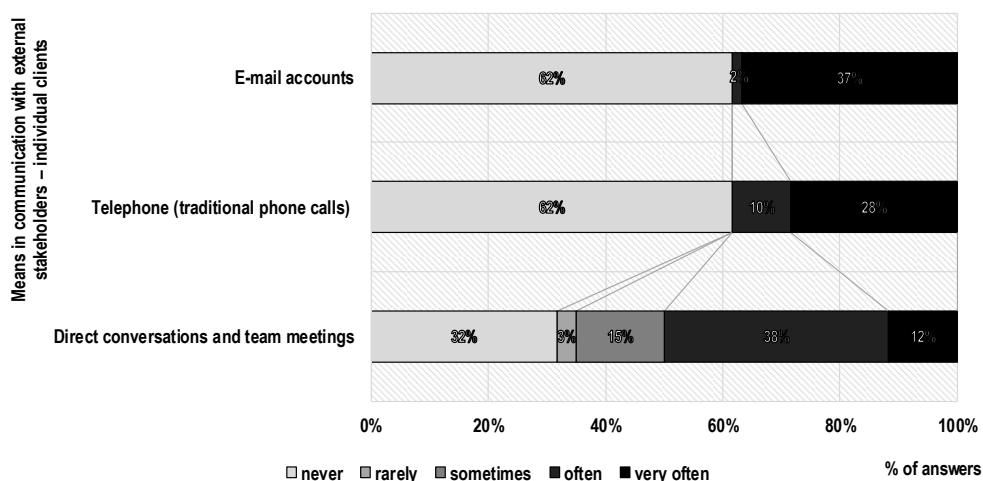


Figure 4. Means most commonly used by the surveyed enterprises in communication with external stakeholders – individual clients (own study; N=60)

In the case of forming relations with the so-called other classes of external stakeholders, respondents most often declared (among the methods of communication indicated in Table 5) that they "very often" use e-mail accounts (90% of answers) and traditional telephone calls (82%). Respondents "often" use primarily traditional telephone calls (17%). Answers "sometimes", "rarely" and "never" appeared in the respondents' statements relatively rarely and did not exceed the 2% threshold for indicated communication methods (Fig. 5).

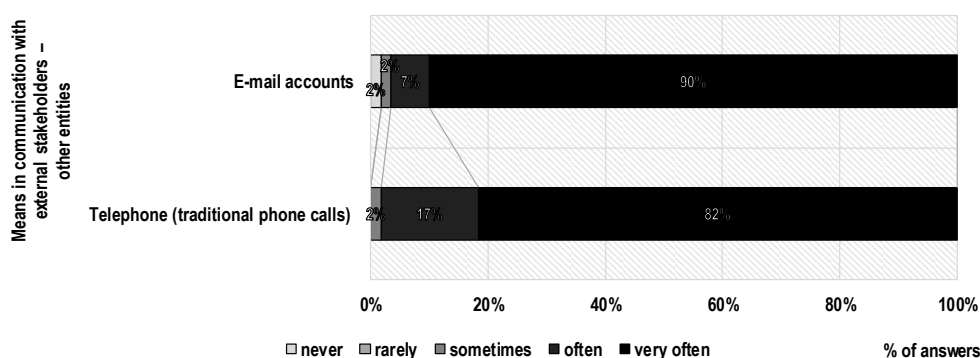


Figure 5. Means most commonly used by the surveyed enterprises in communication with external stakeholders – other entities (own study; N=60)

Taking into account the results of the CATI survey, it can be noticed that the surveyed companies apply in principle the same methods of communication with different classes of stakeholders – which may be somewhat surprising and puzzling. In addition, respondents declare the use of mainly traditional means of communication, putting much less emphasis on modern/innovative solutions, which in a sense are characterized by a high level of technological advancement. In order to better understand the

specificity of this phenomenon, in-depth interviews (IDI) conducted on a sample of 11 entities that previously participated in the CATI survey will be analyzed.

Based on IDI interviews, it is generally possible that enterprises use simple and traditional means of communication mainly because they are cheap to implement and maintain, can be easily and quickly acquired, and they are widely used – so there will be no problems with their technological integration with solutions used by stakeholders. In addition, the methods/tools of communication with stakeholders used in many cases mainly serve to support operational management and the ongoing exchange of information resources. Therefore, modern/innovative and technologically advanced solutions are not required. In addition, the surveyed enterprises are characterized mainly by either small or medium size, so there is no need for a strong development of IT infrastructure in the area of communication with stakeholders – mainly internal ones. In many of the cases studied, communication with stakeholders does not support the processes of knowledge management and innovation processes. Respondents also do not treat communication with stakeholders as a basis for creating enterprise value – which to some extent suggests depreciation of communication in managing surveyed entities, especially that the basis of their functioning (external funding) is communication with stakeholders, e.g. clients or co-developers of innovative basic processes. Improving/modernizing methods/tools of communication with stakeholders is usually a cost for the surveyed enterprises than the source of development, e.g. in the long run (Table 7).

**Table 7. General approach to conduct communication with stakeholders
– IDI research (own study; N=11)**

No.*	Branch/sector	General approach (opinions of respondents)
E1.	Financial services	"We mainly use simple tools and try to incorporate communication into strategic activity, but this is not a priority. We do not strive for a strong expansion of the IT infrastructure. We do not see the basis for communication of innovative processes. What counts is mainly the support of short-term goals by data analysis and information exchange".
E2.	Manufacturing	"We use simple, traditional means of communication – mainly in operational activities. We do not see the creation of a competitive advantage in communication. We have a strongly developed information asymmetry in the company – each employee has access to specific information resources".
E3.	Trade	"In communication, we use simple, ordinary tools that are widely offered by major global suppliers. We also work on our own software, which we create and develop. We do not see the need to significantly expand the technical infrastructure for communication – we mainly use external solutions. Communication with stakeholders is not a key element in shaping the company's strategy".
E4.	Advice and training	"In dealing with stakeholders, mainly customers, we use both simple, traditional and advanced, modern ways/ communication tools. We are mainly interested in ongoing communication with clients and promoting the market. However, we do not treat communication with stakeholders as the basis for building a competitive advantage in the market, at least not in the full sense of the word".

No.*	Branch/sector	General approach (opinions of respondents)
E5.	Manufacturing	"Communication is carried out practically with all stakeholder groups. For us, communication is the key, but we do not think it is the source of creating a competitive advantage. Communication improves the ongoing implementation of processes. For us, contact with employees and customers, contractors is crucial. We generally use relatively simple ways/communication tools – both developed for our order and generally available".
E6.	Computer science	"We treat communication with stakeholders as a source of competitive advantage. We use both simple and advanced communication tools – standard available on the market. We are also able to develop communication tools for ourselves, but it is not always necessary. On a large scale, we develop communication between employees, and in the case of communication with external stakeholders, we do not see the need to go beyond "standard" solutions, such as e-mails, websites and telephone communication".
E7.	Building & construction	"We are open to new solutions and opportunities offered by the market in the field of communication, mainly with clients. For us, this is the basis of business operations. We use both simple and advanced ways of communication. Communication is a source of competitive advantage".
E8.	Building & construction	"Communication with employees and potential clients is important to us. We mainly use simple solutions. Communication is not crucial in creating the value of a company and in the implementation of innovative processes".
E9.	Computer science	"Communication is an important process for us and it mainly concerns the exchange of data and information between us and our partners and clients. We use both simple (mainly in communication with clients, co-operators and employees in current affairs) as well as advanced communication tools (in communication with employees – to analyze and transmit data in the implementation of basic processes). Communication is important to us in innovative processes".
E10.	Financial services	"In communicating with stakeholders, we mainly use simple tools that we support over the Internet, such as instant messengers and spreadsheets. We do not need advanced technologies/tools. Communication is not the basis for creating a competitive advantage for us".
E11.	Trade	"We use technologies that are currently on the top and are used by young people 24 hours a day. Although our company is large and has a huge reach, we use the simplest communication tools because they reach all key stakeholders. Communication can be a source of enterprise's value".

* The names of the surveyed companies cannot be given to the public information.

Despite the fact that the enterprises use mainly traditional means of communication, and the communication itself is perceived through the prism of operational management and does not see a great potential for creating enterprise value, it is worth noting that both the scale and the scope of communication are shaped mainly at medium or high level – both for internal and external stakeholders (Table 8). This is important because it points to the fact that in the surveyed enterprises (Table 8): (1) processes of full and ongoing communication are covered by the majority of identified stakeholders,

i.e. there are stakeholders in the minority with whom communication is sporadic, substantively limited or "neglected" at all; (2) communication with key stakeholders concerns mainly basic processes (creating value for internal and external stakeholders), or both basic and auxiliary processes – therefore the level of complexity and significance (for the enterprise) of communication with stakeholders is high; in a minority there are sssssenterprises in which communication with stakeholders supports only auxiliary processes.

**Table 8. Scale and scope of communication with stakeholders
– IDI research (own study; N=11)**

No.*	Scale** and scope*** of communication		Change in the market value****
	Internal stakeholders	External stakeholders	
E1.	Scale: medium; Scope: big	Scale: small; Scope: small	Small increase ↑
E2.	Scale: medium; Scope: medium	Scale: big; Scope: small	No change
E3.	Scale: big; Scope: medium	Scale: medium; Scope: medium	Small decrease ↓
E4.	Scale: big; Scope: big	Scale: medium; Scope: big	Small decrease ↓
E5.	Scale: big; Scope: big	Scale: big; Scope: big	Small increase ↑
E6.	Scale: big; Scope: big	Scale: medium; Scope: big	Big decrease ↓↓
E7.	Scale: medium; Scope: big	Scale: medium; Scope: medium	Big increase ↑↑
E8.	Scale: big; Scope: big	Scale: medium; Scope: big	Small decrease ↓
E9.	Scale: big; Scope: big	Scale: medium; Scope: big	Small decrease ↓
E10.	Scale: medium; Scope: big	Scale: medium; Scope: medium	No change
E11.	Scale: big; Scope: big	Scale: big; Scope: big	No change

* The same numbers of enterprises like in Table 7.

** The scale is treated as the number of different stakeholders, covered by the full and current communication. Levels – small: ≤30% identified stakeholders, medium: 30-60% identified stakeholders, big: ≥60% identified stakeholders.

*** The scope is treated as the level of complexity and significance (from the enterprise's point of view) of activities/processes covered by communication with stakeholders. Levels – small: mainly the supporting processes, medium: mainly the basic processes, big: both the supporting and basic processes.

**** Value of the enterprise – in the last 5 years.

Among the 11 surveyed enterprises (IDI survey) one can observe mainly a decrease or no change in their market value in the last 5 years (Table 8). This may suggest in a somewhat (obviously simplistic way) that not always simple and basic communication methods and tools are sufficient to be able to develop properly, i.e. sustainably and structured in the long run. It is also worth noting that the depreciation of communication with stakeholders (and in particular its "maturity" and technological advancement) in the processes of creating the value of the enterprise is a mistake. The same applies to the implementation of advanced and complex substantive (also multilateral, involving various entities) communication in innovative processes. The NewConnect market is demanding in terms of business activity of companies that want to obtain external financing should engage in greater expenditure on improving communication with

stakeholders. Of course, the market value of the surveyed companies does not depend only on the processes of communication with stakeholders, but may be of great importance here. Taking into account the fact that the surveyed enterprises (IDI study) usually consist of ongoing and full communication the majority of their stakeholders, as well as communication with them concern both the basic and auxiliary processes, it is necessary to consider why the market value of these enterprises or it does not change significantly or decreases (Table 8). One of the reasons may be the "neglect" of communication with stakeholders and the lack of investment in this respect. The surveyed enterprises in many cases declare that in the communication processes they are guided by the needs of stakeholders, but this does not have to be true. Respondents also do not indicate how they verify the level of fulfilment of these needs. The main criteria for selecting communication methods/tools are cost and time. This may not always be the usefulness of stakeholders. Many needs in the field of communication, which may have an impact on organizational innovation and knowledge management, may not be noticed by the owners/management at all.

Conclusions

Communication with stakeholders (internal and external) is an important element in the development of activities by modern enterprises in various industries and sectors. Without efficient communication, it is not possible to create new, useful knowledge and to act with it with cooperating entities. Lack of communication "closes" enterprises and deprives them of key resources. The pursuit of the so-called organizational excellence therefore requires extensive communication with stakeholders – going beyond the scope of only acquiring or providing data and information resources. A wider perspective on communication is needed, which should be a "tool" for joint creation of knowledge and mutual improvement of enterprises through permanent and complex business and social relations. This is due to from the fact that modern enterprises operate under the so-called knowledge-based economy (KBE).

In the surveyed enterprises from the NewConnect market (which are treated as innovative entities operating in modern and future industries), one can observe specific technological shortcomings and organizational "negligences" in the implementation of communication processes with different classes of stakeholders. In addition, communication processes are given little importance in the processes of creating knowledge and in the innovative activity of the surveyed enterprises. On the other hand, a relatively large scale and a large scope of communication can be noted in these entities. This is a situation that mainly indicates the lack of awareness of the owners/managers regarding the potential from the development of communication processes, e.g. through the use of modern and advanced ICTs, or the lack of technological and financial opportunities for the development of IT infrastructure. Another explanation for this situation is simply the lack of needs of the surveyed enterprises in the field of modernization of the portfolio of communication tools with stakeholders, especially those crucial from the point of view of creating a market advantage. It may, however, reflect on the decline in their market value in most of the surveyed enterprises in the long-term. It may be (but does not have to) the effect of, among others "negligence" in the improvement of communication processes with stakeholders.

In summary, communication processes can have an impact (at least partial and indirect) on the value of modern enterprises and the pace of their development by shaping

relationships with various classes of stakeholders that are necessary, among others to create a positive and strong synergy effect and create knowledge. Without efficient and modern communication, it is difficult to reach the so-called organizational excellence – even enterprises founded on innovative, operating in modern industries with high technological potential.

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KEY FACTORS THAT INFLUENCE THE ONLINE COMMUNICATION STRATEGY OF ROMANIAN BRANDS

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Abstract. *Organizations are focused to constantly change their communication strategy in order to be in trend with the social and technological development. The pressure to be up to date, innovative and presenting something new every time are engaging with their public is even bigger in online communication. This study takes a close look at organizational and social factors that influence online communication strategy in Romania. Qualitative analysis was conducted based on 10 communication briefs from 10 different brands whose daily activities are based in Romania. By coding relevant quotations from the documents analyzed we have identified which are the organizational factors and which are the social factors that influence online communication strategy of brands that are part of multinational corporations in Romania. New routes of development in practice have been identified as well as new areas for research.*

Keywords: *communication strategy; social factors; organizational factors; online channels; cultural influence; Romanian brands.*

Introduction

The public relations practice is growing rapidly around the world due to the technological changes. But this growth is uneven because public relations practice and education are concentrated in the United States and Western Europe (Botan, 1992, p.149) and are less advanced in the rest of the world. However, due to the rising of the internet, many major companies have now the possibility to conduct business in more than one country, including Romania, so they are called *multinational corporations* (MNC's). Therefore, MNC's are working with local public relations practitioners in order to achieve their business goals.

In the context of a more local communication, it is crucial for public relations practitioners to understand the most relevant factors in building the communication strategies. Therefore, this article takes a closer look to the factors that influence the communication strategy. First, a literature review will support the idea that there are two important types of factors that are influencing the communication strategy: social factors and organizational factors. On the basis of the factors mentioned in the literature review, a qualitative analysis study was conducted in order to explore 10 communication briefs belonging to 10 important Romanian brands with activity in areas such as food, beauty, telecom, health, gas and oil, financial, entertainment or software.

Analyzing the documents helped to identify the most relevant factors that are influencing the communication strategy in the Romanian market as well as new areas for research.

Literature review

Technological and social pressure force brands to constantly change the business strategy. In online communication, the pressure to react now, in a creative way, with a low budget and high results is even bigger. But even under the pressure of time, a good communication strategy begins with a good formulation of it (Allio, 2005). Coman considers that a strategy should be determined by the following organizational factors: financial resources, public, business objectives, context and qualities of the public relations practitioners (Coman, 2006, p. 98). Following this line, researchers have identified others organizational factors such as organizational structure, informational system, type of leadership, managers, budget or motivation (Pearce & Robinson, 2011).

It's important to note that this list of organizational factors is not exhaustive, on the contrary, it could include others factors as well depending on the communication purpose such as organizational culture, company dimension, regional or global influence, legal regulations, the type of activity, type of product, market or competition. This is the reason why, when it comes to communication strategy, researchers propose a *holistic theoretical model*. Okumus (2001) has organized the factors that could influence the communication strategy in four categories in order to present his holistic theory: (1) *content* – strategic decision, implementation; (2) *context* – it could be intern (organizational structure, organizational culture, organizational learning) and extern (environment and social behavior); (3) *process* – planning, resources, human resources, communication, monitoring, feedback and external partners; (4) *results*. But the *holistic model* presented by Okumus could be improved by including one more step between context and process and it should be the *communication channel*, which has the potential to influence how the message is transmitted to the public.

But research is more focused on organizational factors that are influencing the communication strategy and less on the social factors that could have an input in the public relations practices such as nature of culture, for example. When thinking about culture and public relations, the theoretical framework of Geert Hofstede (1997) comes to mind, which has been considered a good start for understanding the dynamics of intercultural and organizational communication and public relations. Hofstede identified five cultural variables that influence communication and relationships in organizational settings: power distance, uncertainty avoidance, masculinity/ femininity, individualism/ collectivism and Confucianism or long term orientation (Hofstede, Hofstede & Minkov, 2012).

Sriramesh and Verčič (2003) believe that it is important for public relations professionals to be able to predict the best way to practice public relations in a particular country or region (Sriramesh & Verčič, 2003). Both authors also support the idea of identifying the relationships between public relations and other environmental variables in order to increase the ability to predict which strategies and techniques are better suited to a particular organizational environment. In their theoretical framework based on anecdotal evidence, they described five interrelated factors that influence public relations practices: (1) *political system* – public relations practices depending on

the level of public opinion in each country; (2) *level of economic development* – closely linked with the political ideology because political conditions affect economic decision-making in every country and vice versa; (3) *level of activism* – is important for practitioners to establish the nature of activism and determine how it influences the public relations activities in that country; (4) *nature of culture* – communication influences and is influenced by culture; logically, culture affects public relations and public relations help alter culture; (5) *nature of media system* – media relations represent an important focus for a public relations practitioner in order to establish a positive relationship (Sriramesh & Verčič, 2013). These five environmental variables have the potential to identify the uniqueness of the context for public relations practice in each nation or culture, thereby also affecting the choice of public relations strategies and practices.

In intercultural communication it is important to highlight some of the most important topics of analysis and discussion consisting in the cultural differences between cultures like national identity, cultural identity, and cultural identification, nonverbal communication, perceptual differences (time, status, trust), gender identification (masculinity/ femininity), experiences of discrimination, individualism vs. collectivism, a sense of *otherness* when interacting in unfamiliar cultures, religions and ideological differences, negotiation of friendship and kinship, ethical questions, linguistic differences, code switching and others (Martin & Nakayama, 2010; Samovar & Porter, 2003). From the standpoint of a public relations professional tasked with creating messages for multiple publics and negotiating relationships among diverse stakeholders, it might be best to take a *generic approach* in order to understand public relations situations in the global environment (Kent & Taylor, 2011).

Public relations practitioners have understood that the first thing that one has to do before communicating about anything is to conduct research, whether the message is supposed to be created for an internal group like the stakeholders or for an external group like the stakeholders. *The generic approach* has been proposed by Kent and Taylor (2007) as a model for preparing for intercultural public relations situations because it emphasizes genuine understanding of cultures and communication rather than simply convincing to act as the practitioner wants.

According to the two authors, a public relations professional who is interested in communicating with intercultural publics should engage in six activities: (1) *identify features of the situation* – the practitioner needs to take a broad approach to understanding the rhetorical situation that happened before, to estimate what are the expectations of the public and which specific norms and values will influence public's interpretation of the message; (2) *identify the intended audience effects* – this is the step when it is important to clarify the goals of the organization's actual communication and trying to overcome ethnocentrism in order to understand others cultures and not judging them by our own cultural standards; (3) *clarify the motivational intent of the organization and publics* – the goal of the third step is to find where the interests of both the organization and the public intersect; (4) *examine how meaning is created* – suggests that practitioners should examine the archetypal or symbolic nature of language and communication in the culture and learn about cultural archetypes, heroes, villains, social and political leaders in order to be better prepared to succeed in intercultural contexts; (5) *examine strategic considerations* – includes issues such as respect for elders, the role of government, religious and social features, trust and perception of time and it is

equally important to understand the nature of the media system; (6) *use communication principles and theory to understand how culture influences organizations and communication* – is actually the most important principle highlighting that understanding theory, how people think and understand ideas and the process of meaning making is essential to effective intercultural communication (Kent & Taylor, 2011, p.56).

Contingency theory is based on the premise that there is no one best way of managing organizations and practicing public relations that is optimal for all situations and argue that different strategies and practices should be considered for different environmental contexts in order to find an optimal fit (Yoonheung & Glen, 2005, p. 173). The theory emphasizes situational and environmental factors that have an impact on how public relations are practiced and it has the potential to provide a more holistic picture of public relations practices by considering *national identity* and social and cultural factors.

Even though all these studies have been reporting that cultural differences have an impact on public relations practices (Kinzer and Bohn 1985; Kent & Taylor, 2011; Sriramesh & Verčič, 2013; Zerfass et al., 2008), in Romania few public relations practitioners are showing their interest in the role of nature of culture in the process of communication with the publics. But this is an idea to be debated in the following research sections.

Research questions

Given all this factors listed in the literature review and influenced mostly by the top management decisions, we have launched an empirical research in order to understand the most important factors that influence the communication strategy for Romanian brands. In order to find out, we have suggested the following research questions:

Q1: Which are the most relevant organizational factors that are influencing the online communication strategy for Romanian brands?

Q2: Which are the social factors that are influencing the online communication strategy for Romanian brands?

Q3: Which are the share between organizational factors and social factors when it comes to online communication strategy on the Romanian market?

Methodology

In order to address the issues at hand, a qualitative approach was applied. In the context of analyzing which are the factors that are influencing the communication strategy in Romania, we have conducted a qualitative study with focus on answering the research questions and generalizing new routes of development in public relations practice.

The study was conducted in Romania and was based on 10 communications briefs sent by MNC's digital managers to public relations specialists in order to build a communication strategy for their brands. The documents were selected by selective sampling based on one single condition – the communication brief to be dated between 2016 and 2017 in order to have the certainty of recent results in the practice of public relations. It is important to be noted that we had access to this documents through the partnership between a local digital agency and his clients (MNC's) and so the names of

the companies are confidential as well as the full content of the documents. If it is imperative to access the briefs in order to demonstrate the validity of this study, a special request will be sent to the researchers in order to verify the authenticity of the results.

Therefore, this phase of the study comprised a set of 10 communication briefs representing a cross section of brands with activity in areas such as food, healthcare system, beauty, financial system, software, entertainment, telecom or gas and oil. The literature review and the expertise of the members of the research team contributed to the development of a qualitative coding of selective quotations from the documents. In order to have an easy access to the big picture and revealing the meanings and the relationships between the codes we used ATLAS.ti, specially designed software for qualitative and mixed methods data analysis. Each communication brief was added to ATLAS.ti in order to identify all the factors mentioned in the document with the purpose to be considered in the online communication strategy built by the public relations specialists. Therefore, all documents were operationalized by using the factors mentioned in the literature review and their definitions. We need to keep in mind that the essence of the interpretative documents is reconstructed rather than being clearly identifiable. This limitation of the qualitative content analysis method derives from the ambiguity of language and epistemological boundaries.

Findings and discussion

Organizational key factors that influence online communication strategy for Romanian brands (RQ1)

When it comes to the question of which are the most important factors that influence the communication strategies of Romanian brands, the organizational ones are certainly the most often mentioned. Through *organizational factors* we are referring to the factors that depend by the brand only, MNC's being the only entity that could control variables. Each communication brief mentions an average of 9 organizational factors that could influence the message transmitted to the public. Which are the organizational factors that matter the most for the communication strategy of Romanian brands? Sorted by the number of mentions after coding the quotations based on the literature review, we reached the following factors: business objective, product, market, social insight, global influence, company dimension, competition, brand values and brand personality, brand history and local influence (Graphic 1).

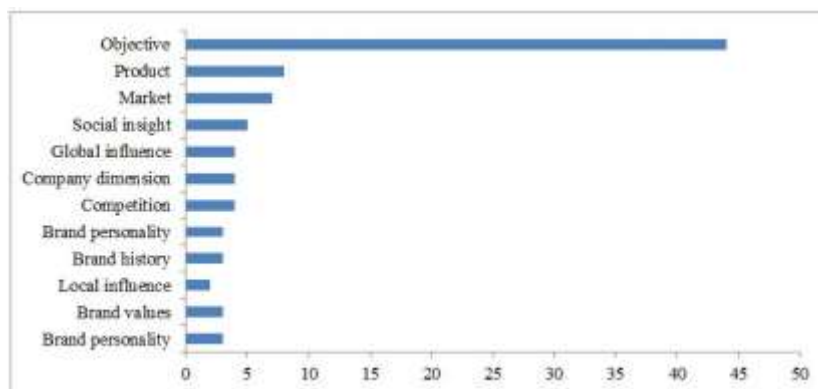
All the documents analyzed mentioned an average of 4.4 business objective, which means that the purpose of communication is the most important factor when it comes to strategy. 9 out of 10 documents mentioned awareness as one of the main objective of the communication strategy, which means that, besides the fact that we're talking about international brands, the communication managers consider that the brands still have an awareness weakness in the market context (Graphic 2).

"Increase on both organic and paid reach" (Entertainment).

"Generate awareness for the problem and for the solution" (Software).

"Create awareness through social media" (Chocolate).

"Increase brand visibility and awareness" (Financial).



Graphic 1. Organizational key factors that influence online communication strategy for Romanian brands

On the other hand, 7 out of 10 companies wish to build a community in order to engage with the customers. This is the evidence that technological and social pressure force brands to constantly change their business strategy in order to establish a closer relationship with their publics.

“Establish a communication bridge between brand and his followers” (Financial).

“Build the everyday conversation” (Beauty).

“Create an online channel in order to engage with our customers” (Food).

The product and the market are important factors as well, described in the communication briefs, but we consider that it should be the center of communication without which no public relation practice would be possible. Instead, we would like to take a closer look to the *social insight*.

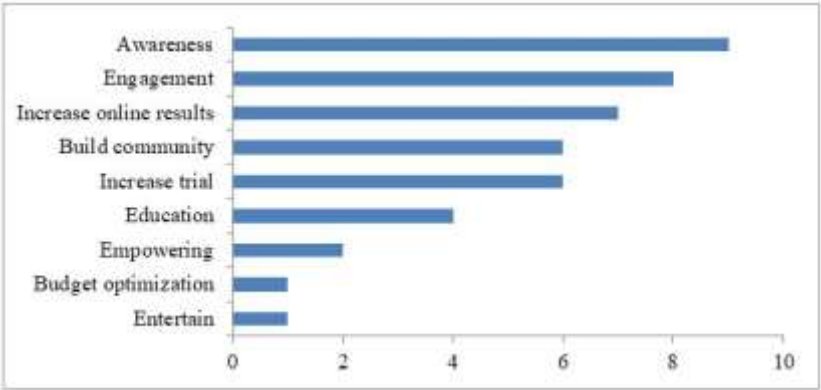
Only half of the briefs mentioned the social insight’s influence on the communication strategy. In order to build a strong message, we consider that it is imperatively important for the brands to understand the environment including the social context and the social behavior, which means having a social insight about the publics. Of course, by having social insights, the brands have to assume a role of researcher and be interested in knowing both their stakeholders and stakeseekers.

“I am buying online because I’m looking for promotions/discounts and sometimes prices are lower when one buys online” (Financial).

“I want to experience all that life has to offer and I work hard in order to achieve all my wishes” (Telecom).

“1 of 10 users who visit adult websites is younger than 10 years old” (Software).

Global and local influences are as well mentioned in the documents, but only in the context of the market share (global or local) and the brand history.



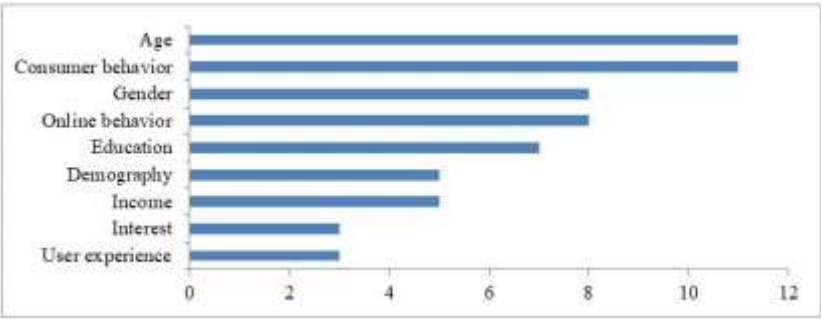
Graphic 2. Main business objectives

Social key factors that influence online communication strategy for Romanian brands (RQ2)

Social factors are referring to the variables that cannot be controlled by the organization because they are influenced by the external public of the brand only. Each brief communication mentioned an average of 6.1 social factors considered by the digital managers that could influence the communication strategy and, as a result, they are relevant for the brand. Based on the literature review discussed in the section above, we coded the relevant quotations from the briefs and identified the following social factors, listed by the number of total mentions: age, gender, consumer behavior and online behavior, education, demography, income, interests and user experience (Graphic 3).

All documents pointed out that the age of the targeted public is one of the most important factors when it comes to the matter of creating the main message of the campaign. It is followed by the gender, a factor that is referring to both males and females (exception for the beauty brand whose message is addressed to women only).

On the other hand, the research revealed that only 6 out of 10 briefs mentioned the consumer behavior, even if we are talking about online or offline behavior.



Graphic 3. Social key factors that influence online communication strategy for Romanian brands

“The consumers are now, more than ever connected globally, obsessed with sharing makeup experiences or products and driven by education” (Makeup).

"The consumers are interested in the health of the family, take care of them and wish for a normal life like they have seen abroad" (Health).

"The consumers think that having the latest products and services gives others a good impression on them" (Telecom).

"For the consumers, YouTube is the place to go when they want to learn the newest trends in makeup, Facebook is the online TV from where they find out about the newest things, whereas Instagram is a driver that captures the user's attention" (Makeup).

"The consumer would rather buy online because he can compare prices easier" (Financial).

"By developing social networks, the consumers are viewed as in trend by people in their community" (Telecom).

Age, gender, demography and education and the level of income are social factors that co-occurrence. The co-occurrence refers to the co-existing of two or more codes in the project; two coders are used on the same quotation and we can examine how many times they are co-existing helping us identify relations between the quotations. By coding the documents, we observed that social factors like age and education co-occurred in 6 situations while education and the level of income co-occurred in 4 situations, which means that half of the brands wish to communicate with the same target: 25-55 years, medium-high education, medium-high income.

"Target: men and women, 25-50 years, medium to high education, medium to high income" (Gas and oil).

"Target: men and women, 21-45 years, medium-high income, urban and rural with high education" (Financial).

"Target: 25-60 years, medium-high studies, incomes above average" (Food).

Table 1. Co-occurrence between age, gender, education and income

	Education	Income
Age	6	3
Gender	4	2

Which factors are most important when it comes to engaging with the external public (RQ3)

A look to the overall research results shows that organizational factors are more often mentioned than social factors. Experience shows that in Romania, companies are mostly focused on the business objective and don't have a holistic overview in order to consider all the factors that could influence the communication strategy for a brand. Even though all these studies have been reporting that social and cultural differences have an impact on public relations practices (Kinzer and Bohn 1985; Kent & Taylor, 2011; Sriramesh & Verčič, 2013; Zerfass et al., 2008), Romanian brands did not overcome the traditional public relations practices and continue to communicate with their public only by changing the message and the communication channel, not the brand strategy overall.

Table 2. The share between organizational factors and social factors

	Education	Income
Age	6	3
Gender	4	2

Conclusions

Various materials have been collected in this qualitative study, which analyzed 10 communication briefs belonging to international brands with activity in the Romanian market. The study clarified a wide range of answers to questions referring to the factors that influence the online communication strategy in the Romanian local context. One of the results is that MNC's are not ready to invest in research in order to find the most valuable insights for their stakeholders. This shows that online communication is still a recent field in Romania, where MNC's continue to be interested in the organizational factors in order to achieve the business objective.

Nevertheless, our research was able to identify a number of overlapping issues which could be interpreted as cornerstones for developing a public relations function in practice and might inspire future research. This study could be as well interpreted as a wakeup call: technological and social pressure force brands to constantly change the business strategy in order to be relevant for their public. When the brand changes the communication channel it should consider to change the strategy as well based on a strong research about their stakeholders and their online behavior.

Throughout this study we were able to identify that the cultural factors have to be considered in the communication strategy because they are not even mentioned in the communication briefs written for the public relations specialists, even if communication influences and is influenced by culture (Sriramesh & Verčič, 2003).

Therefore, there is a trend to achieve the company's objective through mass messages send through online channels. This is considered to be a more effective tactic that implies fewer resources and brings higher results. However, it was not demonstrated how efficient this strategic decision is, considering the initial objective of the company and the fact that this strategy is based on unique messages. In addition, the pressure of the digital trends and technological innovations created a gap between the quality of the message and the pressure to send the message in real time. Everything has to happen *now*, and what today is new, tomorrow will be already old-fashioned. Therefore, user's behavior is changing constantly, influenced by the high number of changes implemented in the online channels and by the speed with which these changes are implemented globally.

In this context, the final purpose of the research will be to bring a new perspective upon the digital communication strategies in Romania, by identifying the most important factors that influence the final message from the brand to the client. Also, the results have the potential to contribute to a new future research and create a connection between the classical theoretical models of public relations and future new possible models, with focus on the communication channel and the characteristics of the targeted public.

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A MODEL FOR IMPROVING THE CONNECTION BETWEEN E-MARKETING AND CUSTOMERS

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Abstract. *For modern businesses, e-marketing strategy is required to establish the information flow. The relationship between the company and the customers by tracking the actual weight of channels preferred by the consumers and potential clients is becoming a priority at the present moment. Because the weights of the favorite channels are changing very quickly, tracking the actual weight of channels to the attention of consumers is not an easy objective to accomplish, and marketers need to understand the trends very well. Some companies hire people trained to provide a specific professional skill, and other companies are externalizing this service, depending on a cost-benefit analysis to find the proper approach. With the desire to get as close as possible to the customer, today's companies have made an important step by integrating online business efficiency tools and technology development. Developing customer relationship management based on personalized IT systems developed on business specificity and using socializing and promotion channels to increase visibility and online availability on all the customer's favorite channels is translated in engaging customers. Also, using the consumers' reviews in the process of developing/improving products/services is giving to businesses an advantage over the competition. Business management must constantly pursue the dynamism of the market according to the trends of the industry in which it plays, adapting the vision and the uniqueness of the business to the dynamism of the market. Recent studies about marketing programs in which companies are tending to invest anticipate a further increase in investment in 2018, on customer service management programs, which suggests that the business's intention to increase loyalty to existing customers is a core marketing trend for modern companies. This article will explore the link between e-marketing and the client, in order to identify the connections between them and to provide a theoretical model for improving the marketing process, considering the client's requirements. The aim of the proposed model is to improve the current marketing process implemented by companies through digital solutions to strengthen the relations between e-marketing and the client, after identifying the weaknesses the respective companies are facing.*

Keywords: *e-marketing; customer's requirements; digital technologies; online channels.*

Introduction

Digital marketing is a dynamic field where change is the leitmotiv. The change means adapting to the needs and demands of the market, but also streamline the way of choosing to respond to them. The development of technology and the fact that it is becoming more accessible in terms of learning and costs have led to its spread amongst marketers and consumers alike.

If 2017 was about the expansion of smartphones usage and interaction with VR, AR, and 3D printing, in 2018, all this gather together and dynamize the marketing. Consumers are equipped with smartphones and smart gadgets, connected to the Internet because their available time has decreased. Consumers are open to responding to those who speak their language in the environments they prefer and in real time.

New challenges bring new opportunities, and marketers can take advantage of them by taking into consideration a few aspects. The year 2018 is about consumers and how to deliver them personalized services and products. It is an important requirement to determine what and where to look for and exploit their micro-moment to place a trigger on the sales page.

Search engines learn from every use, thus collecting a lot of user data. Marketers only need to understand this information that stands in front of them. The future is represented by interactions that humanize the process of learning, documenting, socializing, and eventually acquiring products and services. In 2018, businesses should be in concordance with the needs and desires of their customers, who are motivated not by the intention to buy as much as possible but by the desire to experience as much as possible.

Thus, this article aims to determine the new e-marketing methods, as well as the relationship between them and the consumer. By establishing a more personalized profile of the consumer and his interaction with the technology, one can determine the ways through which it can be attracted to the acquisition of a product/service. Once these means to which the consumer is receptive have been identified, a digital marketing model can be developed to help the company grow on multiple levels.

Theoretical backgrounds

Numerous researchers have studied consumer perceptions, their relationships with companies, and the means by which they are targeted in digital marketing campaigns. Some of these concepts are elaborated in books written by authors like Shaltoni et al. (2018) who investigated how SMEs use e-marketing, Turban (2018), who talk about social commerce and marketing, Ali and Bani Hashim (2017), who analyze consumer satisfaction following e-marketing, but also by others who describe their analysis in scientific articles.

Bonetti, Warnaby, and Quinn (2018) summarize the current perceptions of Augmented Reality and Virtual Reality applications in the context of sales, including the reasons for their use in marketing. Marasco et al. (2018) investigate the impact of virtual reality experiences on websites and how to attract consumers in a certain direction. Scholz and Duffy (2018) carry out an ethnographic study to examine consumer and brand

relationships through Augmented Reality, focusing on the physical and the inner context of how self-augmentations are integrated into consumer self-concepts.

Marinchak, Forrest and Hoanca (2018) examine the state of Artificial Intelligence, focusing on marketing applications and new engagement rules. He considers that marketing will be directed to Virtual Personal Assistants, focusing on meeting the real needs of the user. Siau and Yang (2017) sustain that sales and marketing are influenced by Artificial Intelligence, robotics, and automated learning, replacing sales and marketing professionals in online stores. The research consists of a longitudinal case study to analyze the evolutionary nature of sales and marketing.

Sotolongo and Copulsky (2018) highlight trends that have contributed to the increased number of conversational interfaces and the implications of marketing conversational data. Thus, it can be noticed that through conversational interfaces, the needs of consumers are better satisfied. The Barwise and Farley's study (2005) shows that e-marketing is growing, but there is little empirical research about its impact on marketing and performance.

Tulk's invention (2018) consists of an Internet-based marketing method that correlates organizations and consumers of services through a simple mobile application. Papista et al. (2018) tested a model that included motivational factors for the relationship between consumers and brands, wanting to build customer value for a company. Waheed and Jianhua (2018) initiated a research to determine the link between e-marketing and consumer behavioral peculiarities. An important role in their decision to purchase products is given through online marketing.

Chaturvedi (2018) shows that today's companies have focused on owning a website to promote their product. In his research, 80-90% of the population is attracted to online advertising, especially to social sites.

Consumer profile - a determinant factor in implementing marketing strategies

The term prosumer is not a new one, it appeared in the '80s and represented the professional consumer, specifically targeting users of high-performance audio-video equipment. The online environment has, however, brought new valences to this notion, prosumer being today a *mélange* between the producer and the consumer. In other words, this consumer not only uses certain products but is also actively involved in the production processes, influencing the direction of company development and communication strategies. The prosumer has a distinct behavior that a company should know in order not to have unpleasant surprises. A prosumer is not only confined to consumer products and services, it will also talk about his experience with them and will try to influence the process of achieving them. The prosumer is a kind of unsolicited advocate of companies, who will articulate his opinions with frankness whenever he or she will feel the need publicly. Prospectors strive to be part of the production process. Every time, on a site, blog, Twitter or Facebook account, there can be seen user suggestions about the ingredients of a product, the way a service works or the design of some products. Prosumers are aware that they are informed and feel responsible to improve the products and services they consume.

The definition of a consumer profile refers to those data about habits, behavior, beliefs, and decisions that a buyer/customer has in relation to a particular product or service. Delivering a more accurate profile to the consumer is extremely important for both a business, a supplier of the product or service in question, and for the specialists in the promotion.

Getting to know better the client will give a precise perspective about what attracts him and makes him buy and use this information to better shape the product or service of a company according to consumer preferences. At the same time, using this information, promoters will know how to address their potential client and which communication channels they should use to arrive at the consumer faster. Therefore, here are the advantages of making a consumer profile as accurate as possible: defining the target (the consumer profile contributes to determining the main features of the business target), relevant and qualitative messages (include relevant customer information so that they are determined to choose the company's product rather than the competition), budget optimization (the channels through which a company can reach potential customers without testing different campaigns and promotion methods, but will go straight to the target with the right messages and communication channels used by them), creating a strong brand (when the customer is known, a company will have more chances to determine exactly what he needs and can deliver products and services accordingly. Having satisfied customers, the popularity of the brand will increase, which will lead to a strong image, well impregnated in consumer memory).

Elements of a proposed model user profile

After determining the need for a consumer profile, it is necessary to determine what data it contains. Broadly speaking, the consumer profile should be similar to the description of a real person, from age and geographical location to favorite socializing passions and networks. When it comes to creating a profile, it is important to follow:

- Consumer age range, gender and geographical location - even in everyday life. This information is equally relevant when trying to sell a particular product or service or transmitting a message about what a company delivers / supplies / produces.
- Occupation of the potential client is necessary to estimate important customer data, such as the level of studies he/she has, the average of the income he/she enters, the consumption habits.
- Preferences, habits, passions - the more a consumer is better known, the better is known what he wants. Information about what he likes/dislikes, how he spends his spare time or what his passions are, can be extremely useful when projecting a marketing campaign, for example. A company will know exactly what kind of images / information / messages will make him react positively.
- The features/benefits of a product a person would buy or a service to call - when delivering something to a certain audience, a company needs to know exactly what the public would like from the product or service that is offered to him. Therefore, a company needs to know the potential customer's claims in order to give him what he desires - an important decision-maker in the acquisition process.

- Where are potential customers - which social networks they use, what sites they visit, what kind of publications they read, or what information channels they use. Thus, they can be greeted with products and information exactly where they are needed, in a familiar and enjoyable environment for them.

In order to categorize all this information as easily as possible, a consumer profile kit has been created with customer-specific questions to help shape the person:

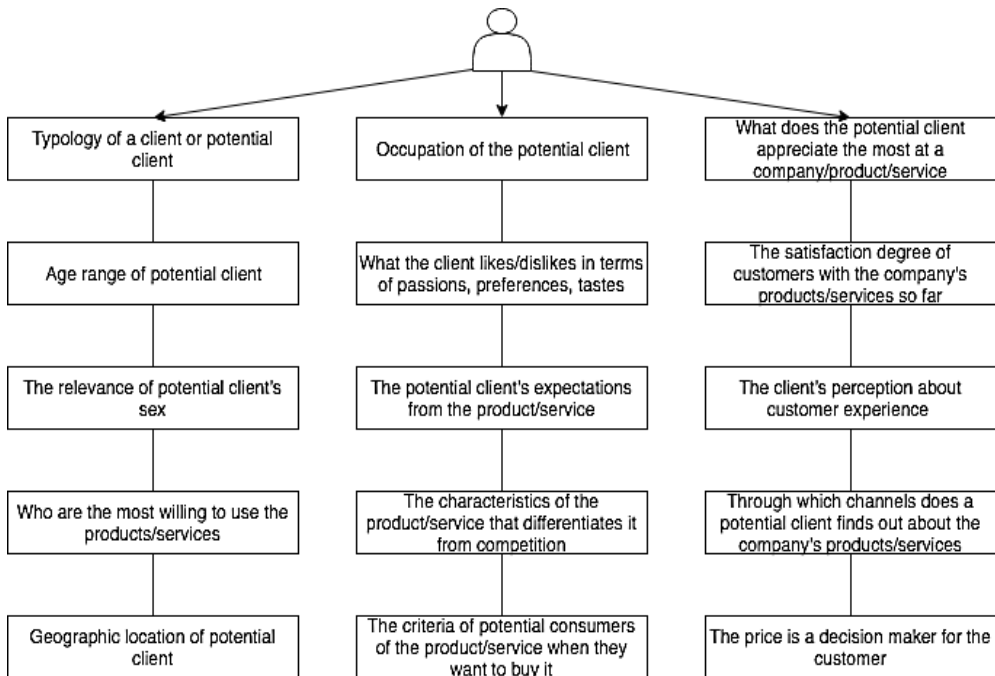


Figure 1. Model for consumer's profile

Methods of e-marketing – analysis

Social Media Marketing is growing in importance, but it becomes more segmented in 2018. In 2018 Facebook surpassed the incredible number of 2,000,000,000 users. (<https://en.wikipedia.org/wiki/Facebook>) Instagram, which is also owned by Facebook, will surely reach billions of users in 2018. (<https://en.wikipedia.org/wiki/Instagram>)

No business, and especially B2C, can afford to ignore the social environment. However, the results will be more and more difficult to achieve. Unless it is talked about a large brand that has a considerably marketing budget, the chances of achieving tangible marketing results through a wide-ranging campaign for everyone are nonexistent. The costs of promotion paid on social networks will increase and the organic impact will decrease. In order to have a positive return on investment in marketing, and to make the most of these platforms, there must be a more segmented strategy.

Augmented Reality (AR - Augmented Reality) has moved from a niche to a must-have technology, becoming the mainstream. In June 2017, Apple introduced ARKit, a tool for

software developers to help them develop iPhone AR experiences. Google soon released ARCore, the version for Android. By providing additional information to consumers about products until they are able to test them virtually, the applicability of AR can already be seen in the gaming, fashion, retail, and marketing industry.

AR causes consumers to interact more with products on the shelf in the store. Brands use AR technology to bring product labels to life and thus provide consumers with a fresh experience. Those interactive moments bring a new breath and help differentiate the product into the mind of the consumer. Interactivity generated by AR does not stop between store walls, passing them directly into the online. AR technology has the advantage of generating content in social media, improving word-of-mouth marketing strategy.

With the emergence of multiple channels of communication, marketers will be aware of the lack of distributional attention of consumers and will have to carefully choose where to do the promotion.

Virtual Reality (VR) - The spread of high-speed Internet access (5G) increases the demand for novelty technology features. This is also the case for Virtual Reality (VR) applications. By 2022, the total VR market will exceed \$ 26 billion, according to a survey by Zion Market Research. (<https://www.zionmarketresearch.com/news/virtual-reality-market>) Retailers, brands and service providers will have to rethink the strategy in the light of these issues.

Brands that offer 3D experiences will receive more attention from consumers. Advertising and the way in which sales are made will be strongly influenced by VR. Using the consumer's (or persona) profile, marketers will be able to place targeted ads in the 3D experience that the user considers relevant. VR already allows visual and audio experiences. The following senses that will be stimulated are the olfactory and tactile, practically a transposition into another reality. These upgrades will allow consumers to test and feel the products before they buy them. The VR is part of the future of retail. This will not only discuss e-commerce (electronic commerce) but also v-commerce (virtual commerce) or virtual commerce.

VR can also be used in e-retail. WebVR is an open-source tool to be integrated into your browser. The tool allows users to view 3D objects directly into the browser without having to download additional applications anymore. Basically, the user who wants to find out more details puts his 3D glasses that integrate the smartphone on which the product's image is displayed in the browser. The user can see the product from all angles, rotate it and even try its functionality.

The Statista published an estimate by 2018 of revenue from VR, software, and hardware (see Figure 2, p.115).

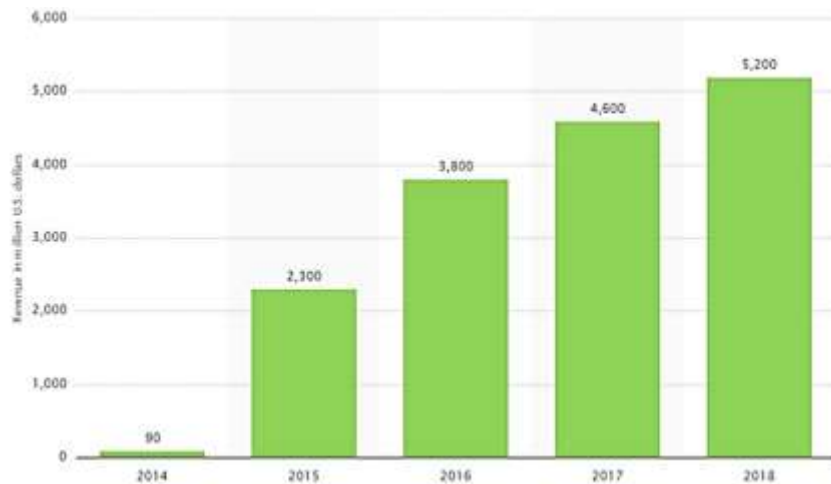


Figure 2. Virtual Reality incomes in the last four years (<https://www.brandweb.ro/blog/cum-imparti-placinta-pentru-a-fi-in-trend-in-2017-9-directii-pentru-bugetul-de-marketing>, accessed on June 15, 2018)

The trend is to bring online facilities directly into store shelves. Retail and technology will become inseparable. Artificial Intelligence, Virtual & Enhanced Reality, and the Internet of Things will make a significant contribution to customizing your shopping experience.

Artificial Intelligence (AI) has the potential to change the way organizations and businesses communicate and innovate. Any industry that operates with huge amounts of data, those sets of data that cannot be independently analyzed and interpreted by the human mind, can turn to AI. Of course, any industry that needs customer service will find appropriate solutions in AI. Already, in customer - talking with robots that solve problems. In the near future, these robots are expected to be emotionally intelligent, to have the ability to recognize and communicate emotions and feelings.

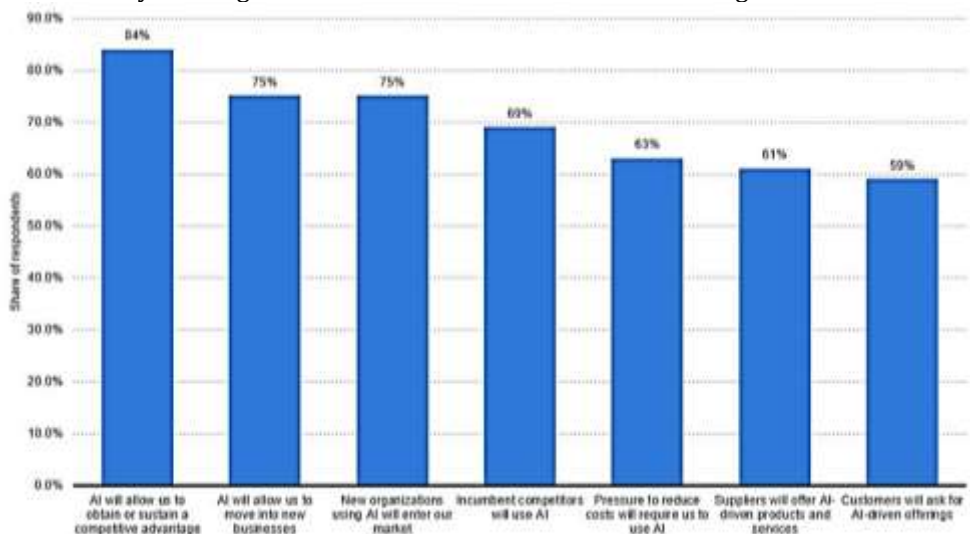


Figure 3. Predictions of AI usage (<https://blogs-images.forbes.com/louiscolombus/files/2018/01/Reasons-for-adopting-AI-Worldwide.jpg>, accessed on June 18, 2018)

Chatbot - Due to expanding Internet access and increasing the number of smartphone users, messaging applications have become a significant part of the mobile applications market, providing users with an alternative to SMS messaging. Messaging applications have enhanced features such as group chats or photo sharing. Mobile messaging applications are the ideal communication channels for consumers who are always on the move and want an instant response. Consumers want to know that their issues are important and that someone will immediately deal with their resolution. A chatbot has this ability to respond immediately and even to solve tasks that an employee should spend time on. Chatbot chats can be used in marketing as the first contact with customers and to collect their email addresses for subscribing to the newsletter, for example.

It can be seen that people tend to increasingly use mobile devices and applications that can be installed on them. Because of the lack of time, they are starting to increasingly prefer the activation of goods and services through the online environment. By offering attractive means to help them visualize their appearance, consider them a necessity that they must hold, they become consumers of certain brands. Thus, companies should identify their target market and focus on using these new marketing methods, which are preferred by consumers and who rely on their wishes to win and turn them into loyal customers. The following model aims to adopt the newest e-marketing methods, which are proven to be consumers' and enjoyable:

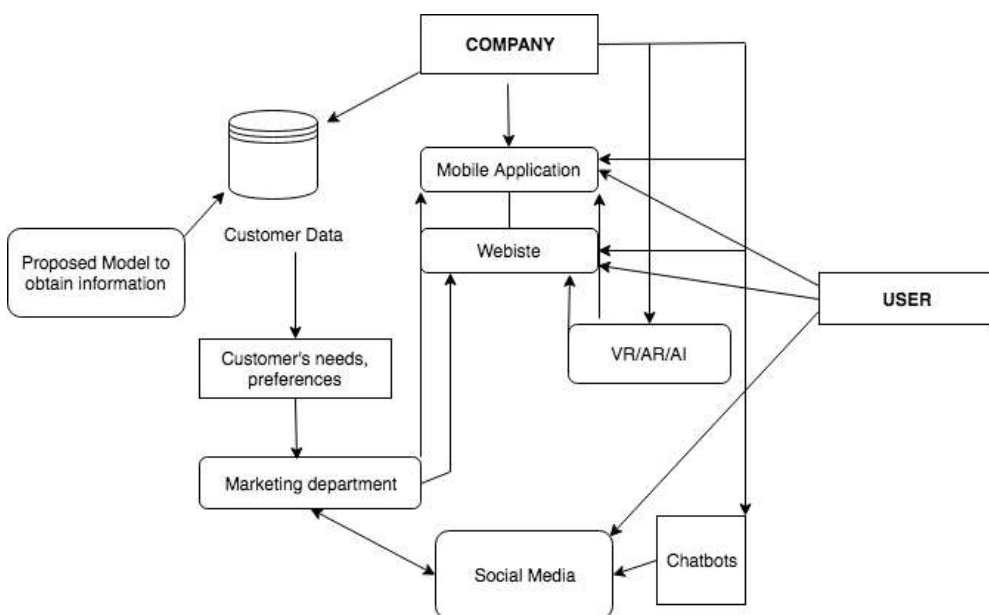


Figure 4. Model of using new marketing methods

The model proposed to find out as much information about the consumer is one needed to build their profiles, data that will be stored in a company database. These data are processed and used by the marketing department, which is essential in determining the methods and channels through which they can contact consumers. The company must also have a web page or website. Integrating chatbots into both social media channels as well as on the site and application facilitates communication with users, giving them quick information and helping them 24/24 hours. The VR, AR, and AI elements

contribute to a pleasant experience, helping people visualize products in a manner that is close to reality without moving to a physical location or remaining undecided or not.

Conclusions and implications / Discussions

The role of marketing in the market economy is inconceivable. Marketing combines the two fundamental functions of society - production and consumption and directs the whole economic activity to meet the needs and desires of consumers. Marketing has the role of providing the necessary information to market knowledge, bringing the company's technological capabilities to the needs of potential buyers. In addition, its relational character allows the establishment of credibility links between the firm and the environment, absolutely necessary for business success, transforming society's needs into business opportunities.

In any market economy and even in any competitive field, in order to achieve its objectives (profit, sales, market survival, etc.), the consumer occupies the central position. The consumer is the reference element for the actions of the suppliers of products or services, merchants. By purchasing their decisions, consumers determine the sales and profits of a company. In a competitive environment, the company does not survive if it does not study the consumer. Successful, profitable companies in market-economy countries are based on their consumer-related marketing strategies. To be profitable, an organization must first meet the consumer's needs: study it, understand its needs, wishes, motivation, and seek to achieve genuine consumer satisfaction.

Marketing is a field flooded with new technologies without which we thought we could not work. Sophisticated tools, digital strategies, and smart technologies make it easier for marketing people to make their choices more difficult. Technology creates new opportunities, for example, chatbots, facial recognition, image recognition and robotics. All provide marketers with information to train Artificial Intelligence and deliver personalized and geo-localized experiences, impressing their customers. These trends should not be seen as a must-have, but must of all be understood and filtered by the critical mind of the marketing man who finally chooses those technologies that support his business goals.

This paper proposes a model that helps to establish the level of consumer knowledge in order to develop a marketing strategy. We have identified new marketing methods that are growing in size and that have a positive impact on people in order to make them choose a product/service from a particular company to the detriment of another. Thus, once held information about consumers, as well as about the methods to which they are receptive and who attract them, a marketing model is proposed for companies, aiming at increasing the number of clients, sales, notoriety, turnover, brand consolidation.

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THE INFLUENCE OF SOCIAL MEDIA ON GENERATION Y'S TRAVEL CHOICES

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Abstract. *Information Communication Technology (ICT) has reformed the business environment worldwide, providing retailers with expanded markets, while offering consumers a greater range of alternatives. It is thought that by the year 2050, e-commerce will break through all companies, and most of the business transactions on a global level will actually take place electronically. E-commerce is becoming the fastest growing form of commerce globally. One of the industries most impacted by e-commerce is tourism; tourism has become an information-intensive industry. Nevertheless, e-commerce is an essential component of travel and tourism sector and the use of the Internet for brand building is an increasingly common. When we talk about online marketing, we are mainly referring to e-mail marketing, search engine optimization, affiliate marketing, display advertising and Social Media, which is perhaps most prevalent in the tourism industry. In the given context, the aim of this paper is to analyze the impact of Social Media on consumers' behavior related to their travel choices, to investigate whether Social Media influence people's decision to visit specific tourist destination. The primary method used is an online questionnaire, along with documentary analysis, statistical analysis, and personal observation. The paper will start with a brief literature review to explore themes such as tourists decision-making behavior or motivation of travel. Then, the relationship between Social Media and the desire to travel, as well as the use of Social Media throughout the whole holiday decision-making process, including before, after and during the trip will be examined. Therefore, this paper investigates the influence of Social Media on the overseas travel choices of Romanian Millennial users, also known as Generation Y or Echo Boomers, the largest cohort of Internet users, often called digital natives, as they are the first generation born in the Information Age and for whom travel is a way of life. Plus, the paper also highlights opportunities for travel and tourism businesses to reshape and customize their marketing strategies to gain competitive advantage.*

Keywords: *UGC; Social Media; tourism; Generation Y; digital marketing.*

Introduction

Nowadays, the Internet represents such a tremendous opportunity for both businesses and consumers, but might also be a threat, “the increase in customer power and knowledge [...] the bargaining power of customers” being, perhaps, the biggest challenge posed by electronic trading (Chaffey, Ellis-Chadwick, Mayer, & Johnston, 2009, p.47), along with the too high level of competition (Schwarzl & Grabowska, 2015, p.190). One of the sectors most impacted by e-commerce is considered to be tourism that, according to the World Tourism Organization (2001), has become an information-intensive industry. Nevertheless, e-commerce is an essential component of travel and tourism sector and the use of the Internet (through online marketing tools and practices) for brand building is an increasingly common custom (Hudak & Kianickova, 2017), as “traditional (offline) marketing strategies are already widely used [...] and there are almost no new options for fostering competition” (Schwarzl & Grabowska, 2015, p.187). Hence, everyone should clearly understand the implications of online marketing for tourism, mainly the importance of e-mail marketing, affiliate marketing, and last, but not least, Social Media, which is perhaps most prevalent in the tourism industry.

Literature review

According to scholars, tourists’ decision-making behavior is a five stages process that goes from biological and physiological needs to safety needs, belongingness and love needs, esteem needs and finally to self-actualization that can be translated into personal growth and fulfillment (Schwarzl & Grabowska, 2015). As per Maslow’s Hierarchy of Needs which has been widely accepted and used to explain travelers’ behavior, the consumer’s “need” is the fundamental reason for making a purchase decision – it is rather a basic human requirement, like air or food.

When one realizes that this need exists, the “problem recognition”, often called “gap analysis” phase appears, this representing the first stage in the decision-making process. The second stage, “information search”, is very often met in the tourism-related buying decision. According to Chaffey, Ellis-Chadwick, Mayer, & Johnston (2009, p.7), “there is a dramatic difference in online consumer behavior in different markets”, and for the travel and tourism case, people usually research and then also buy online, while for purchases such as a house or a car, they only use the internet as a research tool. Stage three, “evaluation of alternatives”, brings out two essential concepts for marketing, namely brands and consumer value (Schwarzl & Grabowska, 2015). Consumers also buy products for what they communicate to them, for the “feelings” or “emotions” those products may create. Since travel and tourism is actually a service and not a tangible product, people, in fact, buy experiences and it is more often than not an emotional purchase, meant to satisfy belonging, esteem, and self-actualization needs. This idea is also supported by Pearce (1982), who made an experiment and analyzed 400 travel experiences of 200 tourists from USA, Europe, Canada, and Australia. These people were asked to describe one positive and one negative travel experience, and then he analyzed and coded their stories into five categories, as per Maslow’s pyramid. In the positive experiences case, self-actualization (35%) and love (33%) prevailed, while for the negative ones, safety (43%) and physiological needs (27%) came first.

Maslow (1970) also discusses two other human needs, which some scholars (Hsu & Huang, 2007) find more suitable in explaining some tourists' behaviors, namely the aesthetic needs, and the need to know and understand. People do travel to learn about something new, to be exposed to various kind of beauty, belief also sustained by Šimková & Holzner (2014), who found out that for Millennials at a Czech Republic University, "seeking personal rewards", "telling others about their new experience", "inspiration", as well as "escaping personal environments" are the main motives for travel. Moving further, we reach the fourth stage of the consumer decision-making process, often called simply "purchase", when potential customers "must decide when and where they are going to buy" (Schwarzl & Grabowska, 2015, p.192), a very important decision, that usually takes three to six seconds (Mooradian, 2012) and has recently started to take place online for tourism-related purchases, travel being "the leading e-commerce category in Europe by revenue for the fixed internet" (Chaffey, Ellis-Chadwick, Mayer, & Johnston, 2009, p.124). Last, but not least, "post-purchase-process", the fifth and last stage of the travelers decision-making process, as identified by Schwarzl & Grabowska (2015), rather refers to building and maintaining a long-term relationship with your customers, turning them into loyal consumers by understanding various key aspects such as how they used your product and for how long, or what feelings of satisfaction or dissatisfaction they experienced and how they intend to act next.

Lately, companies are also concerned about how consumers might create additional value for their touristic product, or about how often and when their products are in fact used until the ultimate disposal, furtherance called by scholars "customer-value chain" (Mooradian, 2012), that "shows highly important information concerning products' innovation and how to change customers' behavior" (Schwarzl & Grabowska, 2015, p.192). Yet, it is quite hard to define which advertising medium really convinced the customer and was, in fact, the crucial one for the final purchase choice, so it is very important for a company to know more about the conversion rate of their marketing means, to identify which are worth keeping or investing in (Bockhorni, 2014), given that, with the online marketing expansion, companies are currently offered an increasingly higher amount of possibilities.

Altogether, "nowadays it seems to be indispensable running a business without any online presence" (Schwarzl & Grabowska, 2015, p.195), especially since travel products and services seem to be well suited to online selling – they are "high involvement products [...] less tangible and more differentiated than many other consumer goods", these characteristics making them more appropriate to be purchased over the Internet (Garín-Muñoz & Pérez-Amaral, 2011). Furthermore, the Web is also shifting travel and tourism marketing practices from a B2C approach to a peer-to-peer model, mainly in what regards information sharing. Thus, a good understanding of the e-mechanisms designed for spreading information online can facilitate tourism companies to market effectively their businesses via the Internet.

In fact, one of the most important online tools used nowadays in Travel and Tourism is considered to be Social Media, "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (Kaplan & Haenlein, 2010, p.61), increasing the power of Word-of-Mouth (WOM), transforming it into electronic-Word-of-Mouth (eWOM), and expanding the potential audience beyond the traditional parties, family and friends, to new, wider, geographically dispersed networks of strangers (Lo,

McKercher, Lo, Cheung, & Law, 2011). According to the literature, “at the start of the process when inspiration is sought, the recommendations of family and friends (via social networking) are the most used source of information” (Rushton & Kennell, 2015), and, when compared to traditional forms of advertising, it was found that people trust eWOM more (Jamaludin, Aziz, Mariapan, & Lim Ain Lin, 2017).

One of the most comprehensive studies about the impact of online travel reviews on potential travelers was undertaken by Gretzel (2007) in cooperation with TripAdvisor – roughly 1500 TripAdvisor users answered an online survey. This project revealed that reading other consumers’ posts in Social Media was the most frequently used source of information and that users usually consider these UGC sites and social networking platforms more reliable, enjoyable and up to date than information presented on official travel providers’ websites.

In a top of vacation-inspiration sites, Facebook ranked first, with 29%, followed by TripAdvisor, that scored 14% (Carter, 2017), while Instagram is expected to get the lead in the near future, given that nowadays people engage with Instagram posts and stories ten times more than they do with Facebook (Miller, 2017). Even though people use Social Media mainly when looking for travel information research showed that they continue to use it also while they are on vacation or even post-holiday - while still traveling, 72% of people post pictures on a Social Network, and 70% of them update their Facebook status with travel-related information. Furthermore, after returning from a trip, 76% of travelers post photos from their travels, 55% like Facebook pages specific to the vacation they have just had, 46% post hotel reviews, 40% post touristic-attractions reviews, and 40% post restaurant reviews (Carter, 2017). Some other statistics are even more convincing for travel business interested in promoting their products online: as per a survey commissioned by Chase Card Services that reached 1002 travelers in the USA, aged 18-67, 97% of the Millennials share their travel photos, while 73% of them even post on Social Media at least once per day during the holiday, and 87% use Facebook for travel inspiration. In this regard, UGC can also impact the trip itself, as real-time images shared, for example, during some events, might often inspire others to attend attractions or events they had not initially planned. Of all the persons questioned, Millennials are more likely (44%) than other older-aged travelers (35-49 years old 28% and 50-67 years old 11%) to seek opinions on Social Media while they research a prospective holiday.

Methodology

There is currently still a limited understanding of how consumers use UGC sites for the decision-making process and the impact of these sites on travelers’ behavior worldwide, worthless to say that generations-wise studies on the topic are quite a few at the moment despite the rather prosperous times the travel and tourism industry experiences. While people appear to increasingly embrace these practices, the travel industry members and businesses seem to be skeptical about UGC sites benefits and also unsure of how to respond. However, any strategic decision to integrate UGC tools and features into a business should be preceded by comprehensive studies on how the UGC sites are being used by consumers. Our focus was represented by Generation Y travelers, as they are the most active Internet-users and we have explored the following research questions:

Q1: What role do UGC travel sites play in the decision-making process of Generation Y?

H1: UGC travel sites are mainly used during the information-search stage of the decision-making process.

Q2: How much do Generation Y consumers trust UGC compared to the traditional sources of travel information (official travel websites, travel brochures, email travel promotions, commercial operators, visitor centers, travel guides etc.)?

H2: Consumers trust UGC information more than other sources of travel information.

Q3: How important do Generation Y online consumers find the most popular forms of UGC information compared to other travel information?

H3: Various forms of UGC are considered more important than other sources of travel information.

H4: Consumers consider third party (i.e. non-commercial) sources of travel information less important than photos/videos posted on Social Networking sites.

To answer the aforementioned research questions and test the corresponding hypotheses, we have conducted a quantitative study and distributed an online questionnaire to a random set of 100 Romanian Millennial citizens, developed after reviewing existing literature up to date. Our survey took place in the period 27-29th of June; a web-link to the survey was distributed via Social Networking sites. A total of 80 completed surveys was collected from respondents. All data received was analyzed using SPSS version 20 and Excel. Thus, descriptive statistics, as well as regression analysis were used for this research.

The instrument consisted of seven sections, as follows: the first section focused on demographic characteristics, the second one was related to Generation Y travel habits and the third section concerned the Social Media usage by Generation Y. These three sections were made up of both multiple choice and single choice types of questions, but also one "short answer" part. For the next four sections, a 5-point Likert scale was used, ranging from a response of "1" corresponding to "I strongly disagree" to "5" representing "I strongly agree". Section four, five and six coincide with our hypotheses, while in the last section we added two more insightful questions, that enabled us to gain further understanding of the impact that UGC has on Millennial travelers' final trip planning decisions.

Results and discussion

The questionnaire was intended for respondents aged up to 38 years old, as they are representative for generation Y. The age of our respondents was mainly between 25-30 years old, and most of the respondents were Romanian women. Their occupations vary from students to economists, and 42.3% of respondents earn between 500-1000 EUR. More demographic data can be found in Table 1.

55.7% of the surveyed subjects take less than 5 trips during the course of a year, while 36.7% of them pursue between 5-10 trips and 7.6% travel more than 10 times/year. The majority travel both in Romania and abroad (81%), and the fact that more than half of the respondents usually take less than 5 trips per year can be linked with the fact that 63.29% of them have a disposable income of maximum 1000 EUR/month.

Table 1. Profile of Survey Respondents (Source: authors' work, based on survey data)

Age group	Number of respondents	% of respondents
18-25	26	32,50%
25-30	40	50,00%
30-38	14	17,50%
Gender	Number of respondents	% of respondents
Female	48	60,76%
Male	31	39,24%
Monthly income	Number of respondents	% of respondents
<500 EUR	17	21,52%
500-1000 EUR	33	41,77%
1000-2000 EUR	20	25,32%
>2000 EUR	9	11,39%

86.1% of the respondents travel for leisure and 93.7% opt for self-planned trips when booking a holiday, the services bought online being mainly transportation tickets (93.7%) and accommodation (84.8%), while 29.1% also rent cars or other vehicles.

The third section of the questionnaire concerned the social media usage - the most popular platforms are Facebook with 94.8% respondents and Instagram, with 85.7%, and the time spent on social media platform varies from 1 to 3 hours for 56.4% of the respondents, while 28.2% of them spend between 3-5 hours/day online. 15.4% spend more than 5 hours on these platforms, however not mentioned if the time spent is work-related.

The fourth section comprises questions related to the role of UGC sites in the decision-making process of a trip for a generation. Figure 1 summarizes our findings:

Stage of travel planning process	Question	Totally Disagree	Tend to Disagree	Not Sure	Tend to Agree	Totally Agree
Information search	I use UGC sites pre-trip when I had already chosen where to go	10%	5%	32.5%	27.5%	25%
Information search	I use UGC sites pre-trip when I search for ideas on where to travel	11.25%	10%	23.75%	35%	20%
Evaluation of alternatives	I use UGC sites pre-trip, when I evaluate the alternatives and try to narrow down the choice of destination	7.5%	10%	35%	28.75%	18.75%

Stage of travel planning process	Question	Totally Disagree	Tend to Disagree	Not Sure	Tend to Agree	Totally Agree
Purchase decision	I use UGC sites pre-trip, before the actual purchase decision, to confirm I had made the right destination choice	12.5%	17.5%	37.5%	16.25%	16.25%
Purchase (during trip)	I use UGC sites during the trip, when I try to find out information about specific attractions/activities	7.5%	10%	28.75%	30%	23.75%
Purchase (during trip)	I use UGC sites during the trip to share my experience with other travelers/friends	25%	20%	27.5%	16.25	11.25
Post purchase evaluation	I use UGC sites after the trip to compare my experience with those of other travelers	31.25	26.25%	26.25%	10%	6.25%
Post purchase evaluation	I use UGC sites after the trip to share my impressions with other people.	30%	21.5%	23.75%	10%	15%

Figure 1. Usage of UGC sites depending on the stage of the Trip Planning Process
(Authors' work, based on survey data)

According to our results, more than half of the respondents turn to UGC sites during the information search stage of the travel planning process. Also, most of them use UGC sites when trying to evaluate their alternatives pre-purchase and during the trip, in order to find out more about the local attractions and activities.

To enable Hypothesis 2 to be tested, we asked how much UGC sites are trusted compared to the other traditional sources of travel information. As it can be noticed from Table 2, UGC sites are trusted more (32% of the responses in favor of UGC, 24% prefer the traditional sources of travel information, while the rest 44% are not sure which source to trust more). A t-test also confirms that non-UGC sources are less trusted by prospective travelers than UGC sites ($t = 2.57$, $\text{sig.} = 0.006$). Among the traditional sources of travel information, email promotions and commercial operations seem to be less trusted compared to UGC sites, while visitor centers and guidebooks are the most trusted of the traditional sources mentioned, followed by official travel websites.

To test Hypothesis 3, where we assumed that various forms of UGC are considered more important than other sources of travel information we asked respondents to rank the importance of each UGC type (photos posted on Social Networking sites, videos posted on Social Networking sites, independent traveler reviews on travel-related websites, independent traveler blogs) and also non-UGC sources (state tourism websites, commercial operators, travel reviews written by professional travel writers, interactive travel planners, live webcams) on a 5-point scale, where 1 = I totally disagree and 5 = I total agree. We conducted t-tests to compare the mean importance scores for both

groups of travel information sources but also highlighted the percentage of respondents who indicated which of the components, UGC or non-UGC type, was more important to them.

Table 2. Trust in UGC sites compared to traditional sources of travel information
(Source: authors' work, based on survey data)

	Mean score	Totally Disagree	Tend to disagree	Not sure	Tend to agree	Totally Agree
I trust UGC sites less than any other traditional sources of travel information	2.90	8	17	36	13	6
I trust UGC sites less than official travel websites	2.75	8	28	26	12	6
I trust UGC sites less than travel brochures	2.66	11	25	27	14	3
I trust UGC sites less than email travel promotions	2.46	18	25	22	12	3
I trust UGC sites less than commercial operators	2.59	13	25	28	10	4
I trust UGC sites less than visitor centers	2.90	6	21	33	15	5
I trust UGC sites less than travel guides (guidebooks)	2.86	7	20	36	11	6

As shown in Table 3, consistent with our other findings and hypotheses, information provided by UGC sites was considered more important than that coming from non-UGC sources, the independent traveler reviews on travel-related sites such as TripAdvisor, Booking, or Airbnb are considered most important of the UGC sites, followed by the content posted on Social Networking sites. The only non-UGC source with a similar mean score as the UGC sites were represented by the blogs written by professional travel writers, which might also suggest how important blogs have become nowadays, no matter they have sponsored content or not. Blogs written by independent travelers, UGC source was also a popular choice of our respondents. The least important for Romanian Millennials surveyed were the information provided by state tourism websites and commercial operators, emphasizing the power of Social Media in this generation. 67.5% of the respondents consider travelers' reviews important or very important, 60% consider videos of places posted on Social Networking sites important or very important, 53.75% believe that photos of places posted on Social Networking sites are important or very important to them when planning their trip, and 51.9% assessed independent traveler blogs as important or very important for their holidays. On the other hand, only 13.75% of the Romanian Millennials in our sample think that information provided by state tourism websites are important or very important.

T-tests results also supported our hypotheses – when we compared the mean score on UGC's importance (mean = 3.62) against the mean score on non-UGC's importance (mean = 3.11), we noticed that UGC content is considerably more important to travelers than non-UGC sources ($t = 5.92$, $\text{sig.} = .000$). As such, both hypotheses H3 and H4 are supported.

Table 3. The importance of UGC and Non-UGC sites content for travel decisions
(Source: authors' work, based on survey data)

		Mean	Totally unimp.	Unimp.	Neutral	Imp.	Very imp.
UGC	Photos of places posted by real travelers on Social Networking sites (Facebook, Instagram, Twitter, Snapchat, Pinterest etc.)	3.53	3.75%	13.75%	28.75%	33.75%	20.00%
	Videos of places posted by real travelers on Social Networking sites (YouTube, Facebook, Instagram, Snapchat etc.)	3.61	3.75%	3.75%	25.00%	40.00%	20.00%
	Independent travelers reviews on travel-related websites (TripAdvisor, Booking, Airbnb etc.)	3.89	1.25%	3.75%	27.50%	40.00%	27.50%
	Independent travelers blogs	3.43	5.06%	13.92%	29.11%	36.71%	15.19%
Non-UGC	Information provided by state tourism websites	2.7	8.75%	30.00%	47.50%	10.00%	3.75%
	Information provided by tourism operators	2.8	8.86%	27.85%	43.04%	15.19%	5.06%
	Travel reviews written by professional travel writers	3.54	1.25%	11.25%	32.50%	42.50%	12.50%
	Live webcams from particular destinations/ attractions	3.3	3.75%	20.00%	32.50%	30.00%	13.75%
	Interactive trip planners	3.23	7.50%	10.00%	41.25%	35.00%	6.25%

As regards the final additional questions, the results in Figure 2 show that 55% of the respondents might make a final decision relating to booking a trip or travel product based only on the influence of UGC sites (33.75% chose they are likely to, while 21.25% would definitely make-up their mind relating to booking a trip based solely on UGC's influence). 31.25% were unsure what they would do, while 3.75% would definitely not base their travel choice influenced by UGC, and 8.75% stated they are unlikely to make a travel decision relating to booking a trip based on the influence of UGC sites. On the other hand, 27.5% might change their existing travel plans only because of the influence of UGC sites, and 13.75% would definitely change their travel plans after seeing certain

photos, videos or reviews in Social Media. Only 6.25% claimed that UGC sites will certainly not influence their existing travel plans.

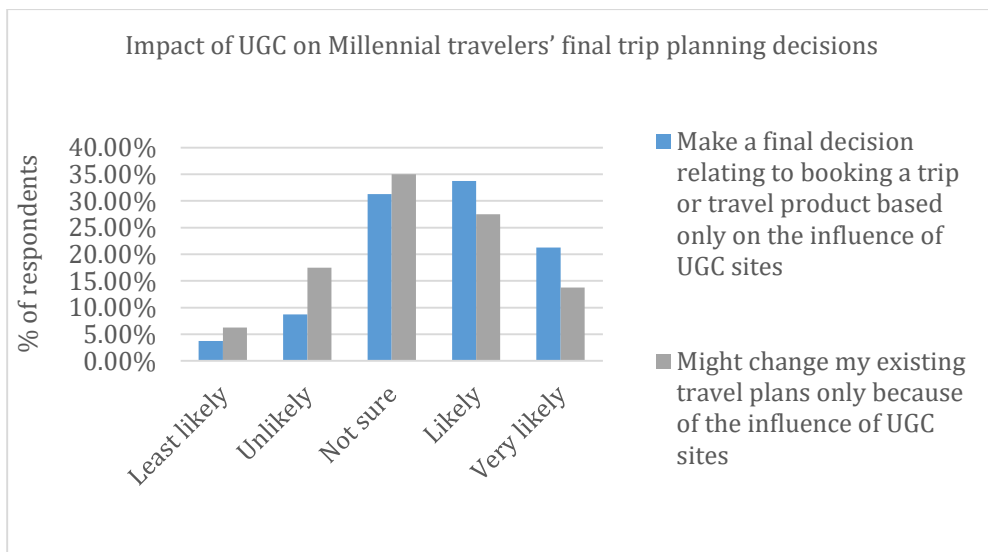


Figure 2. Impact of UGC on Millennial travelers' final trip planning decisions (authors' work, based on survey data)

Conclusions

First and foremost, this research found that UGC has become very powerful lately, especially among the younger generations, and complements successfully non-UGC sources in what concerns travel information. In certain stages of the travel product buying decision, such as information searching, UGC sites have even started to replace non-UGC in Generation Y's buying behavior, far more of them using Social Networks, travel blogs, travel-related forums than official state tourism websites, travel brochures, or even interactive trip planners.

It is also very interesting to notice how the use of UGC changes throughout the trip planning process, UGC being a most used source of information at the beginning of the process while looking for inspiration and evaluating alternatives. Millennials use UGC quite often also during the trip when they want to find various information about the place they are visiting, but as the decision-making process moves on, our respondents did not seem to be willing to share their experiences with other people in Social Media. Yet, they trust more the information on Social Media, such as travelers' pictures, videos, or reviews than similar information from travel companies. The explanation for the intense usage of UGC during the initial stages of the decision-making process may be that the users want to fuel the enjoyment from anticipation, to confirm for themselves that they made the right decisions, but also to find out about various tips and tricks from other travelers, so to be prepared and get the most from their own holiday. Among the UGC sources, blogs are least trusted, but, when asked about the trust in non-UGC sources, professional travel writers ranked the highest, suggesting that Generation Y prefer to hear and read others' experiences (be they sponsored or not) than official, detached information about the destinations chosen.

This research brings up some key aspects for the parties involved in the travel and tourism industry – marketers should design strategies that combine UGC and non-UGC sources in ways that could make their brands better off, more trusted, reliable. People look for interactions with their favorite brands, want to voice their opinions and like to know they have been heard. They appreciate when real travelers are allowed to contribute to businesses' online websites and Social Network pages or when they can get answers to their concerns in minutes. Thus, there is a great opportunity for tourism providers to enhance their current e-commerce and digital marketing strategies by integrating various UGC functionalities into their existing websites, create a big community around their brand, be a voice in the online media. Yet, this may also be a challenge, and businesses should at least monitor carefully what people say about their brands online, as negative reviews could very easily damage their image. Marketers should rather work harder to boost consumers' engagement and increase organic reach through Social Networks, to make consumers join honest conversations than try to control and manipulate them through traditional forms of advertising – in the given circumstances, these latter tactics might actually lead to negative opinions about the brand. Furthermore, consumers should be encouraged to engage with the brands, to post reviews, opinions, share pictures, videos or any other form of content. Perhaps they should be reminded that others' opinions helped them decide about a certain destination, accommodation or tourist attraction, so they could also contribute and help others in return. Plus, incentives may be granted to users that update their profile and add as many personal information and preferences as possible. These would help businesses provide targeted content to the readers and also conduct webnographic research. Other add-ins, combinations of offline and online promotional sources, for example adding QR codes to brochures or flyers to boost call to action and raise awareness to online media means might also represent a suitable tourism marketing strategy for Generation Y.

Last but not least, regarding future research directions, it might be appealing to investigate if and how is the Romanian Millennial consumers' tourism behavior different than the counterparts' from abroad. Additionally, scrutinizing the reasons why some travelers still do not trust UGC sources might also be of interest, as well as how to increase people confidence in online content, how to increase users' engagement with your brand.

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HOW MASS-MEDIA AFFECTS FUTURE SPECIALISTS IN ECONOMICS? EVIDENCE FROM LATVIA, POLAND AND ROMANIA

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Abstract. *The world is surrounded by information. The main source of information is the mass-media, which helps people better understand the environment. Initially, the written or the broadcasted press has a considerable input on the public opinion formation, thus becoming a pillar for transmitting the image intended by the communicator to the users of the media channels. Currently, another important factor that influences people's opinion is the Internet. The technological ascension in the past few years has transformed the Internet into an alternative for information and interaction that is currently indispensable for all the population segments, but mostly for the youth. That is a reason to conduct research in this area. The main goal of this paper is to identify and carry out an analysis of future economists' perception and consider the influence of the mass-media on education process, in order to understand how they see the effects that modern media have on the development of their personality. The following theoretical methods were used in the research: textual analysis, document analysis and content analysis, the survey method, methods of data processing and statistical analysis. The survey part of the research took place from November 2017 until February 2018 and consists of more than 900 students' responses with economics specialization from universities in Latvia, Poland and Romania. This research brings new findings into this area by analyzing future economists' perception of relatively homogeneous groups such as age, cultural and training levels, the target groups belonging to European countries with similar social, economic and political experiences. The first main conclusion of the research is a synthesis of both aspects - the positive and negative - in terms of the influence the mass-media has upon the young generation that is hungry for knowledge, leaving the right to judge and action, and being fully informed. The second important conclusion is that nowadays the online reading is the mainly used mass-media. The results of research demonstrated a clear digital medium preference and in particular the Internet. From these findings, there are some lessons that can be conveyed to policymakers, teachers, parents and students.*

Keywords: *mass-media; information; internet; education; influence.*

Introduction

Modern society is called as the information society, which is due to technical and information advances. The great dynamics of change affect almost all aspects of social life. The ubiquitous technology requires new skills from the modern man to use it. Thus, learning is an indispensable element of existence that allows adaptation to unstable living conditions. (Marcinkiewicz, 2013, pp.46-53).

Taking into consideration the wide mass-media spreading over the contemporary society, it can be expected that it might has a major influence upon the citizens' education, being a potential mean of education and modelling for all generations. Consequently, a closer approach upon the ambivalent nature of the effects mass-media has upon the youth is quite vital.

The main goals of this paper are:

- identify and carry out an analysis of future economists' perception and consider the influence of the mass-media on education process,
- identifying the positive and negative influences that mass-media has upon the students during their education process,
- analyzing the conclusions resulted from the research and putting forward the recommendations.

The main research hypotheses are:

- H1 - the mass-media influence upon the youth is equally positive (if they know how to perceive it) and negative (if they are not aware by the associated risks).
- H2 - nowadays students mainly use the online reading.
- H3 - the Internet needs institutional regulations.

For research purposes were used the following methods: textual analysis, document analysis and content analysis, the survey method, methods of data processing and statistical analysis. The survey part of the research was consisted of questionnaire with grid-type closed questions, that took place from November 2017 until February 2018 and consists of more than 900 students' responses with economics specialization from universities in Latvia, Poland and Romania.

This research brings new findings into this area by analyzing future economists' perception of relatively homogeneous groups such as age, cultural and training levels, the target groups belonging to European countries with similar social, economic and political experiences.

Literature review

It can be said that in literature is a research gap in studying the influence mass-media and Internet on education process for young people – in study age. The literature review was conducted using an electronic database Scopus, WEB of Science and EBSCO. Three groups of key words were used:

- mass-media influence, internet influence
- education, students
- information, manipulation, positive, negative.

For each search a key-word from each group was used simultaneously. The limitation of study was the fact that the publication had to be written in English.

Some most publications were concentrated on health and human body (Heewon & Jisu, 2017; Jenny & Grady, 2014; Mahrokh et al., 2018). Some was concentrated only on children influence and behavior (Berson, 2008; Lieberman, Fisk & Biely, 2009; Wazir, Kamal & Manzoor, 2015; Zapesotskii, 2011). Only few publications are concerning about mass-media influence on education (Ershteyn, 2016; Florescu, 2014; Ilie, 2016; Thompson, 2017).

All along the years, the mass-media influence increased and became more and more powerful due to the technological evolution, from telegraph, radio, newspapers and Internet. It plays a crucial role upon the education of the young people, being a more and more accessed modality of getting information, that are more or less useful to the people.

A study accomplished by UNICEF in 2013 indicates that 90% of the teenagers are daily watching TV and that 50% spend more than 3 hours doing this activity, time that otherwise could be used for socializing or doing other activities with a more instructive profile. The same study shows that 88% of the teenagers use the internet, on average, for 3,37 hours per day, mainly for social networks. Over 50% of the youth that use social networks, do this for being in contact with their friends and just 1% use the social media for finding more about the risks they are facing if they consume alcohol and drugs. For the youth, the information found on social networks have a low reliability degree, the data resulted from the survey indicating a very low level of trust in such networks. This difference of opinions represents actually the starting point of this research.

In early 2017, 78.5% of the population aged 16-74 in Latvia regularly (at least once a week) used the Internet according to Central Statistical Office data (CSP). The proportion of Internet users in different age groups is significantly different. If between 16 and 44 years of age almost everyone or 96% of the population regularly use the Internet, then those at the age of 45-64 are 71.3%, while in the age group 65-74, only one in three (35.5%) at least once a week used the internet. But in accordance with Gemenius data in March 2017 82% of inhabitants in Latvia were using internet (Gemenius).

In Poland, according the information from Central Statistical Office of Poland 80.4% households have an access to Internet. In 2017, 67% of the population regularly (at least once a week) used the Internet (CBOS). Between 18 and 24 years of age 100% of the population regularly use the Internet, at the age 25-34 are 96%, 87% between aged 35-44, 70% between 45-54, 47% between 55-64 and 23% of population in the age more than 65.

According to a research of the Romanian Joint Industry Committee for Print and Internet (BRAT), as cited The Romanian Press Agency Agerpress.ro (2015), approximately 70% internet users out of the total population between 16 and 64 years old.

As the study reveals, from an environment initially considered a high-end one, mainly accessed by educated young people living in big cities, the Internet became accessible to a larger and larger category of population.

In accordance with Jomah et al. (2015), there is an impact of the boom in digital data in knowledge codification. The current status shows that 80% of the respondents are interested in learning via electronic devices, followed by e-mails at 75%. Also, 70-72% of respondents opt for video clips and sound and voice recording. 65% of the respondents selected images followed by graphical display at 61%. 50% of the respondents selected Journals. Further observation from the figure reveals that books and reference volumes had a very insignificant impact, as expected by merely 45% and 30% of the respondents. This directed us towards the necessity for micro learning, and encourages the increase of the usage of electronic devices. Micro learning concepts, based on mobile web learning, lead to a modernized education system.

Pătruț (2016, p. 84) emphasizes that: "Thousands of users are involved in creating the online encyclopedia Wikipedia, writing blogs, exchanging video materials, music or photos, collaborating, communicating, commenting, evaluating etc. The users' goal is no longer consumption, but generation and distribution of new contents, the newly arrived concept being that of participatory web. This allows for new forms of social interaction and communication organized directly by the users via blogs and social networks. Social communication of the type "a few producing for the many" has been replaced with the "many to many" type of communication, the final result being the creation of a virtual network of people connected on a social and global level". It means that social media can be a source of information and manipulation.

Ilie (2016, p.432) indicates that „taking into consideration the educational impact of mass-media, which exert a growing influence in modern society, educational communication should be given a particular significance, because it must become the all comprehensive tool that will help the taught to integrate, structure, analyze the information already acquired”.

Thompson P. (2017, pp.257-270) conducts research which suggests a negative relationship between frequent use of communication technologies, such as text messaging and social network sites, and academic performance. This study does not prove a causal relationship; it provides more detail on the specific study skills challenges students may be facing when they interrupt their studying with frequent online social communication. This increased understanding can help educators tailor study skills interventions and support more directly to students' needs.

Florescu (2014, p. 350) identified the main aspects of the media influence on education and proposed recommendations based on the conclusions stated. Florescu (2014), Ershteyn (2016) and Treapăt (2017) concluded that mass-media influences a society on all the channels that it has, in both positive and negative way.

The research methodology

In order to achieve the intended main goals and verify the research hypotheses was decided to prepare the survey method. The results obtained have become a basis for using methods of data processing and statistical analysis.

The design of the questionnaire consists of 12 questions that aims to gather information from the target group for a qualitative research. The target group of research was formed of 312 students on Faculty of Business, Management and Economics University

of Latvia in Riga in Latvia, 302 students on Faculty of Management at the University of Gdańsk in Poland, 300 students at the National University of Political Studies and Public Administration (SNSPA) in Bucharest, Romania. In addition, students specializing in economics, were selected to make research more focused on representatives of future labor market in financial area. The students can choose only one answer to each question.

The targeted group of this qualitative research has, as a common denominator, the relative uniform age, the high intellectual and cultural level of the selected subjects, interest in economics studies, but especially their need to permanently inform themselves. For the students, the contact with the transmitted information via mass-media is a necessary and objective aspect, and accessing the internet became a daily habit of every young person nowadays.

Results and discussion

Further on, it would be presented the questions and the interpretation to their answers.

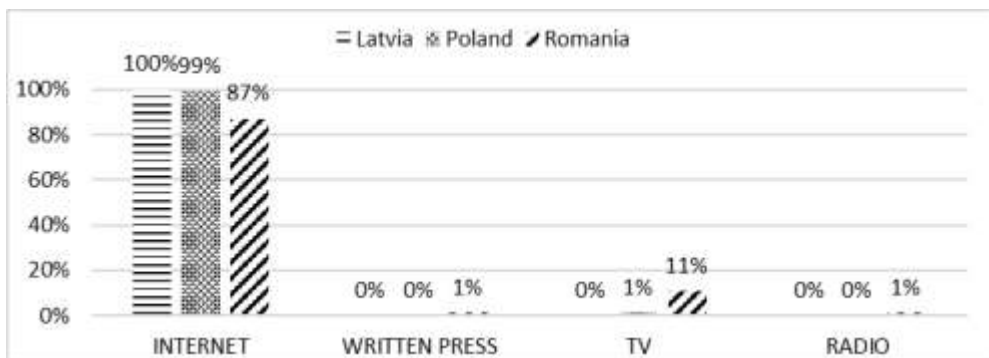


Figure 1. Question 1: Which is the media channel you are mainly using?

In Latvia 100% of students are using internet as main media channel (Figure 1). In Poland, the most used media channel is internet - 99% answers from respondents, only few students are using TV. According to the respondents from Romania, the most used media channel is the internet, the rate being of 87%, followed by TV with 11%, the radio and the written press having insignificant ratios of less than 1%. Despite the good average global peak connection, Romania ranks 10th in the world at Internet speed, as shown by the Akamai (Q2, 2016 Report), however, Romanian students also use the other media channels than the internet, which shows an option for the diversity of information sources.

This result indicates the fact that the online environment is the most accessible for the youth, granting them the possibility to inform themselves, to socialize, but also to have fun. The connection to the internet is extremely accessible in the present times, positioning the TV on the second rank among the preferences of the questioned students, as this channel does not offer as many benefits as the social media.

These findings confirm our H2, that nowadays students mainly use the online reading.

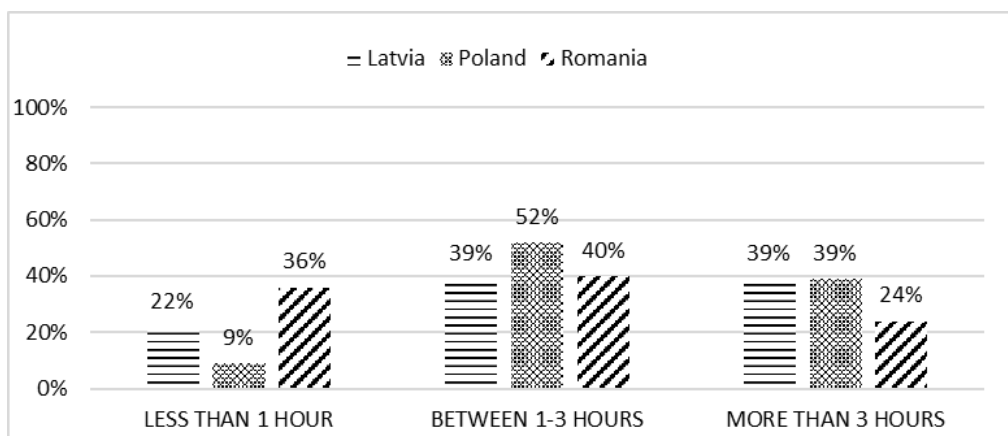


Figure 2. Question 2: How much time do you spend on the favorite media channel, during one day?

In Latvia 39% of students spend between 1 to 3 hours using Internet and 22% less than 1 hour (Figure 2). In Poland almost, half of the students spend between 1-3 hours daily using internet and only 9% less than hour. 40% of the questioned students in Romania spend less than three hours surfing the internet and 36% out of these less than one hour.

The data demonstrate that the majority (about 60% and more) of youth are quite efficient and do not waste so much time searching for information. The result suggests also various other ways of spending the spare time and the balance between the online and the offline activity. For the youth spending between one to three hours on the internet, there is a moderate risk that it would become chronic.

It should be mentioned that more than 3 hours in front of computers or smart-phones, spend time 39% from Latvia and Poland, 24% students in Romania. It may for sure state that the latter are wasting precious time, which should be used for education, for reading books of general culture. The influence of mass-media in such cases is rather negative, both upon the culture level but also raises significant risks for the physical health, as well.

Distance education also using internet and electronic devices. Users of this kind of learning need (Vasilevska et al., 2017) necessary skills to use current information technologies, knowledge about basic means of educative resources on the Internet, skills that are necessary to be able to accomplish tasks assigned by teacher with the help of educative resources on the Internet.

On figure 3 is presented that most of the questioned persons (52% in Latvia, 42% in Poland and 43% in Romania) consider mass-media as a source of information, this aspect indicating the people's need to value, control and supervise the environment by accumulating information. The respondents that see mass-media as a main source of information are used to evaluate the environment based on the information they receive in a facile way, little filtered by own judgment or at all.

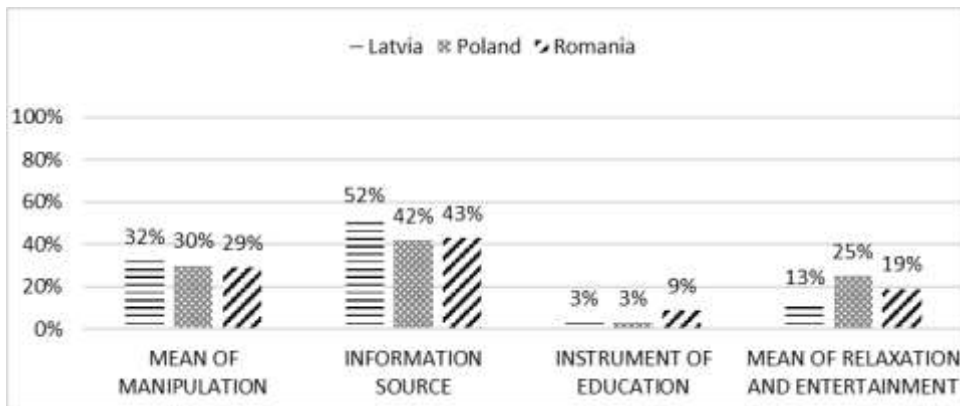


Figure 3. Question 3: In your opinion, mass-media is:

A significant percentage, almost one third, of the respondents consider mass-media as a mean of manipulation. That means that these admit mostly the negative parts of mass-media and less the positive ones. While 13% respondents in Latvia, 25% in Poland and 19% in Romania consider mass-media as a mean of relaxation by which they can escape the day-to-day stress, and only 3% (Latvia, Poland) and 9% (Romania) consider mass-media as a mean of education.

It cannot be ignored that one third of the responses indicates the fact that mass-media has a manipulation impact upon the young people's opinions. It is extremely important that the students acknowledged this danger, namely that the mass-media is "a two-blade sword for Generation Z, born on internet", as Treapăt (2017, p. 1) showed. He argues that media "on one hand, it forms, on the other hand, it deforms. It is up to us to learn how to use this tool and this study can be useful for such learning." Same important is the fact that they consider mass-media as an education factor just in a small proportion, which is, in fact, true.

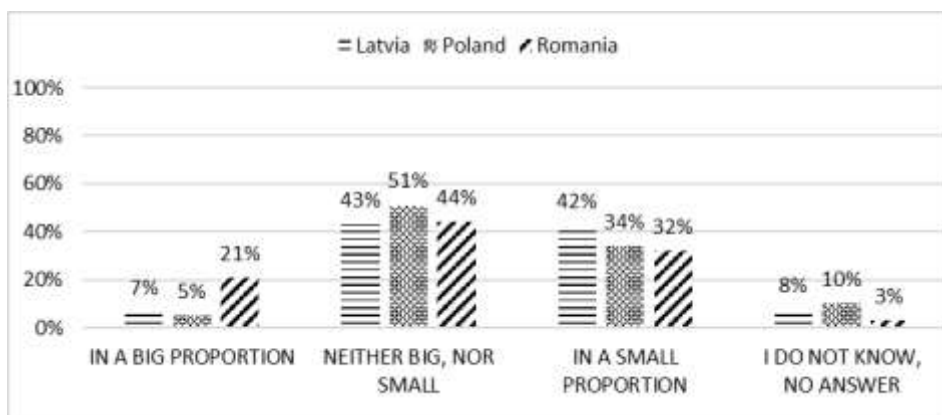


Figure 4. Question 4: Do you consider the information from mass-media, trustworthy?

Figure 4 presents the perception of the respondents upon the information's trustworthiness as provided by the mass-media is neither good nor bad, as 43% in Latvia, 51% in Poland and 44% in Romania consider the ranking as „Neither big, nor small”, when they refer to the credibility of the information they access through mass-media, fact that might

sometimes mean a lack of trust. The students obviously need information, but it is good that they are reluctant to what they get, being aware that the information must be filtered, verified, framed and assessed and only after that considered and used properly.

A huge percentage of respondents in all countries do not trust the credibility of the information received through mass-media at all. Only 7% students in Latvia, 5% in Poland and 21% in Romania consider this information to be trustworthy. These percentages, that rather suggest a lack of decision, prove that there is a certain influence of the mass-media upon the youth during their education process and that the results of such a research may lay at the basis for identifying some measures that enhance the positive influences and reduce the negative ones, such as manipulation, as much as possible.

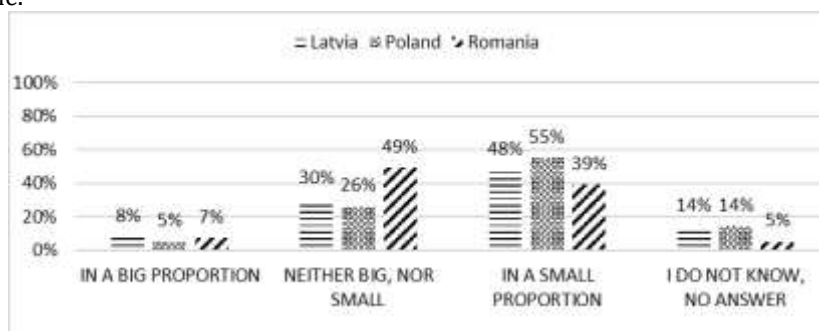


Figure 5. Question 5: Does the information accumulated through mass-media determine a change in your attitude or behavior?

In what the influence upon the youth's attitude and behavior concerns – for the ones using the media channels it could be observed that of respondents in three countries do not consider that they are dramatically influenced by the information received through such means, so that it produces an attitude or behavior change – 48% in Latvia, 55% Poland, 39% Poland (Figure 5). The weight for the response „In a big proportion” is of only 8% in Latvia, 5% in Poland and 7% in Romania for this question, aspect that is not bad at all as, also considering the conclusions that were drawn for the previous questions, the manipulation, the entertainment and the irrelevant information are not a proper base for changing the behavior, but only for those who do not have enough life experience to judge/separate the good from the evil.

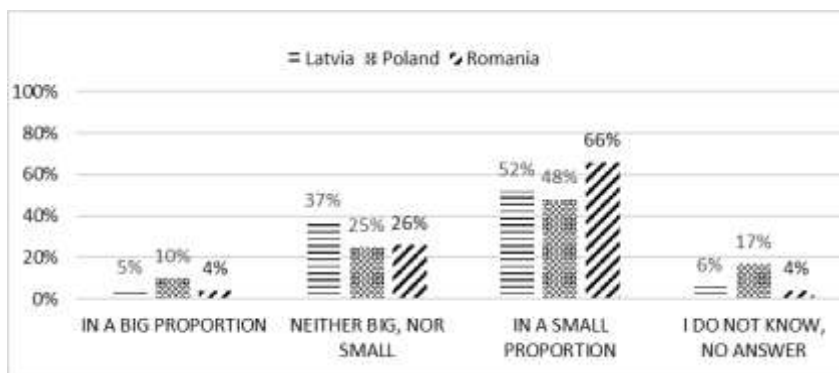


Figure 6. Question 6: Would you allow your child to use the media channels as a source of personal development?

On figure 6 is presented that most of the respondents in these countries chose the option according to which they wouldn't allow their children to use the media channels as a formation source. This aspect evidences that the young students preponderantly identified the negative effects that the media has upon the children's education and are aware about the impact these have in their formation. Also, the decreased percentage of 5%, 10% and 4% - representing the ones that consider mass-media as an appropriate source of formation evidence the majority's reluctance towards the messages transmitted through mass-media. It should be acknowledged that these messages are also consistent with their answers and with the previous conclusions.

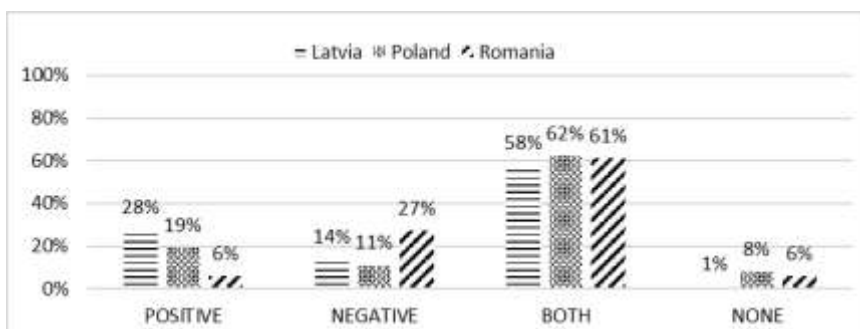


Figure 7. Question 7: What influence do you consider mass-media has in the educational process?

Almost two third of the respondents considered that mass-media has both a positive and negative influence in the educational process (Figure 7). Consequently, mass-media may generate both beneficial and negative effects upon the educational process.

Although 14% of the respondents from Latvia, 11% from Poland and 27% from Romania considered that mass-media has negative effects upon the educational process exclusively, and 28% in Latvia, 19% in Poland and only 6% in Romania stated that it exclusively has positive effects. Once again it could be remarked the impact of mass-media upon the educational process concerns. The students preponderantly identify negative aspects and it is desirable to enhance the benefits that these media channels offer to the youth, under the condition to be correctly identified. Or, this is exactly the importance and the value this study brings.

Research results confirms H1 - The mass-media influence upon the youth is equally positive (if they know how to perceive it) and negative (if they are not aware by the associated risks).

On the question: „Do you consider that the information broadcasted through mass-media has to be subject to a higher degree of filtration?” a considerable percentage from the respondents answered positively (65% Latvia, 74% Poland, 77% Romania) (Figure 8). Consequently, the mass-media „consumers” are aware that the information received are not carefully selected by the specialists, and this deliberately sometimes. The filtration of the information involves the eliminating the data that are not objectively describing the reality, misinform, and are not cut for the receiver's understanding. It is true that, in the Latvian, Polish and Romanian mass-media such filtration is sometimes done according to political likes or dislikes, selecting subjects for thus defending certain interests. The information filtration involves also presenting some ideas from various

sources, so that the receiver may see all the sides of a controversy and to choose for himself what to believe and what not to. The mass-media must allow the consumer to make his own choices and not to present him or her single alternative, but for this, the sources have to be carefully selected.

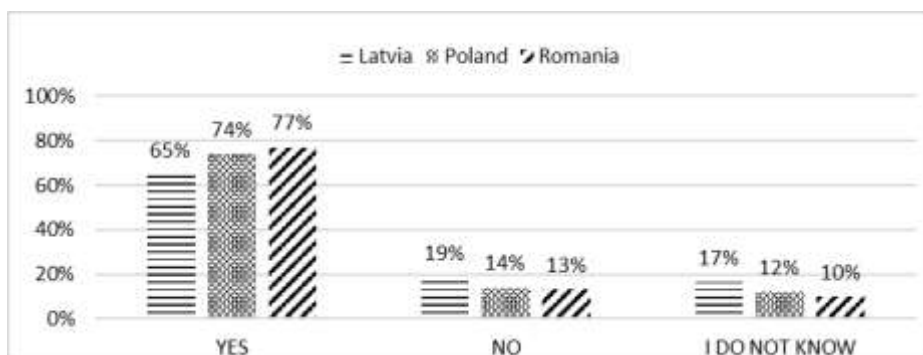


Figure 8. Question 8: Do you consider that the information broadcasted through radio, TV or written press have to be subject to a higher degree of filtration?

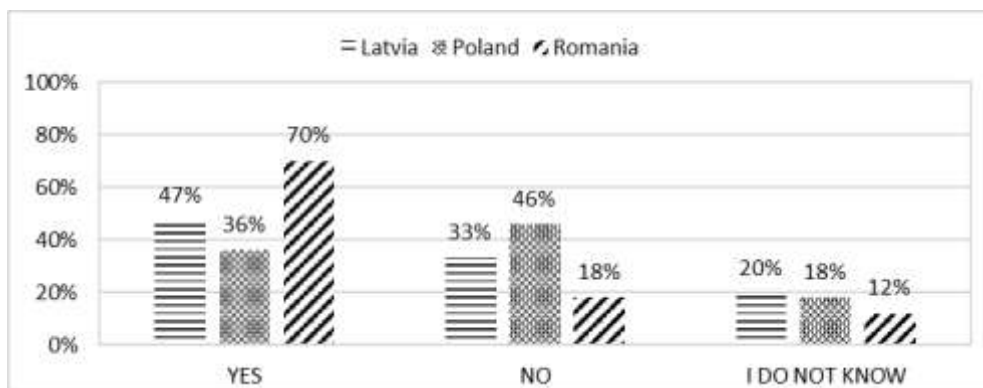


Figure 9. Question 9: Do you think that the internet needs an institutional regulation?

Answers' capitalization for question 9 is presented on figure 9. The respondents chose „Yes” option (47% in Latvia, 36% - Poland and 70% in Romania) for this question, highlighting the fact that the „freedom” in the on-line environment comes as a package with certain minuses and an institutional regulation could or, at least, should lead to a decrease of such disadvantages. Only in Poland students indicate in huge percentages that institutional regulation is not necessary. Nevertheless, the student's answers confirm H3 - the Internet needs institutional regulations.

All that is left to be done is to work on the quality of the persons that are nominated as regulators for this field. It should be highlighted again the role of the youth, in full formation process, as future specialists or at list as opinion moderators, not just as simple informational maneuver mass.

61% respondents from Latvia, 66% from Poland and 84% from Romania consider that an increased number of cultural messages would help to improve the education degree among the young persons, while 17% and accordingly 9% of the questioned ones do not consider this being a method that favors improving the education among the young

population. Percentages of answer „I do not know” indicate that respondents cannot appreciate the impact the cultural messages have upon the youth’s education or do not (Figure 10).

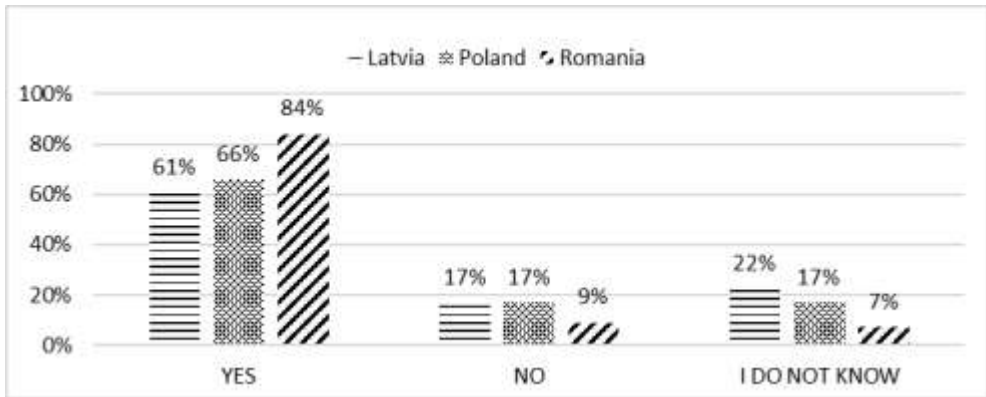


Figure 10. Question 10: In your opinion, an increased number of cultural messages/events would help to improve the education among the youth?

The role of the mass-media is, for sure, very important in shaping the young generation’s solid cultural values and also as good citizens, as well educated persons, values that are expected to already exist at the age the interviewed students are. Anyway, the essence of the question is whether we need more cultural messages in mass-media. The answer is unquestionably: yes. Mass-media has to increase the good impact of the culture among the young consumers of information.

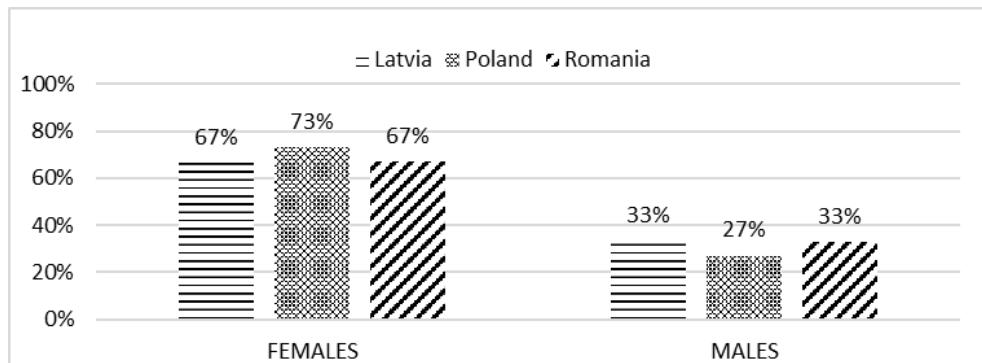


Figure 11. Question 11: Gender

A percentage of 89% from the respondents to questionnaire from Latvia, 94% from Poland and 80% from Romania are aged between 18 and 25, whilst 10%, 4% and 14% are aged between 25 and 30 (Figure 12). In what the gender concerns, in Latvia and Romania 67% are females and 33% males, in Poland 73% are females and 27% males (Figure 11). From the sociological and statistical point of view, the results are reasonably corresponding to the student’s profile attending this university and do not influence the quality of the answers.

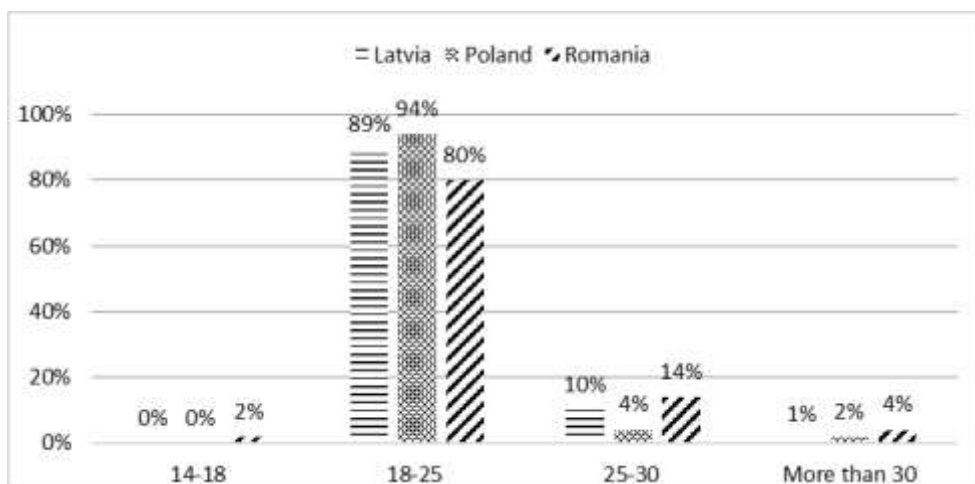


Figure 12. Question 12: Age - years old

Conclusions and implications

Most respondents use the internet as medium, about 1-3 hours per day and even more. Almost half of respondents consider the media a source of information, and just under a one third believe that this is a means of manipulation. Respondents do not trust the information they receive, they believe it are not credible and do not cause a change in their attitude or behavior.

Using students' answers to question 2 in this paper, but also many other studies (Singer & Alexander, 2016, pp.155-172) show that although young people prefer to read online, they actually remember much better when reading text. It is just an illusion that you will read faster or more comfortably online, being shown in numerous studies, as we have mentioned before, that key information, the most important ones are lost on the Internet or on tablets. Some key findings emerged that shed new light on the differences between reading printed and digital content. Students overwhelming prefer to read digitally, because reading is significantly faster online than in print. Students believe their comprehension as better online than in print, but, paradoxically, overall comprehension was better for print versus digital reading. The medium (on line or printed) did not matter for general questions like understanding the main idea of the text, but when it came to specific questions, comprehension was significantly better when participants read printed texts.

Results of the research demonstrated a clear preference of our students for digital medium and in particular for Internet. From these findings, there are some lessons that can be conveyed to policymakers, teachers, parents and students in what the mass-media influence upon the youth's attitude and behavior concerns.

In addition, a lack of trustworthy in the information delivered by media channels shows that more than half of the respondents would let the child only to a small extent of the media as a source of information. The influence the media can has is both positive and negative, but mostly negative from the responses. The questionnaire revealed that the internet needs regulation to filter information displayed and that a larger number of cultural messages can help educate young people in a positive way.

The major role of our research is to confirm that the media today is basically confusing with the Internet, at least for young students, and the duty of teachers and researchers could be to create a strategy to optimize media influence over users. By optimizing, we think about reducing negative influences in favor of those that are favorable. In order to put this strategy into practice, we need to first determine the positive and the negative factors. As 42-52% of respondents see the media as a source of information, it is clear that the strategy should also focus on the positive aspects of the Internet. It is true that the internet has numerous negative effects, such as fatigue, social isolation, etc., but it is currently the main source of information that provides quick and cheap access to information, contains many sources.

The first main conclusion of the research is a synthesis of both aspects - the positive and negative - in terms of the influence the mass-media has upon the young generation that is hungry for knowledge, leaving the right to judge and action, and being fully informed. The research confirms hypothesis H1.

The second important conclusion is that nowadays the online reading is the mainly used mass-media. The results of research demonstrated a clear digital medium preference and in particular the Internet. From these findings, there are some lessons that can be conveyed. The current study will provide valuable policy implications to policymakers, teachers, parents and students. It is confirmed hypothesis H2.

It is also interesting that students confirm hypothesis H3 that the Internet needs institutional regulations.

Although, all three hypotheses were validated, it should be highlighted that the analysis was carried out in countries with similar social, economic and political experience. The next question is: "Do the similar conclusions appear when into comparative analysis will be included students from Western European countries?"

Mass-media affects future specialists in economics, on their critical thinking and perception. What is interesting that in all researched countries many conclusions of the research are similar. It can be also a proof for globalization of the young society.

Beyond the scope of this study, future research can be conducted on the following foundations: the first - the future research can develop an advance mechanism to compute the influence of the mass-media on education process; the second - the scope of the study can be extended over a longer period and for other countries of the world.

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THE NEW ERA OF PERSONAL DATA IN EUROPE: HOW CAN COMPANIES COMPLY?

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Abstract. *Enforcing the EU Regulation 679/2016 seems to be a lengthy process, that will change the landscape of the European commerce. Adapting to the Regulation entails several obligations that any data processor must abide by. Respecting these obligations is a challenge that implies several changes to the corporate structure and internal policies and procedures. Protecting personal data is a costly affair and erroneous implementation of procedures, that leads to data leaks, can be harshly sanctioned. Given the large definition of personal data, maintained by the Regulation, it can be assumed that, even if a company does not directly process information of personal nature, it will encounter, at some points in its activity, incidental forms of data processing. For example, even if a firm's lucrative revenue can mainly be attributed to buying and reselling engross, the company will still process user data on its website. There are several steps that any data processor must comply with. These include a preliminary audit for assessing the quality of current data handling procedures. In this sense, data controllers that already had procedures in place to enforce the legal obligations imposed by the Directive 95/46/CE will be in a privileged position. However, market surveys show that very few processors have actually done so. Given that any real implementation of the GDPR is dependent upon a proper preliminary audit, this study will analyze the proper manner in which such an audit must be conducted. Erroneous preliminary assessments will inevitably lead to future violations of the Regulation. Secondly, after the initial assessment, internal procedures for data handling must be put into place. Clear codification is essential in this process. The processor must ensure that all employees that handle personal information of clients and commercial partners are well trained and able to understand exactly what they must do. Moreover, the procedures should not be limited to mere day to day tasks. Crisis scenarios must be addressed, as this can first of all limit the potential damage and ensure that the subjects of data processing are properly informed, in accordance with recital 85 of the GDPR.*

Keywords: *personal; data; European Union; GDPR; DPIA; DPO.*

The nature of the Regulation 679/2016 and the main changes

As of 25th of May 2018, the European Union's new framework of data protection will enter into force. Although data protection is by no means a new concern for the European legislator, even in itself, replacing a Directive, namely Directive 95/46/CE with a Regulation, the General Data Protection Regulation 679/2016 (hereinafter, the GDPR), creates significant changes in the landscape of personal data. As Regulations are mandatory second legislation tools, the provisions of the GDPR are directly applicable to both vertically and horizontally in any member state of the European Union. Thus, any data subject can submit requests to any controller that has access to his data based on the Regulation itself, with no regard to the national legal framework. Moreover, controllers can be held liable for any violations of the Regulation even if its provisions are yet to be adapted in the national law.

Changes of paramount importance are made as far as the substantial regime for processing data is concerned. These include (i) the establishment of obligations to appoint a Data Protection Representative and a Data Protection Officer; (ii) modification of the consent regime; (iii) express codification of the right to be forgotten; (iv) introduction of the obligation to notify the data subject and the authority of the breach of personal data security; (v) the obligation of transparency with regard to internal data processing procedures; (vi) the introduction of fundamental principles and new rights and (vii) the establishment of a single supervisory authority, with the modification of the sanctions regime.

Companies that actively participate in the European trade market must find manners in which to comply with the exigencies of the Regulation. Although this task is by no means an effortless stroll, it seems that data controllers that already instilled internal procedures to comply with Directive 95/46/CE will be in a significantly better position. Adapting to the Regulation is far better than starting from zero as far as data protection is concerned, as many of the rights and obligations the Regulation codifies either already existed, under the Directive or could have been easily derived from the Court of Justice of the European Union's case law. For example, the right to be forgotten already existed, ever since the famous Google Spain case, even though the Directive did not expressly mention it. Now, the same right is codified under the Regulation. It is easy to see how transitioning from a proper program of protecting rights under the Directive to fully functional internal procedures of GDPR compliance can and should be a rather smooth process.

However, the vast majority of companies are not in such a privileged position. According to a survey (Curtis, 2017, pp.7-8), out of 400 of the leading companies in their fields, only 8% of managers declared themselves ready for the entry into force of the Regulation, with 28% unaware of it. Another 26% said they would not be able to complete their internal measures by May 2018. Accordingly, the main focus of the present study will be to analyze the manners in which such companies can create compliance programs.

The premise of this study is that almost all low and middle tier companies will process data in some form during their activity. Processing is defined under Art. 4, para.2 of the Regulation as any operation or set of operations which is performed on personal data or on sets of personal data, whether or not by automated means, such as collection, recording, organization, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction. From the outset, it is clear that the European legislator intended to maintain a large scope of protection for the Regulation, building upon the blocks set under the Directive 95/46/CE. As such, merely storing employee personal data is a form of data processing. Almost any online activity will also raise questions of compliance. Even if ad-related profiling is not in place on a certain online platform, processing data such as a user's IP number, MAC address, information concerning his online account or persona or using cookies fall under the scope of the definition of data processing set forth by the Regulation. Recently, the Court of Justice of the European Union, in the case of *Unabhängiges Landeszentrum für Datenschutz Schleswig-Holstein vs Wirtschaftsakademie Schleswig-Holstein GmbH*, decided that responsibility for protecting personal data arises even when using a third-party platform, such as a Facebook fan page account. Moreover, even companies that reside outside of the EU, but

process data of European citizens have to find ways in which to comply with the GDPR, which some (Codevilla, 2018, p.12) regard as an important challenge.

General steps for implementing the GDPR

The first step in the process of adapting company policies to fulfill the standards imposed by the GDPR should always be conducting an internal audit (Khan, 2016, pp.7-8). In order to know what steps must be taken the controller must be aware of the current state of affairs in the company. In this sense, this would be an ideal moment for conducting the preliminary steps for a future Data Protection Impact Assessment, that would be carried out under the supervision of the Data Protection Officer (Voss, 2016, p.804). Secondly, the controller should verify whether the conditions are fulfilled for the mandatory appointment of a Data Protection Officer. Accordingly, changes should be made in order to comply to this obligation, whether that means externalizing this service, hiring a data protection officer or changing the work contracts of an already existing employee in order to encompass such responsibilities. Nevertheless, it is mandatory to appoint a person in upper management to supervise the process of implementing the Regulation.

Thirdly, internal procedures should be codified, concerning the handling of personal data. These procedures should not be generic and must actually take into consideration the nature of the processing and the types of data that are being processed. The philosophy of implementation should be that of data protection by design (Varotto, 2015, p.79). Sensitive data should be distinguished from normal processing. All employees that have attributions that either explicitly or implicitly involve data processing should be briefed and trained to respect the new procedures. Nevertheless, at this time, procedures should be instilled in dealing with Personal data breach notification, taking into consideration all potential breaches and possible worst case scenarios. The second part of reforming internal procedures should consist of ensuring that personal data of employees and other contractual staff are properly stored and protected. In this sense, it is essential that their consent is taken concerning upcoming processing necessary (Bevitt & Stack, 2016, p.12). Special attention should be given to situations where CCTV cameras are used in the workplace, during work hours, since they gather biometric data, which is a special category with higher standards of protection.

Lastly, the final step should be ensuring that the contracts used with third-party use proper means of obtaining consent for data processing. The Regulation significantly changes the legal regimen of consent, which must be express and cannot be deduced from other factual circumstances, as controllers could have done under the Directive 95/46/CE (Taylor & Smith, 2017, p.14).

Preliminary audit and the Data Protection Impact Assessment

As previously mentioned, the first step in complying with the GDPR should be conducting a thorough and sincere evaluation of current internal policies and procedures. Nevertheless, the manner in which the audit is to be conducted is dependant upon the existence or lack of prior procedures, aimed at respecting the obligations imposed by the Directive 95/46/CE. When such procedures already exist the focus should be placed on adapting them to the higher exigencies of the Regulation. If the

controller was not sufficiently diligent to create such procedures the task will be significantly more laborious. The preliminary audit should either be externalized or conducted by a current employee with expertise in data protection. Ideally, the audit should be externalized, as it would contribute to the objectivity of the results, given that a purely internal assessment could be subject to pressure from managers or other employees responsible for data protection to hide previous breaches or avoid findings that could only be resolved by means of costly investments.

The first objective of the preliminary audit should be to determine what data is currently being processed. This is necessary in order to verify whether the company has the obligation of naming a Data Protection Officer. Appointing a DPO is mandatory in three situations; namely when: (i) processing is carried out by a public authority or body, with the exception of courts acting in their judicial role; (ii) the principal activities of the controller or of the person in charge of the controller consist of processing operations which, by their nature, scope and/or purposes, require regular and systematic monitoring of the large-scale targeted persons; or (iii) the main activities of the controller or the processor by the controller consist scale processing of special categories of data referred to in Articles 9 and 10. Nevertheless, when a company will voluntarily choose to name a DPO, although the conditions for mandatory appointment are not fulfilled, Art 37-39 of the Regulation are fully applicable to said controller (Article 29 Working Party, p.5).

Although the notions of main activity, large scale and periodic and systematic monitoring are not clearly defined by the Regulation, several criteria can be used to understand their scope. The main activity encompasses operations necessary to achieve the social or lucrative purpose of the controller or processor. It also includes the case where data processing is logically interlinked to the nature of the controller's business (Article 29 Working Party, p.7). The notion of large scale, however, remains volatile enough to not be explicitly defined. Whether processing is large scale will be determined on a case by case basis, taking into consideration (i) the nature of processed data; (ii) the reasons for processing the data and (iii) what types of data subjects are affected by the processing, where aspects such as geographical, social and gender distribution should be addressed.

Finally, monitoring is periodic when it is continuous for certain periods of time or repeated at specified and systematic intervals when organized, follows a specific method, is part of a data or strategic data collection program. In addition to profiling, which is mentioned expressly in the statement of reasons, determining location by applications, health status through devices or telecommunications services are forms of monitoring.

After this initial assessment, the company should appoint a Data Protection Officer, either to fulfill its mandatory legal obligation or if this is the strategy for data protection adopted by the management of the company. However, the aforementioned rule, namely that appointing a Data Protection Officer when it is not mandatory will result in being held liable to the same standards as any company that must fulfill such an obligation, should be taken into consideration when making such a decision. If the processing falls under the scope of protection enshrined by Art. 37- 39 of the Regulation, the audit should continue only after a person in higher management is appointed to supervise personal data protection.

The preliminary audit should also establish how much data is currently stored or otherwise used by the company. This should include reference to any form of processing, including profiling of users. Next, steps should be taken towards data minimization. We consider that data should be classified in three categories: (i) necessary data, which includes data that is essential for the functioning of the company (e.g. a hospital cannot function without processing patients' medical records); (ii) useful data, which includes information that can aid the company in growing and expanding its activity (e.g. user data collected from the company's Facebook page, which includes the age groups of average visitors of the page, can be used as an important tool in targeted advertising) and (iii) unnecessary data. When data is unnecessary it should either be deleted, when possible, according to the rules imposed by the Regulation or it can be anonymized or pseudoanonymized (von dem Bussche Freiherr, Zeiter, 2016, p.577). Nevertheless, it should be established whether the data that is processed stems from vulnerable categories of data subjects, such as minors.

Once aspects concerning the nature of the data have been settled, the audit should focus on the current manner in which data is stored. The auditor should verify what parts of the data are physically stored and how much is digitally stored. It should be verified if there are current mechanisms in place to protect said data. Each type of data should have specific methods of protection. While installing CCTV cameras is a decent method for protecting data stored on physical mediums, digital data must also be secured against cyber-attacks. The operator should make sure to verify how data was collected and if (and how) the consent for processing the data was taken. The Regulation also applies to consent that has already been obtained, which means that the controller must ensure that consent for processing which was legally obtained at the time, but doesn't fulfill the current exigencies, set forth by the Regulation, is renewed.

The audit should also establish who has access to personal data in the company and for what purpose must they use the data. Most probably, the Human Resources department will use data for different purposes than the IT department. It should also be verified who was responsible for data protection before creating new procedures. Moreover, the audit should clearly show what data is distributed to third parties or data processors.

Finally, a Data Protection Impact Assessment (DPIA) must be conducted. Although some scholars argued that it is a mere compliance check (Wright & De Hert, 2012, p.34), it has been defined as *an instrument for eliminating or mitigating privacy and personal data risks which recognizes what data is being or is going to be processed in the future and justifies that processing; identifies, analyses and classifies the risks for natural persons; identifies and implements remedies to these risks; produces a report about the DPIA and monitors the processing for compliance with the DPIA and/or changes in the risks* (Yordanov, 2017, p.487). It is mandatory, according to Art. 35 of the Regulation, when a type of processing is likely to result in a high risk to the rights and freedoms of natural persons. Such an Assessment must include, at minimum: (i) a systematic description of the envisaged processing operations and the purposes of the processing, including, where applicable, the legitimate interest pursued by the controller; (ii) an assessment of the necessity and proportionality of the processing operations in relation to the purposes; (iii) an assessment of the risks to the rights and freedoms of data subjects referred to in paragraph and (iv) the measures envisaged to address the risks, including safeguards, security measures and mechanisms to ensure the protection of personal

data and to demonstrate compliance with this Regulation taking into account the rights and legitimate interests of data subjects and other persons concerned.

It has been shown that the concept of *high-risk* processing is a difficult and ambiguous one, and can differ from region to region, due to the cultural background (Voss, 2016, p.804). However, according to Article 29 Working Party, the main body for consultation and harmonization on all data protection matters within the EU, according to Paul De Hert and Vagelis Papakonstantinou (2016), several factors should be taken into consideration when assessing whether certain data processing imposes a high risk, which includes (Article 29 Working Party, pp.7-8): (i) Evaluation or scoring, including profiling and predicting, especially from “aspects concerning the data subject's performance at work, economic situation, health, personal preferences or interests, reliability or behavior, location or movements”; (ii) Automated-decision making with legal or similar significant effect. When the controller uses systematic methods that automatically assess data subjects' information there is a higher risk for misuse of data. The European legislator seems particularly distrustful concerning these types of practices, which will affect a large number of companies, especially in the field of Big Data (Zarsky, 2017, p.1017); (iii) Systematic monitoring since such processing can collect data that the subject is unaware of. This includes CCTV surveillance; (iv) whether data which is sensitive according to Art. 9 or stems from vulnerable data subjects is processed and (v) whether data is processed on a large scale; (v) Datasets that have been matched or combined; (vi) Innovative use or applying technological or organizational solutions and (vii) the processing in itself “prevents data subjects from exercising a right or using a service or a contract.

Putting new internal procedures into place and adapting contracts

There are three essential phases in actually implementing the GDPR, once the preliminary audit is finished. These include undertaking remediation activities, implementing operational changes and transitioning to business as usual (Bowman & Gufflet, 2017, p.261). The whole process is dependant upon creating clear internal rules for employees to follow. These procedures should be transparent and accessible to data subjects, also. According to Temme (2017) transparency is a fundamental pillar of the GDPR, and some activities, such as algorithmic decision making, can only be undertaken after ensuring that the *right to an explanation* is respected.

The procedures should, *de minimis*, address the following issues: **(i)** how data is stored, namely by establishing (a) what data will be stored on physical mediums; (b) what data will be only digitally stored; (c) clear rules as to the duration of data storage; (d) who will be responsible with checking the duration of data storage and deletion of data; (e) if any approvals are necessary in order to access the data and (f) procedures for tracking of data and its use; **(ii)** how the data will be protected, from both internal threats, such as employee-led data breaches or external attacks, especially cyber-attacks; **(iii)** how the rights of the data subject will be respected. For each of the rights enshrined by Art. 12-22 of the Regulation, a distinct procedure, which should include rather strict deadlines, should be established. These should include, (a) a procedure to provide information to the data subject, concerning how his data is used and the purpose for using it. Distinct procedures should be designed for data that was not obtained from the data subject; (b) a right to access procedure, which could be similar to the aforementioned one, since, it also entails providing information. This should include the

manner in which information is transmitted to the data subject (*e.g.* via e-mail, personal account on the company's site etc.); (c) a rectification procedure; (d) an erasure procedure; (e) a procedure to ensure that the data subject can restrict the processing of his data. The former three procedures should include clear rules for handling the requests from users and their route through different departments of the company.

Another important point is establishing an (f) portability procedure, which should establish which common and machine-readable format will be used by the controller, how the information given to the data subject will be extracted from company logs and rules concerning the secure transmission of information to other controllers. Moreover, a guideline for respecting the subject's right to object must be designed. It should include the manner in which objections are filled and information concerning decision making and communicating decisions concerning requests based on this right. Janal (2017) emphasizes that the Regulation does not provide a reasonability or proportionality in respecting portability.

Moreover, a central point of the regulation is notifying users of data breaches. As previously mentioned, as part of the preliminary audit, the problem of data breaches must be analyzed. The main purpose of this analysis is to establish the main causes of potential information leaks. Several distinct procedures should be established to accommodate the anticipated breaches. They should establish deadlines for notifying both the data subject and the national authority. Furthermore, a general procedure should be established, concerning other types of unanticipated problems concerning losing user information or fraudulent subtraction of said data. If the company also acts as a processor it must also notify the controller of the breach. When the data of a vulnerable person is processed, the competent authorities for supervision should also be notified. When data of a minor, for the processing of which parental consent is required, the controller must notify the parents or legal guardians (Esayas, 2014, p.352). Finally, the procedure should also contain subsequent measures for limiting the leaks.

Finally, internal sanctions should be established for potential failures of properly handling data and respecting the rights of the data subject. It is important that internal accountability exists and that the role of participants in processing data is defined, in order to ensure that any potential negligence can be attributed to a certain person or group.

Furthermore, clear procedures for requesting the consent of data subjects should be enacted. In this sense, employees who handle this issue should be instructed to adapt to the particular situation, by requesting consent based on the scope of the processing, when it is directly taken from the user. A registry for such information should exist and the procedure for transcription of information concerning the basis for each processing of data.

Conclusion

Although the GDPR imposes significant burdens on data controllers, with proper care, any low and medium tier controller can fulfill its obligations. As we have shown, the first steps in implementing the Regulation are the most important, as after putting the internal mechanism into place, the system should run *on autopilot*. As long as the purposes for processing and the potential risks are identified, the principles of

minimization and data protection by design are respected and clear internal procedures, adapted to the company's activities are adopted, complying with current standards is far from impossible.

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THEORETICAL INSIGHTS INTO SMES' OPPORTUNITIES AND VULNERABILITIES IN INTERNATIONAL SETTINGS

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Abstract. *The present undertaking aims to theoretically depict the opportunities and vulnerabilities that small and medium-sized enterprises (SMEs) are prone to face – unlike the bigger actors –, insisting on the internationalization conditions, from accessing relevant knowledge to deploying successful operations in foreign markets. The motivation to elaborate on this approach is determined by the fact that a better understanding of the SMEs cross-border performance in relation to their specific characteristics and inputs would provide additional insights into the future of small and medium-sized business and their topical ventures, especially in their foreign initiatives and projects. Further, a theoretical outlook on the existing opportunities and vulnerabilities would become an important step towards the formation of proper managerial attitudes and conducts regarding the organizational and environmental dynamics.*

Keywords: *small and medium-sized enterprises (SMEs); European Union; opportunity; vulnerability; internationalization.*

Introduction

Whether or not international actors (i.e., internationalizing or internationalized small and medium-sized enterprises) are causing severe changes nowadays in the worldwide business environment can no longer be minimized, thus putting forward a wide range of open questions. This reifies the rising importance of the European Union (EU) governments to act responsibly and proactively towards the small and medium-sized enterprises (SMEs), through favorable social and economic measures, meant to support them in the endeavor to thrive beyond borders.

SMEs propensity towards sustainable partnerships could be facilitated through an easier access to resources, through a pertinent knowledge and definition of their vulnerabilities, through a raised awareness about the benefits that the public and private sectors could extract from a timely adaptation (Pauw & Chan, 2018). This goes beyond sectors and types of institutions and engenders positive impacts at multiple

levels (Vătămănescu et al., 2014, 2016a, 2017; Vătămănescu, Alexandru & Andrei, 2015). The operative collaboration between different actors ranges from institutional channels to specialized social / business networks (Vătămănescu, Alexandru & Gorgos, 2014; Vătămănescu et al., 2015, 2016b, c, 2017; Vătămănescu & Alexandru, 2018; Vătămănescu et al., 2018). Here, the international experience of SMEs has highlighted the need to sustain weak SMEs by maintaining the policy focus on leaving behind non-lasting firms, while supporting viable firms (Bergthaler et al., 2015).

The extension of a business abroad helps SMEs have international operations with the aim to grow at the European level, inside and outside its borders (EC, 2018a). The internationalization of the SMEs is vital for the economic growth of the EU, for innovation as for competitiveness, as well as for accessing new markets and business-friendly environments. The internationalization has benefits for global value chains and the SMEs impact upon them, creating more jobs and diminishing delivery costs (EC, 2018b). In order to help SMEs internationalize, the EC has had policy dialogues, bilateral and multilateral, with the expectance of aligning the policy framework across European borders. In 2017, the workshop "8th EU-US-EU SME Best Practices Workshop in Wichita (USA)" was promoted by the EU to exchange expertise and to expand opportunities towards other markets. The percentage of the SMEs that export products or services is very small – around 26% in the EU and enterprises which export to other non-EU countries is even smaller (EC, 2018c). Via multifaceted instruments and mechanisms, the European Commission intends to aid enterprises to be prepared for competition, access foreign markets and develop businesses in non-European territories.

Progressively, the associated dynamics of SMEs internationalization sets itself up as an essential topic both in the political arena and research agenda of many scholars willing to properly depict the most relevant mechanisms and propelling factors towards successful internationalization. The companies which seek to engage in international entrepreneurial practices are steadily growing in number, while many existing companies are substantively shifting their focus from a local-based approach towards a global-centric outlook. It is hence critical to understand the state-of-the-art in terms of opportunities and constraints (vulnerabilities) featuring SMEs with a view to achieve a clear picture on the current phenomena. Moreover, nowadays, managers cannot limit themselves only to the present organizational issues and to the local demands. They are obliged to keep up with innovations in their area of interest, with the global trends in the market and with the development tendencies of their competitors, who activate internationally. In international enterprises, managers are trained in relation to the company's strategic aims through training programs in order to cement international competences (Vătămănescu, Alexandru & Gorgos, 2014; Vătămănescu, Alexandru & Andrei, 2015). In this line, globalization and internationalization are assumed through multidisciplinary solutions adopted by managers, taking into account the implications of managerial decisions in relation to outer organizational settings.

Corroborating the arguments above, the present study aims to theoretically explore the configuration of various opportunities and vulnerabilities which describe the SMEs trajectories in the process of internationalization. In this front, a literature review was conducted on the aforementioned key issues.

Gliding along the opportunities and vulnerabilities of SMEs: the international setting

At present, SMEs have become an important piece in the diagnosis of international relations; the desire to survive or to make progress derives from the exigence of the international conduct. The business environment has started to demand expeditious adaptive measurements in order to preserve competitiveness and sustainability (Hapenciuc et al., 2015; Păduraru et al., 2016; Soto-Acosta et al., 2016), to reduce costs and extend specialized markets (Cannon & Perreault, 1999; Vătămănescu et al., 2016c, 2017; Vătămănescu & Alexandru, 2018).

The global market plays an important role in the emergence and advance of business relations at the international level whereas it challenges enterprises to act adequately in the transnational arena. Looking at the extant literature review, it can be asserted that, due to today's broad array of incentives, the enterprises are somehow prone to approach and embrace internationalization (Cannon & Perreault, 1999; Harvie, 2008; Vătămănescu et al., 2014; Nicolescu & Nicolescu, 2016; Vătămănescu et al., 2017): the access to developed markets and to better resources; the advantages stemming from newly-explored markets; the reduction of production or distribution costs; the opportunity to follow competition; the avoidance of custom fees; international cooperation for obtaining competitive advantages, etc. Here, pursuant to Hilmeresson and Papaioannou (2015), the greater the international experience of SMEs, the more systematically they will search and harness international opportunities.

SMEs versus the bigger actors

Enterprises from developing countries learn from bigger actors, acquire knowledge and apply the learned perspectives to various sectors (Humphrey, 1995; Humphrey & Schmitz, 2002). Participating in global value chains provides opportunities for the SMEs to learn aspects of production, market access, and other specific activities (Navas-Aleman & Guerrero, 2016). Nonetheless, engaging in international networks is an incentive for fulfilling more services and acquiring new activities or partners.

These initiatives vary from an "opportunistic conduct" of the SMEs (Wyer & Smallbone, 1999) to the approach of Majocchi and Zuchella (2003), who insisted on the importance of a regardful analysis of the new market's specific conditions. Thereby, Majocchi and Zuchella (2003) assert that SMEs should not be perceived as big companies' clones. They should primarily focus on similar or proximate markets, which allow them to have a better understanding and an efficient management of familiar conditions. Nevertheless, the managers of SMEs have to carefully administer all types of activities so as to overcome the vulnerabilities produced by the lack of resources (Majocchi & Zuchella, 2003; Harvie, 2008): i. major costs of internationalization (e.g., personal costs, logistic, new locations fees and so on); ii. the exigence of a continuous professionalization (management as a profession, an actual science, not only the art to manage); iii. the need to control, choosing wisely the market (prior activities of research and understanding the market's distinctiveness); iv. policies and assets appliance (management has to show flexibility and adaptive capacity concerning marketing strategies, prices, advertising, and distribution); v. monitoring operational fluctuations (management has to monitor and evaluate international fluctuations in the first step of internationalization); vi.

management concerns (management has to detain the capacity to react to unexpected situations and to square up to potential risk in a dynamic manner).

The adaptive capacity is the ability of the system to change to new conditions brought by changing forces in the system (Wedawatta et al., 2011). While medium-sized firms try to adapt to new conditions and to leave behind non-profitable operations, internal reorganization and externalization, product differentiation, small firms are improving products and collaborations with entrepreneurs, networking, services in conditions of fewer resources (Giannacourou et al., 2015; Pauw & Chan, 2018). SMEs have flexibility of products and few points of access as specificities; concurrently fast reaction and pragmatic value assessment emerge as requirements (Kadlec & Mareš, 2003). Garagorri (2016) sustains that SMEs react faster than bigger companies and are more flexible, but most of them do not detain effective management systems and tools to maintain sustainability. Related to effective management, the concept of sustainable entrepreneurship derives from sustainable development and balances the social, economic and environmental objectives of the enterprise (Crals & Vereeck, 2005; Hapenciuc et al., 2015; Vătmănescu et al., 2016d). At this level, the lack of experience of the management team is a serious risk to the international focus and action, often resulting in its temptation to stay local, on domestic ground and not internationalize fast, laying emphasis on the perceived risk (Dimitratos et al., 2016). This latter vulnerability may also determine risks associated to economic and financial subsidence, depending on various factors (Bergthaler et al., 2015; Garagorri, 2016).

In many cases, SMEs strive to manage similar problems as those of bigger enterprises although they do not have the same resources. Hereto, Hampton and Rowell (2010, 2013) have analyzed the basis of small businesses internationalization, emphasizing that these have to deal with opportunities in a constant way and to solve risks in a competitive international business environment. In this line of argumentation, Senik et al. (2014, pp.35-36) propose a different approach of SMEs constraints, encountered especially in developing countries: 1. lack of resources (qualified human resources, competence and knowledge necessary for research and development of new markets, important instruments for gaining new clients); 2. financial constraints (the impossibility to acquire new technology, insufficient funds, the difficulty in obtaining loans and the long latency for receiving loans); 3. managers' attitudes (negative attitudes generated by potential risks, inherent and extrinsic incentives, lack of enthusiasm regarding new challenges, self-assurance in relation to actual facts); 4. enterprises' limited capacity (old products, less quality, old technology, the inexistence of research-development departments so as to innovate products and services); 5. political meddling (commercial barriers imposed by countries, non-incentive laws, hard standardizing industries); 6. managerial incompetence (the difficulty in gaining credibility, the lack of managerial abilities in an international context, human resources mobility, including managerial sector); 7. mental distance (cultural, linguistic, social and value-bond differences); 8. political differences (between the parent country and targeted countries, precarious information from the foreign authorities, major political change, bureaucracy); 9. parallel management of local and international operations (paradigm changes and thinking models adjustments, the need to gain information and knowledge, dynamic actions); 10. the competition with other enterprises (the requirement to innovate, to create products and competitive services, to position itself in relation to competition).

In this vein, Berghaler et al. (2015) posit that, in Western European countries, the greatest concerns of SMEs refer to high competition and the lack of customer demand while the least potential risks are corruption and malicious damage. Concurrently, the lack of customers has been reported as an important problem in the European Union's SMEs dynamics. For small enterprises, the second placed problem was reported to be the access to finance factor, while medium-sized enterprises reported difficulty in finding high quality labor force (including managers) and regarding competition (Karadag, 2016). As illustrated by Karadag (2016), small and medium-sized enterprises in the European Union are dealing with a test of survival, mainly due to credit conditions and the difficulties in finding skilled employees and new customers. The rules are usually established by the large customers: the contract details are determined by their position on the market and they prefer to order large quantities of products and organize promotions for their products (Vlajic, 2015). As Vlajic (2015) sustains, the customers' complaints are registered and claims are also specified to suppliers (e.g. delivered quantity less than ordered, delayed delivery, etc.). Therefore, the vulnerability comes from the imposed rules that affect directly the producer or the supplier, not the trader. For example, the purchasing behavior is currently determined by the lifestyle and media publicity about products which are bad for health, and for this reason, customers' preferences have become prior for managers' actions (Giannacourou, 2015). The programs of skills development have a secondary role in economic upgrading, with a greater role in revealing opportunities about social upgrading for the SMEs and their workers (Navas-Aleman & Guerrero, 2016).

Synthesizing the vulnerabilities of the SMEs, Le Ray (2006) describes three types of risks: financial (strategic, operational), need for resources (human, technological) and organizational approaches (environmental, management, projects). All these risks are determined by the level of debts, partnerships, and strategic orientation of the enterprise.

Towards an articulate outlook for SMEs internationalization

In the EU context, partnerships can increase the legitimacy of intervention for stakeholders by forming target groups which contribute to the implementation of projects in order to adapt to new conditions on the market (Pauw & Chan, 2018). Due to the small size of some businesses, the level of development of technological area might be costly for these enterprises (Vlajic, 2015) and remain unpractical.

Willing to depict the logic and the characteristics of SMEs cross-border processes, Senik et al. (2014, p.38) drew a descriptive outline which presents the main factors defining SMEs internationalization in emerging economies (see figure 1).

Generally speaking, SMEs also face obstacles when dealing with the global market even if international markets offer substantial opportunities. The interference with issues as compliance with foreign laws, mandatory rules of contract law, customs regulations, technical standards, and protecting intellectual or industrial property rights have a greater impact upon the companies' activities and services and claims for finding strategies to surpass them through a better understanding. When looking for external barriers, the most mentioned were: the lack of capital, inadequate information, and the lack of public support, difficulties with paper formalities, unknown laws, unexpected tariffs, and cultural differences (EC, 2014). The work of the SMEs with foreign partners

is sometimes hindered by not enough working capital; the difficulty of identifying foreign business and potential customers; not enough information to help them analyze markets; lack of managerial time (EC, 2014).

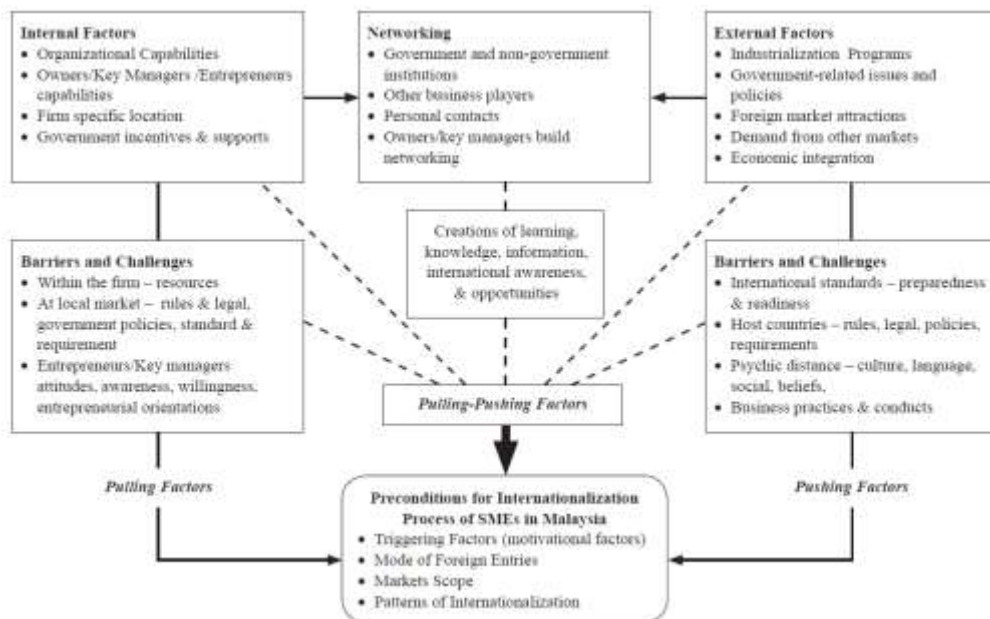


Figure 1. SMEs internationalization in Emerging Economies (Senik et al., 2014, p.38)

To overcome extant and potential inconveniences, the European Union has developed initiatives, including a policy platform under its Department on Enterprise and Industry, outlining a set of recommendations included in Small Business Act 2008. Resolving the problem of the SMEs loans in the European Union would cover a large spectrum of reforms for encouraging businesses to accelerate the process of restructuring (Bergthaler et al., 2015). In terms of governmental reforms, improvements in bureaucratic area were found to be effective and the facilitations for new registration were drivers of building new firms (Klapper & Love, 2011; Smallbone et al., 2013; Das & Das, 2014). The simple awareness concerning the existent facilities and risks of a certain business is a step towards finding elements that can surpass risks with a specific mode of operation (Saoudi & Foliard, 2017). Nevertheless, regulatory issues sometimes form obstacles because tax disincentives, debt forgiveness taxed as income may also be an obstacle, as well as overprotective labor rules might prevent meaningful restructuring. Governments may also face legal uncertainty to support debtors under EU state aid rules. Nevertheless, the European Commission recommendations have been given for enforcement settings in the EU that could be applied in all EU countries for obtaining a legal harmonization for the SMEs insolvency problems and for platform coordination (Bergthaler et al., 2015).

Conclusions

The evidence brought to the fore by the current study indicate that SMEs are faced with significant challenges in their various endeavors and, at the same time, that the European Commission has consistently acted towards supporting these businesses to grow and expand internationally via European initiatives meant to enforce their development. Several major European initiatives were described, laying emphasis on formal pathways accessible to SMEs.

Building on the specific needs and vulnerabilities encountered by the European SMEs, especially in terms of information and documentation, different specialized EU institutions have played an active role in offering easier access to relevant information regarding legislation and programs, financing options, the development of human capital, the improvement of management styles, the understanding of mental and environmental differences, of the prerequisites for innovation and competitiveness. By acquiring proper knowledge at these levels, SMEs would benefit from higher chances to adapt to new market conditions, to successfully enter foreign markets and thus be competitive. Acknowledging and further dealing with current vulnerabilities would provide SMEs with the capacity to manage businesses which are exposed to contextual factors liable to affect them to different extents. An adequate identification of the opportunities and vulnerabilities is a decisive factor for establishing SMEs performance in international settings.

Given the fact that the present paper mainly focused on the theoretical developments in the field, future studies revolving around relevant case studies would round off the general perspective. Correlating theory and facts would yield benefits for both the academic community and practitioners.

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NEUROTECHNOLOGY WITH POTENTIAL FOR COGNITIVE ENHANCEMENT: INSIGHTS INTO BRAIN STIMULATION

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Abstract. Brain neuromodulation techniques have been used extensively in neuroscience and cognitive psychology to alter the polarity of the brain resting membrane in order to influence behavior by applying mild current stimulation to targeted areas of the scalp correspondent to pathways in the brain responsible for particular functions. By these means, researchers have observed that cognitive performance, including attention, executive function, working memory and even language, could be enhanced or impaired according to the type of current applied to targeted area of the brain. Likewise, motor skills would be altered when the motor pathways were being targeted at the site of the stimulation. A number of studies have gone further to suggest that the effects elicited by this mild brain stimulation go beyond the time of the actual experiment and have the potential for long-lasting benefits in patients suffering from aphasia, depression, stress-related mental disorders, to name just a few. The positive results obtained by noninvasive brain stimulation are not limited however to mental health conditions, a growing literature has looked at how this intervention can be used in healthy participants to improve performance, reduce stress-related conditions or potentiate positive emotions. This paper is a review of one of these neuromodulatory techniques, transcranial direct current stimulation (tDCS) and its effects on cognitive performance, specifically face and object processing. In the absence of adverse effects and due to its relatively easy set-up, tDCS interventions have been used successfully in non-clinical protocols, becoming over the last two decades extremely popular outside the neuroscience laboratory, with private internet companies capitalizing on its success and making tDCS kits available for a wide spectrum of applications.

Keywords: neuromodulation; cognition; tDCS; noninvasive brain stimulation; face processing; object processing;

Introduction

In our daily interactions, object and face recognition are of crucial importance, allowing us to differentiate between individuals, decipher emotions in facial expressions, making sense of the world around us. Over the last decades, face processing has made the subject of numerous cognitive neuroscience and neuroimaging studies, looking at the biological underpinnings of these processes. Recent research has allowed for a deeper understanding of the subject matter by uncovering the cognitive and developmental mechanisms of object and face processing.

Surrounded by a multitude of visual stimuli, we recognize different classes of objects by combining their structural components, piecing the features together to identify an object in its entirety (Rivolta, 2016). The same process is true for faces, where by recognizing a component in isolation, the nose for example, can help identify the person it belongs to. Through evolution, we began to develop the capacity to perceive a face holistically, not merely as a sum of its components. The hypothesis that face processing involves a holistic approach, rather than parts-to-whole relationship, has been confirmed over time by researchers (Yin, 1969; Tanaka & Farah, 1993; Robbins & McKone, 2007; Le Grand et al., 2004).

During face recognition, the human visual system processes facial features, integrating them by gestalt principles, also known as holistic face processing. Behavioral studies paradigms like the composite effect and the part-whole effect have been providing evidence to support the holistic processing hypothesis. Composite effect refers to the ability to determine whether two identical top face halves are considered the same (McKone, 2008). The task becomes even more difficult, empirical evidence have shown, when the two identical top halves are paired with different bottom halves, suggesting that the whole-face context impacts of the recognition of facial features in one half of the face. The difficulty of recognizing familiar faces from isolated features has been referred to as the part-whole effect (Tanaka & Farah, 1993). The composite and part-whole effects suggest that features, rather than being recognized and processed independently, are seen holistically.

Human faces are multidimensional sources of information, with at least two levels of processing. A first one, relying on attributes found in every face, has a role in distinguishing between faces and objects. Research studies have shown that infants track face-like stimuli for longer times than non-face patterns (Farroni et al., 2005), while adults look firstly and for longer periods of time at face stimuli, than complex objects (Crouzet, Kirchner & Thorpe, 2010). All faces, supposedly, share the first-order information and to differentiate between them requires a second level of information relating to the variation existing between faces (Freire, Lee & Symons, 2000). There are three stages associated with face recognition (Maurer, 2002): detection, holistic processing and face discrimination.

Holistic processes can, however, be distinguished to a certain extent from second-order information when it comes to identifying familiar faces, compared to unfamiliar ones (Bruce et al., 1999; Megreya & Burton, 2006). When assessing familiar faces, changes in the viewpoint and expressions do not hinder accurate recognition but it does decrease the ability to recognize unfamiliar faces (Hancock, Bruce & Burton, 2000). Holistic processing, however, has been shown to influence the recognition of both familiar (Young, Hellawell & Hay, 1987) and unfamiliar faces (Le Grand et al., 2004), irrespective of viewpoint (McKone, 2008) or facial expression (Calder, Young, Keane & Dean, 2000). Moreover, research into contrast-reversed faces revealed that holistic processing is not impaired by contrast-reversal (Hole, George & Dunsmore, 1999) though it does disrupt individual recognition (Kemp, McManus & Piggot, 1990).

A study by Tsao and Livingstone (2008) looking at face perception has posited that holistic processing occurs prior to individual discrimination. In the case of inverted faces, a desensitization to second-order information takes place (Collishaw & Hole, 2000), impacting on the discrimination of inverted faces. Consequently, should holistic

processing have a role in extracting first-order information then a deterioration in detecting faces would also be registered.

Neural underlying structures of face processing

The special status of face processing has been the focus of research of cognitive neuroscientists interested in identifying the areas in the brain responsible for face processing. Technological developments such as functional magnetic resonance imaging (fMRI) have identified certain neural regions that respond strongly to faces, more than they do to objects, such as the Fusiform Face Area (FFA), localized within the human temporal lobe (Kanwisher et al., 1997). Future studies have confirmed the findings, proving that the FFA is the locus of holistic face processing (Liu et al., 2009; Yovel & Kanwisher, 2005).

The occipital face area (OFA), located in the occipital lobe, appears to have a role in the acknowledgement of facial features (Gauthier et al., 2000), the superior temporal sulcus (STS) in that of the dynamic of facial reactions and the anterior temporal face patch (ATFP), within the anterior temporal lobe, of facial identity (Gobbini & Haxby, 2007; Haxby et al., 2000). It is not solely by fMRI that the importance of these regions has been established, studies on the pathology of the neural face structures indicate that these play a causal role in face recognition (Dalrymple et al., 2011; Rossion, 2014) but not in other visual classes (Pitcher et al., 2011). Considerations in support of these findings are, on the one hand, that faces, more than other non-face stimuli, are identified at an individual level and, on the other hand, that humans are more experienced at recognizing faces (Gauthier & Tarr, 2002). Non-face objects however, generate an activation of face-selective brain regions when recognized at a subordinate level rather than a basic one. Moreover, increased recruitment of the FFA has been shown to be characteristic of expertise in non-face objects (Gauthier et al., 1997).

Most human beings are capable of easily recognizing hundreds of familiar faces. However, there is a very small proportion of the general population, about 2–3%, that has severe difficulties in recognizing familiar faces (Bowles et al., 2009). This impairment is known as congenital prosopagnosia (CP) (Behrmann & Avidan, 2005; Duchaine, 2000; Rivolta, Palermo, Schmalzl, & Coltheart, 2012). Individuals with CP, as opposed to the ones with acquired prosopagnosia (AP), who are not able to recognize faces as a result of a brain injury (Bodamer, 1947), never had the ability of recognizing faces (Avidan et al., 2011; Duchaine et al., 2007; Duchaine & Nakayama, 2005). Another characteristic of people suffering from CP is impairment in non-face object recognition (Behrmann et al., 2005; Dinkelacker et al., 2010; Duchaine et al., 2007).

Research into clinical cases like CP and AP have shown how essential being able to recognize faces and facial expressions is to social integration, enabling efficient communication and conformist behavior (Blair, 2003). Pathology of these functions has been observed in patients with schizophrenia (Kohler et al., 2003), psychopathy (Hastings et al., 2008), in the autism spectrum disorder (Law Smith et al., 2010) and with brain injury (Babbage et al., 2011). However, some of the great progress made in the study of prosopagnosia over the last decades has been characterized by a lack of general consensus in the results reported, that could be accounted for by the limited number of individuals with CP tested, the heterogeneity of cases, as well as by the different pattern of experimental tasks participants were requested to perform.

tDCS

Amongst the few interventions that have the potential to ameliorate the cognitive deficits associated with the symptoms in CP and AP is tDCS, a noninvasive technique involving a mild constant current stimulation (usually 1-2 mA) of the cerebral cortex by applying electrodes to the scalp surface. While anodal stimulation is believed to have excitatory effects on targeted brain regions, cathodal stimulation triggers inhibitory effects (Nitsche et al., 2003) due to a shift in membrane potential towards depolarization and hyper polarization respectively, similar to neuroplastic alterations of cortical function (Keeser et al., 2011; Kuo & Nitsche, 2012).

Though studies into the effects of anodal and cathodal stimulation on human behavior have been inconsistent, some of the results did show that anodal stimulation can enhance human cognitive abilities (Kuo & Nitsche, 2012; Barbieri et al., 2016) and when applied to the dorsolateral prefrontal cortex (DLPFC) it enhanced cognitive functions, including verbal skills, executive function and memory (Sparing et al., 2008; Dockery et al., 2009). Long-lasting benefits of tDCS were obtained over extended or multiple sessions, thus illustrating the potential for treating and improving cognitive deficits (Nitsche et al., 2009).

TDCS has a role in changing the excitability of the cortex resting membrane, resulting in depolarization or hyperpolarization respectively (Bindman et al., 1964; Creutzfeldt et al., 1962). A short session of tDCS can result in after-effects on the plasticity of the membrane that resemble long-term-potential (LTP) and long-term-depression (LTD) (Liebetanz et al., 2002; Nitsche et al., 2003), by altering calcium (Ca⁺) electrons, mediated by N-methyl-D-aspartate receptor (NMDA-R) (Barbieri et al., 2016). According to the literature, LTP is characteristic to cathodal electric stimulation, while LTD is typical to anodal stimulation (Fregni et al., 2015). Anodal tDCS (a-tDCS) has been shown to increase motor and cognitive skills in healthy participants, when stimulation was applied to the motor cortex (Nitsche et al., 2003) and the parietal cortex respectively (Roy et al., 2015). An enhanced performance of working memory has been achieved by applying a-tDCS to the dorso-lateral-prefrontal cortex (DLPFC) in healthy participants (Fregni et al., 2005), as well as in patients suffering from schizophrenia (Hoy et al., 2014; Shin et al., 2015), and reduced depressive states in chronic depression patients (Dell'Osso et al., 2012).

The positive results obtained with tDCS have generated great interest among researchers into the cognitive, neurological and clinical effects, with very few applications however to face processing, despite the great body of evidence provided by studies into cognitive (Bruce and Young, 1986), neural (Haxby et al., 2001) and clinical studies (Palermo et al., 2011), that suggest processing face stimuli is mediated by the same systems. A study that looked into the modulating effects of face processing in healthy controls applied transcranial Random Noise Stimulation (tRNS), a type of tCS in which the stimulation of low-intensity current is varied randomly (Terney et al., 2008), concluded that face perception skills are improved in individuals that received the stimulation (Romanska et al., 2015). Recent studies have shown that delivering a-tDCS over the orbito-frontal cortex (OFC) (Willis et al., 2015) enhances recognition of facial expressions in healthy controls. Research into the potential positive effects and various applications of tDCS, while laying the foundation by exploring some of the domains the

electrical stimulation can be used in, has left insufficiently explored areas. One of these areas is the contribution of a-tDCS in the recognition of face stimuli in a random population sample by modulating behaviors responsible for processing faces and objects.

Despite the progress made in the area of neuromodulation in general and its impact on face perception specifically, there are still theoretical and methodological aspects, as well as clinical, that can be explored. One such aspect would be looking for more evidence that the occipito-temporal lobe is specific to face processing rather than to other types of non-facial stimuli. While stimulating adjacent areas of the lateral occipital cortex by administering Transcranial Magnetic Stimulation (TMS) has resulted in impairments in the perception of faces, objects and other visual stimuli (Dilks et al., 2013; Pitcher et al., 2007), developing technologies that can result in an enhancement of visual perception for various categories of face and non-face stimuli is paramount.

Moreover, as memory has an important role in determining the performance of typical subjects in recognizing faces, determining if neuromodulation is not only impacting on face perception (Romanska et al., 2015), but also on the memory for faces, can reveal important insights into how the mechanisms of visual perception and memory are interconnected. On the basis of face-perception skills being circumscribed to a process that relies on the interpretation of facial features, with little contribution from the memory system, retaining and retrieving information on face identity is incumbent on face-memory performance (Dalrymple et al., 2014). The dissociation of these two processing systems in clinical subjects (Barton, 2008; Dalrymple et al., 2014), lends itself to further explorations into the enhancements brought about by tDCS.

An important factor to be taken into consideration when assessing task performance skills in tDCS experiments is the time the stimulation is applied in relation to task execution. Delivering a-tDCS to the motor cortex during a motor learning task has proved to be more effective than in the case of the stimulation occurring before the learning session (Kuo et al., 2008; Nitsche, et al., 2003; Stagg et al., 2011). However, delivering a-tDCS over the primary visual cortex before a discrimination task has generated stronger effects than when applied during task execution (Pirulli et al., 2013).

Though a-tDCS is believed to improve performance as opposed to c-tDCS, a recent study has shown (Constantino et al., 2017) that an inhibitory stimulation with c-tDCS does not always inhibit performance. The effects should be considered in relation to the timing and the application parameters that could alter the state of cortical networks carrying out a task. The application of a tDCS protocol that induces a depression in cortical activity over a specific stimulated area might result in increased sensitivity in visual performance. This is a further example of how the nervous system maintains a dynamic state to preserve performance in different environments.

Task performance was enhanced by c-tDCS when participants were administered the protocol prior to anodal stimulation as reported by studies into motor functions (Christova et al., 2015), while a 22 minutes with 1.5 mA over the occipital cortex improved performance in visual discrimination tasks (Pirulli et al., 2014), suggesting that the brain is regulating its activity, aiming to restore homeostasis following cortical depression as a result of c-tDCS. In this case the outcome is an enhanced excitability. Moreover, the effects of tDCS are much widespread than the area targeted by the

electrode, impacting adjacent cortical and subcortical networks at the same time (Bestmann et al. 2015), modulation of distant networks having been also reported by neuroimaging studies (Keeser et al., 2011).

Conclusions

Research into tDCS interventions are still inconclusive and though consensus has not been reached regarding its effectiveness, there is a great body of evidence suggesting that within certain parameters the protocol cannot only improve symptoms of clinical cases but has also been used successfully to elicit positive outcomes in healthy controls. These findings have great implications not only for future directions in neuroscience and cognitive psychology but also for organizations, where a slight increase in cognitive processes, be it attention, working memory or perception, for individuals performing high-risk decision roles, can make the difference between business as usual and an impasse that could affect economies or the security of thousands.

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MATHEMATICAL MEASUREMENT OF THE CONCORDANCE BETWEEN PARTY DOCTRINE AND CANDIDATE SPEECH - A CREATIVE APPROACH TO ANALYZING POLITICAL DISCOURSE

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Abstract. *This paper analyses the 2009 Romanian presidential election campaign, starting from the discursive conduct of the second round candidates, Traian Băsescu and Mircea Geoană. We have looked at the way in which the two candidates relate themselves to and/or promote the doctrines of their supporting parties: The Democratic Liberal Party and the Social Democratic Party. In order to outline the theoretical and methodological frame required by the analysis, we have suggested the term of accord to refer to the adequacy/correspondence between the party's program and that of the supported candidate. The accord will be described by using a mathematical model capable of representing the relations between the two categories of discourse. Approaching the accord between the party's program and that of the candidate was done from three perspectives: thematic, actional and axiological. Thematically speaking, we are interested in the extent to which the approached topics, the terms and the concepts by means of which the problems are identified in the discourse of the candidate are also found in the discourse of his party. In terms of action, we shall analyze the extent to which the same type of solutions to the same type of problems can be found in the two discourses. Axiologically speaking, we shall emphasize the common values promoted in the discourses of the candidates and political parties involved in the electoral race. We have resorted to content analysis to approach the candidates' discourses and the parties' political programs.*

Keywords: *political discourse; thematic accord; actional accord; axiological accord; political communication, Romania.*

From political doctrine to electoral platform: theoretical and methodological specifications

To approach the (dis)accord between the parties' political platforms and the candidates' election platforms, we have started from the finding that these convey themes or topics of national concern in an attempt to cover sectors or areas as wide as possible of the social reality. For the analysis, we have resorted to the following documents: *The governing political program of the Alliance Social Democratic Party + Conservative Party 2008- 2012*.¹⁰ *commitments to Romania* (www.psd.ro, December 2009), *The governing program of the Democratic Liberal Party (2009-2012)* (www.pdl.org.ro, December 2009), *Romania, one country – The political program of the candidate Mircea Geoană* (www.mirceageoana.ro, December 2009), *The political program of the candidate Traian Băsescu* (www.basescu.ro, December 2009).

As a research method for the discourses, we have used content analysis as it allows an objective, systematic and quantitative description of the manifest content of a communication. The method refers to the quantitative analysis of documents, aiming at

highlighting certain themes, tendencies, attitudes, values, patterns that are based upon a mechanism of converting a qualitatively symbolic material into a quantitative one. Therefore, we have separated the discourses into simple elements / themes in order to quantify, classify or hierarchize them. The quantitative analysis of these discourses will allow us to draw comparisons between the “communications” of parties and those of the candidates.

We have regarded objectivity and exactness as two characteristics that are compulsory for the analysis of documents and that is why we have used an encoding graph for the (sub)domains that the political/electoral programs refer to (Volken, 2005, pp.10-19). This graph consists of the set of the domains characteristic of the electoral/political discourses. In this set, we have included the following domains: 1) foreign policies, 2) freedom and democracy, 3) political system, 4) economy, 5) prosperity and life quality, 6) society structure and 7) social classes, groups and categories.

The seven domains are divided into 56 subdomains. Thus, the domain of Foreign policies is divided into: special foreign policies (positive or negative mentions), anti-imperialism, military (positive or negative mentions), peace, the European Community (positive or negative mentions), internationalism (positive or negative mentions). The domain Freedom and democracy consists of: freedom and human rights, democracy and the constitutional system (positive or negative mentions). The third domain includes the following subdomains: (de)centralization, governmental and administrative efficiency, political corruption and political authority. The fourth domain, Economy, contains: free initiative, market regulation, stimulation, economic planning, corporatism, protectionism, (positive or negative mentions), other economic goals, productivity, technology and infrastructure, controlled economy, nationalization, economic practice. The domain Prosperity and life quality comprises: environment protection, culture, social justice, extending social assistance, limiting social assistance, extending education, limiting education. The sixth domain, Society structure, is subdivided into: the national way of life (positive or negative mentions), traditional morality (positive or negative mentions), law and order, social harmony, multiculturalism (positive or negative mentions). The last domain covers the following subdomains: laboring groups and categories (positive or negative mentions), agriculture and farmers, the middle class and professional groups, underprivileged minority groups, demographic groups.

The encoding unit or the analyzed semantic unit from a political program is represented by the “*statement*” defined as an argument. In its shortest form, a statement contains a noun, a verb and an adjective, but political documents are rich in long statements that combine two or several arguments, usually separated by commas, semicolons or colons. The encoding starting point is represented by the statement, but what we are aiming at is, in fact, the argument (Volken, 2005, pp.27- 39). This is the expression of a political idea or a political aspect. We may use punctuation as a guiding principle in identifying arguments. Each argument must be placed in one of the seven domains, respectively subdomains that we have previously enumerated.

Political doctrine vs. electoral platform: doctrinal virtuality, discursive realization

We shall consider the political program of a party P as being a set of pairs of the form (T, S) , where T is a class of problems / themes (from a certain domain Dom), and S

represents the class of solutions by means of which these problems are solved. The party's program will be $P(P) = \{(T_1, S_1), (T_2, S_2), \dots (T_m, S_m)\}$.

A candidate C in the presidential elections is an element from the Party P , $C \in P$. For a candidate C we may define its program $P(C)$ as a set of couples (t, s) , where t represents a problem, and s a solution to it. The program of the candidate will be $P(C) = \{(t_1, s_1), (t_2, s_2), \dots, (t_n, s_n)\}$. For example, a candidate identifies, in his electoral discourse, the problem $t =$ "the citizen's relationship to the administration" for which he finds the solution $s =$ "restructuring, dismissals in the central or local administration".

The accord between the party's program and that of the candidate may be approached from three perspectives: thematic, actional and axiological. *Thematically* speaking, we are interested in the extent to which the approached topics, the terms and the concepts by means of which the problems are identified in the discourse of the candidate are also found in the discourse of his party. In terms of *action*, we shall analyze the extent to which the same type of solutions to the same type of problems can be found in the two discourses. *Axiologically* speaking, we shall emphasize the common values promoted in the discourses of the candidates and of the political parties involved in the electoral race.

A. The party's problems – the candidate's problems: thematic (dis)accord of programs

To measure the thematic accord between the discourse of a candidate and that of his party we shall take into account two mathematical relations that we shall compare with 50%. Thus, let us consider $n =$ the number of elements from the candidate's program $P(C)$ and $m =$ the number of elements from the party's program $P(P)$, as in (1):

$$n = |P(C)|, m = |P(P)| \quad (1)$$

If r is the number of problems of $P(C)$ that have a correspondent (by particularization) in classes of problems from $P(P)$, then the relation r/n represents the extent to which the themes from the doctrine of the party P can be found in the program of its candidate, and the relation r/m represents the extent to which the themes of the candidate can be found in those of the party.

If $r/n \geq 50\%$, then we shall say that there is a *P-thematic accord between the program of C and the program of P*, and if $r/m \geq 50\%$, then we shall say that there is a *C-thematic accord between the program of C and the program of P*. In other words, if at least half the themes approached by C in his program can be obtained by particularizations of the party's doctrine, then we are dealing with a *C-thematic accord*. On the other hand, when C approaches, in his electoral program, at least half the themes from the electoral program of the party that he represents (obviously, under a particularized form), then we are dealing with a *P-thematic accord* (Pătruț & Pătruț, 2010, pp.22- 24).

We shall note by *part_t* the thematic particularization function and we will be able to calculate the factor of thematic accord according to the formula below (2):

$$conc\_t(C,P) = |\{e = (t, s) \mid e \in P(C) \wedge \exists E = (T, S) \in P(P) : part\_t(T,t)\}| \quad (2)$$

Figure 1 contains a graphic representation of the notions previously presented, in a certain case.

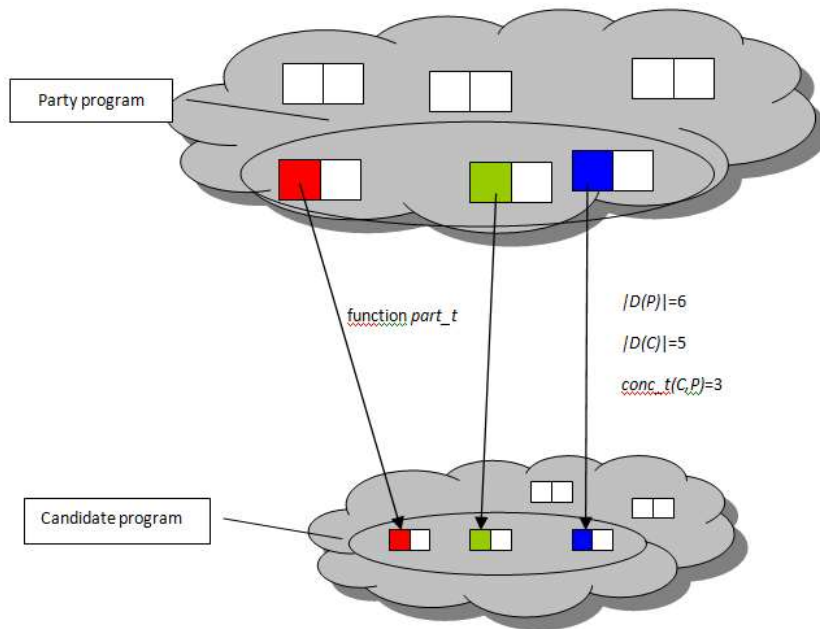


Figure 1. The problem of thematic accord

B. The party's solutions – the candidate's solutions: actional (dis)accord of programs

In order to measure the actional accord between the discourse of a candidate and that of his party we may take into consideration two relations that we shall compare with 50%, just like in the case of the thematic accord. However, let us not forget that we cannot regard two elements $e \in P(C)$ and $E \in P(P)$ as being in actional accord unless they are already in thematic accord.

To measure the two types of actional accord of two discourses, one of a candidate C and the other of a party P , we shall use both the function of thematic particularization $part_t$, as well as a new function, that of actional particularization, that we shall note by $part_s$. If $part_t$ places into correspondence a general class of problems with a problem that is characteristic of the presidential election, $part_s$ performs a similar correspondence between a general class of solutions (a general method for solving certain problems) and a particular solution.

Thus, let us consider n =the number of elements (pairs of the type $(problem, solution)$) of $P(C)$ and m =the number of elements of $P(P)$. Let there r be the number of classes of problems of $P(P)$ that have a correspondent (by particularization) in problems from $P(C)$. As it has been shown, if $r/n \geq 50\%$, then we will say that there is a P -actional accord between C and P , and if $r/m \geq 50\%$, then we will say that there is a C -actional accord between C and P . It is possible that from the r problems of $P(P)$ that can be found in $P(C)$, part of them may be solved by the candidate differently from his party.

We will note $part_s$ the function of actional (solving) particularization and we will calculate the number of actional accord thus (3):

$$\text{conc}_s(C,P) = |\{e=(t,s); e \in P(C) \wedge \exists E=(T,S) \in P(P) : \text{part}_t(T,t) \wedge \text{part}_s(S,s)\}| \quad (3)$$

Therefore, between the discourse of the candidate and the discourse of his party, there is: *C*-actional accord, if $\text{conc}_s(C,P) / |P(C)| \geq 50\%$ and *P*-actional accord, if $\text{conc}_s(C,P) / |P(P)| \geq 50\%$ (Pătruț & Pătruț, 2010, pp.25- 26).

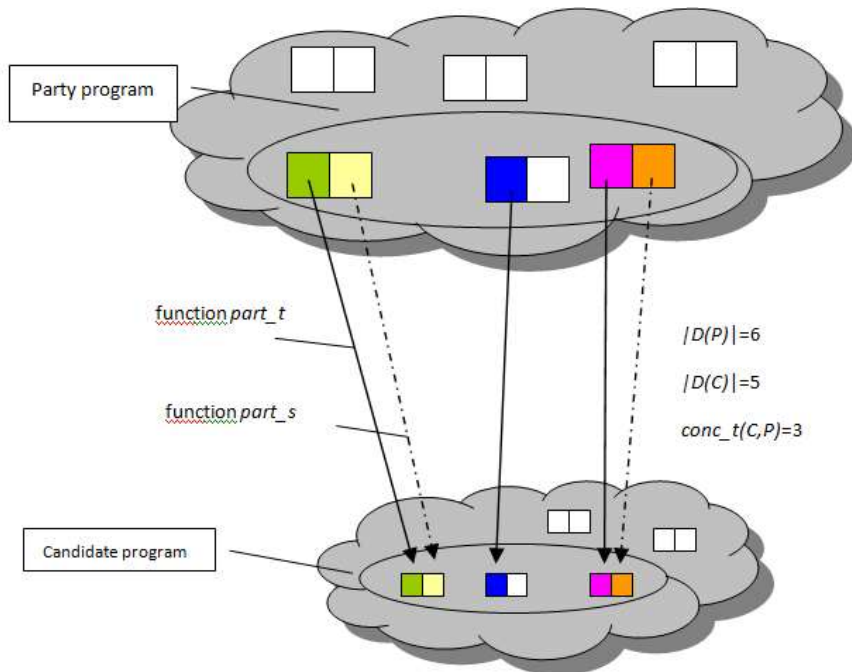


Figure 2. The problem of actional accord

In other words, if at least half the themes approached by *C* in his discourse have solutions that can be obtained by particularizations of the solutions of the party *P* to the same type of problems, then we are dealing with a *C*-actional accord. And when *C* approaches and solves at least half the themes from the party's electoral program in the manner suggested by the party, we say that we are dealing with a *P*-actional accord. Figure 2 is a graphic representation of the presented notions.

C. The party's values – the candidate's values: axiological (dis)accord of discourses

The political program reflects a party's or a candidate's reason of being at a given time or period. The program represents the synthesis of the political principles and values that are regarded as emblematic for that party or candidate. The political values found in the programs of political parties are those that have been established in time (freedom, equality, justice, personal initiative, ownership, lawfulness, constitutional state, tolerance, solidarity, responsibility) or that have been propelled into the present by various events or requirements (globalization, European integration, ecology).

In order to study the (dis)accord between the political programs of parties and the electoral program of the candidates supported by the respective parties, we have also

resorted to the identification of the political values conveyed by the two types of programs/discourses.

We have taken into consideration several terms that define political values and we have calculated their frequency of occurrence in the two electoral programs of the candidates, as well as in the political programs of the parties that supported the two candidates from the final of the presidential race.

We have paralleled the values promoted by each party with the values promoted by its candidate and thus we have identified three sets of values: values shared by the party and the candidate; values characteristic of the party and values characteristic of the candidate.

Just like in the case of the thematic or actional accord, we may calculate a *factor of axiological accord* by relating the number of common elements to the number of the elements from the two sets, that is, the number of values promoted by both sides as related to the number of values promoted by the party, respectively, by the candidate. Thus, we may speak about a *C-axiological accord* and about a *P-axiological accord* (Pătruț & Pătruț, 2010, pp.26- 27).

Case study: thematic, actional and axiological (dis)accord between the parties' programs and those of the candidates in the 2009 presidential elections

Taking into account the domains *Dom* that we have mentioned, analyzing the programs of the candidates of the SDP (Mircea Geoană) and of the DLP (Traian Băsescu) and comparing them both in terms of the problems, solutions and the values conveyed, we may identify the types of accord previously defined. In order to compare the problems and the solutions offered by the party and the candidate supported by it in the presidential elections, we have drawn, for each couple of candidate-party, a table as the one represented below, focusing upon the quantification of the thematic (TA) and actional (AA) accords between the programs (Pătruț, 2011, pp.45-50).

In this case: $\text{conc}_s(\text{candidate}, \text{party})$ is 5 and $\text{conc}_p(\text{candidate}, \text{party})$ is 3.

Thus, we were able to quantify the total of the themes in the programs of the parties and candidates involved in the final of the 2009 presidential race: $|P(MG)| = 29$, $|P(TB)| = 26$, $|P(SDP)| = 42$ and $|P(DLP)| = 49$. Then, we also calculated the accords between the parties and the candidates (see equations (4)-(7)).

$$\text{conc}_t(\text{"Mircea Geoană"}, \text{"SDP"}) = 23 \quad (4)$$

$$\text{conc}_s(\text{"Mircea Geoană"}, \text{"SDP"}) = 16 \quad (5)$$

$$\text{conc}_t(\text{"Traian Băsescu"}, \text{"DLP"}) = 25 \quad (6)$$

$$\text{conc}_s(\text{"Traian Băsescu"}, \text{"DLP"}) = 14 \quad (7)$$

We can see that in the case of both candidates there is a *C-thematic accord*: Mircea Geoană draws on 23 themes or problems out of the 42 suggested by his party ($54,76\% \geq 50\%$) and Traian Băsescu's program contains 25 themes taken from the 49 that the DLP raised ($51,02\% \geq 50\%$). In the case of both candidates, there is a consistent inclusion of the party's doctrinal elements in their own electoral programs.

Table 1. Model for calculating the thematic and actional accord

Dom	Problems raised by the party	Solutions offered by the party	Problems raised by the candidate	Solutions offered by the candidate	TA	AA
108	EU, NATO integration	Constitutional state, economic and political reforms, eliminating underdevelopment, national political consensus	EU integration	Adjusting domestic needs to the European model	✓	
202	Citizen involvement	Referenda/ ballot questions	Election involvement	Mobilization and education, making people aware of the importance of voting	✓	✓
303	Improving public authorities	Reform, applying the law	Taxes and contributions	Cuts and reorganization		
304	Corruption	Accurate laws, powerful institutions, authority of the law	Corruption	Independence of justice, reducing bureaucracy, authority of the law	✓	✓
501	Environment protection	Preserving the ecosystem	Environment protection	Extending green spaces, developing alternative energy sources	✓	✓
503	Decent standard of living	Equal access to education, health, housing	Decent standard of living	Cuts, assistance for the underprivileged categories	✓	

Similarly, for both candidates, there is a *P-thematic accord*: out of the 29 themes included in the electoral program by Mircea Geoană, 23 are shared by the party or are particularizations of those belonging to the party (79,31 %); in his electoral program, Traian Băsescu, too, allots a very large space to the themes taken or particularized from the DLP program: 96,15%, that is, 25 themes selected out of a total of 26 suggested themes. Practically, on the level of their own electoral programs, the candidates' inventiveness in terms of electoral themes is minimal, being replaced by a maximum conformation to the program suggested by the party.

According to the same calculus algorithm, we may calculate the total of the solutions suggested by the candidates and the parties supporting them: $|P(MG)| = 17$, $|P(TB)| = 16$, $|P(SDP)| = 19$ and $|P(DLP)| = 23$. Thus, we then find the existence of what we have defined by *C- actional accord* for both candidates: Mircea Geoană has taken or adjusted 16 solutions out of the 19 offered by the SDP ($84,21\% \geq 50\%$) and Traian Băsescu has taken or particularized 14 solutions out of the 21 offered by the DLP ($66,66\% \geq 50\%$). Similarly, there is also a *P-actional accord* in both cases since the candidates solve, to a large extent, the problems raised according to the way in which the party suggested

them to: 94,11% for Mircea Geoană (16 solutions taken from the program of the party out of the 17 proposed by the candidate) and 87,50 % for Traian Băsescu (14 solutions taken from the party's program out of the 16 suggested by himself).

Axiologically speaking, the program of the candidate Geoană conveys values characteristic of social democracy: market social economy, citizen social security, solidarity and social protection, citizen cooperation and dialogue, investment in education, research and the health sector, decentralization, professionalism and depolitization of local and central administration, the need to modernize the Romanian society, respect for the citizen, democracy and the constitutional state. Taking into account the interval of one year elapsed between the moment of designing the analyzed programs and the aggravation of the financial crisis in 2008-2009, the program of the SDP candidate pays increased attention to reforms, restructurings, planning and financial rationalization, work and social and individual responsibility, competitiveness and performance on all levels, efficiency, predictability and economic stability, optimism and hope for a better future, social dialogues among citizens or between citizens and government officials. An interesting fact is his appeal to the family and the community, to the cultural promotion of the country or to the protection of the environment. The values promoted by T. Băsescu in his program are largely taken from the program of his party and are inspired by the economic-financial crisis of Romania: modernization, society development or reform, democracy, constitutional state, social order and justice, tributariness and rural development, responsibility and involvement, love of the country and hope for its future, transparency, predictability and legislative stability, competence and entrepreneurial spirit, innovation, flexibility and constant learning, the need for solidarity, chance equality and cultural diversity. In the case of both candidates there is both a *C-axiological accord* and a *P-axiological accord* in terms of the values incorporated in their programs (Pătruț, Pătruț, & Cmeciu, 2014, pp.275-280).

Conclusions

Analyzing the accords between the parties' programs and those of the two finalists of the 2009 presidential elections we may wrongly conclude that the Romanian electoral debates mainly focus upon ideological problems and upon the analysis of the differences between the ideologies of the parties and/or candidates. We may also wrongly believe that the voters in our country own sound political knowledge and the majority votes according to the analyses applied to the political-ideological offers. In the national opinion polls that INSOMAR has carried out since 2004, 23% of the respondents do not know or do not answer when asked where they would place themselves on the right-left axis. From the respondents, the percentage of those regarded as ideologically competent is estimated to 25% at the most (Comșa, 2007, pp. 76-79). Moreover, the ideological elements taken by the candidates from their electoral programs and promoted in the public space during election campaigns are extremely few. Unfortunately, the candidates' interest in promoting the party's doctrine is actually done only theoretically, in brochures or on the Internet, and then is considerably diluted in (non)televised electoral debates. Probably, only the 25% of all the voters, those that are regarded as ideologically competent and that look for the data needed for the vote by themselves, benefit from this type of promotion.

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BUSINESS ETHICS AND CSR

SUSTAINABILITY PERFORMANCE OF SMES: THE APPROACH TO NON-FINANCIAL REPORTING

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Abstract. *In the immediate future, all companies will find themselves pursuing a balance between natural and social capital. Therefore, companies cannot exempt themselves from integrating environmental and social factors into their activities. It is no longer sufficient that only large companies, obliged by their own countries' legislation on EU guidelines, adapt to the presentation of non-financial reporting; SMEs must also start to highlight good practices in the area of sustainability. In fact, Directive 2014/95/EU suggests that companies not subject to the obligation submit a voluntary non-financial declaration on the areas indicated by providing simplified forms for SMEs. An exemption from the checks on the correctness of the non-financial statement is envisaged for such companies. In many cases, sustainability is inherent in SMEs, as they have a close link with the territory and the environment in which they operate, as well as with customers and suppliers. It is necessary to highlight their activities and to report them under the aspect of shared value with all stakeholders. Furthermore, SMEs can contribute to the SDGs 2030, as they are the backbone of national economies and the global supply chains of large companies. SMEs represent 99% of all companies, and if they have a limited environmental and social impact individually, they have a much larger impact as a group. The SDGs can be a strategic line of conduct to innovate products and create new business and at the same time bring out the most innovative and characterizing aspects of integration of sustainability by companies in connection with the 2030 sustainability objectives. With Key Performance Indicators (KPI) and sustainability performance, we can monitor the progress of the business process from both a quantitative and a qualitative point of view, thus discovering how an SME works in terms of accountability, sustainability and reporting back what is done to all stakeholders with legitimate interests. After an analysis of the literature to support integrating sustainability into SME business strategy, we will analyze two companies' approaches to sustainability through a case study of their different characteristics and choices in relation to the EU directive.*

Keywords: *SMEs; non-financial reporting; Key Performance Indicators; shared value; SDGs.*

Introduction

A company's participation within their local community influences SMEs' decisions to focus on socially responsible behavior, on the importance of social capital, and on all informal relationships with customers, suppliers and financial institutions. Although it is possible to identify CSR activities in PMI, the use of formal tools, such as codes, standards and social reports that testify to their existence, is not frequently observed (Vives, 2006). SMEs often sacrifice some of their profits to achieve a greater result, pursuing responsible behavior without any awareness. For this reason, we speak of sunken CSR or silent CSR (Perrini, 2006). Therefore, the smaller companies, although acting according to the principles of social responsibility, often fail to report and

communicate these behaviors to the outside world. Existing non-financial reporting tools for large companies are not immediately applicable to the reality of SMEs, for which KPI (Key Performance Indicators) have been studied and identified according to the GRI international reporting standard. These KPIs are suitable for measuring performance (PM) in SMEs (Santos et al., 2012).

It is necessary to drive SMEs to identify their activities in the following 5 sections considered essential for sustainable reporting:

1. economic performance
2. people and work relations
3. responsibility towards customers
4. environment
5. community and territory

As a business strategy, sustainable choices have become important to society and the business community. Sustainable development is seen as a promising paradigm through which natural capital, made up of natural resources and the environment, is preserved for future generations (Gazzola & Querci, 2017). In this way, a constant or increasing total capital (human capital plus natural capital) can be transmitted from generation to generation (Davies, 2013). The concept of sustainability involves all of the activities and decisions necessary to minimize environmental pollution caused by a company (Oberhofer & Dieplinger, 2014). The United Nations Brundtland Commission has defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their needs" (Brundtland, 1987). SMEs generally have a better understanding of the communities and the natural environment in which they operate than large companies. Close ties with customers, employees and suppliers and business integration with the life of the owners mean that integrating sustainability into their businesses can help them gain a competitive advantage in an ever-changing market. This advantage is attributable to their flexibility, smaller dimensions and limited number of employees.

Statement of a Problem

The EU Directive 95/2014/51 on non-financial reporting as an integral part of the financial statements of public companies and large companies provides for the possibility of SMEs to present a sustainability report. The penalties applied to large companies for non-compliance of the reporting are not applied to SMEs. This study developed a conceptual framework for evaluating SMEs' sustainability practices and their approach to non-financial reporting.

The three research questions taken into consideration are:

- the sustainability approach of SMEs
- the dissemination and specific characteristics of performance measurement (PM) in SMEs
- benchmarking activities through case studies

The case study presented here analyses two medium-sized enterprises that have close contact with the territory in which they operate, support environmental protection campaigns, and contribute to some of the UN's Sustainable Development Goals 2030. At the beginning of their activity, both companies adopted the low-cost, high-value philosophy and subsequently implemented the CRS in their business. Corporate

performance of these companies includes environmental and social aspects (Albertini, 2013). They are SMEs that have grown in turnover and commitment to the communities where they have operated for over a decade. They operate in light healthcare in Northern Italy: Santagostino Medical Center and Nau.

Organization and research method

After an analysis of the literature to support integrating sustainability in SME business strategy, we will analyze the approaches of these two companies. The work of Kathleen Eisenhard (1989) and R. K. Yin (1989) provides the guidelines for our case study, as they judged this the preferable form of research to determine “why and how” certain phenomena develop and evolve in specific contexts. Yin, in particular, described a case study as “*a research strategy, the distinguishing a characteristic of the case study is that it attempts to examine a contemporary phenomenon in its real-life context and especially when the boundaries between phenomenon and context are not clearly evident*”. *Experiments differ from this in that a phenomenon is deliberately isolated from its context. Histories differ in that they are limited to phenomena of the past, where relevant informants may be unavailable for interview and relevant events unavailable for direct observation.*” Moreover, Hartley (1994) states that research based on a case study “*is a detailed investigation, often with data collected over a period of time, of one more organizations, or groups within organizations, with a view to providing an analysis of the context and processes, involved in the phenomenon under study*”. Kaplan and Maxwell (1994) argued that the goal of understanding a phenomenon from the point of view of the participants and its particular social and institutional context is largely lost when textual data are quantified. Yin (1989) suggested applying the logic of “literal and theoretical replication”, which is based on the identification of cases that will give similar results (literal replication) or which will give different results, but for foreseeable reasons (theoretical replication). Through this working logic we can highlight the extension or the replication of the emerging theory. In our case, we have chosen “literal replication” by analyzing two types of SMEs to find similarities in their approaches to sustainability and the pursuit of a satisfactory economic result, as well as their contribution to some of the UN’s Sustainable Development Goals 2030.

Discussion

The contribution of SMEs to national economies is important. SMEs in the OECD area contribute to more than one third of the GDP in emerging economies and account for 34% and 52% of formal employment. On average they generate between 50% and 60% of value added (OECD, 2017b). SMEs are characterized by a naturally close daily relationship with customers, employees and suppliers, and they often integrate the business with family life. These close links facilitate their choice of sustainable activities. Among these characteristics, flexibility, rootedness in the territory and close relations with stakeholders, all of which encourage the integration of CSR activities, must be taken into consideration. It is necessary to identify the opportunities and the challenges that small- and medium-sized enterprises face when integrating CSR activities. The identification of sustainable strategies already adopted allows companies to develop awareness of the resources and skills already possessed, as well as those that are lacking, in order to adopt and implement actions and initiatives oriented toward CSR.

Above all, SMEs sustainability is identified through the processes they adopt, including cleaner production, waste-handling, eco-efficiency and logistics (Klewitz & Hansen,

2014). The level of incorporation of sustainability into SMEs' business strategies can differ; some choose a strong approach by committing to minimize or annul those environmental changes that produce irreversible losses, while others adopt a weaker approach to sustainability, presuming that future generations will be able to create enough wealth to cope with the negative consequences of their production activities (Davies 2013). More so than large companies, SMEs are subjected to external pressures to balance of the growth of human capital and natural capital (Tenuta, 2009). They can reach their goals through "sustainability-oriented innovation" (SOI) (Klewitz & Hansen, 2014).

Adams et al. (2016) define SOI as *"intentional changes to an organizations' philosophy and values, as well as must change its products, processes or practices to serve the specific purpose of creating and realizing social and environmental value in addition to economic returns"*. The authors also define the first level of SOI as "operational optimization", in which companies focus on "doing the same things better". They maintain consistency with changing regulations or pursuing efficiency gains, while they focus primarily on internal and incremental innovations. The innovation outcome is a reduction in the consumption of natural capital. During the second level, "organizational transformation", companies focus on "doing good by doing new things". They develop new products, services or business models, which may include a shift in the company's purpose. The innovation results in reducing harm and creating shared values with societal stakeholders. Finally, during the third level, called "systems building", companies focus on "doing good by doing things with others". In this stage, they start thinking beyond the firm and reconfigure the purpose of their business in society.

The rising societal pressures for responsible practices (increased transparency, community involvement, etc.) require the explication and dissemination of data derived from good practices. Article 14 of the Directive 2014/95/EU on disclosure of non-financial information provides for a request for disclosure of non-financial information for undertakings and groups other than large companies. Most of the member countries that have implemented all or part of the directive (figure 1) have provided for other companies not included in the range to be able to present financial reporting. In particular, this is already possible for Greek companies.

Greece has set mandatory limits for companies with the following limits:

- Over 10 employees
- Net turnover: over EUR 700,000;
- or Balance sheet total: over EUR 350,000

Directive 2014/95/EU complements and supports the achievement of the 2030 UN Goals compared to the SDGs, among others (Lenzi, Pais & Zucca, 2015):

8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors.

8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water

and soil in order to minimize their adverse impacts on human health and the environment.

12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

Country	Definition of a Large Undertaking	Definition of a Public Interest Entity	Report Topics and Content	Reporting Framework	Disclosure Format	Auditor's involvement	Non-compliance Penalties	Safe Harbour Principle	Diversity Reporting Required
Austria	=	○	=	=	○	=	○	=	○
Belgium	○	○	=	=	○	○	○	=	=
Bulgaria	=	○	=	○	○	○	○	=	○
Croatia	=	○	=	=	○	=	○	=	○
Cyprus	=	○	=	=	=	=	○	=	○
Czech Republic	○	○	=	=	○	=	○	=	=
Denmark	○	○	=	○	○	○	○	✗	○
Estonia	○	=	=	=	○	=	✗	✗	○
Finland	=	=	=	=	=	=	○	=	=
France	=	○	=	=	○	○	○	✗	=
Germany	=	○	=	=	○	=	○	=	=
Greece	○	○	○	=	○	=	○	=	=
Hungary	=	○	=	=	○	=	○	=	=
Iceland	○	○	=	=	○	○	○	=	○
Ireland	=	=	=	=	=	=	○	=	○
Italy	=	○	=	○	○	○	○	=	=
Latvia	=	○	○	=	○	○	○	=	=
Lithuania	=	○	○	=	○	=	○	=	○
Luxembourg	○	○	=	=	=	=	○	=	=
Malta	=	=	○	=	○	=	○	=	=
The Netherlands	=	○	=	=	○	○	✗	=	=
Norway	=	○	=	=	○	=	○	✗	=
Poland	=	○	=	○	=	=	○	=	=
Portugal	○	○	=	=	=	=	○	=	=
Romania	○	○	○	=	=	○	○	=	=
Slovakia	=	○	=	○	○	=	○	✗	=
Slovenia	=	=	○	=	○	=	○	=	○
Spain	=	○	○	○	○	=	✗	=	=
Sweden	○	○	○	=	○	=	○	=	=
United Kingdom	○	=	=	=	○	○	○	=	=

Legend

- = Requirements are the same as in the Directive
- ✗ Requirements have been omitted
- Requirements have been adapted

Figure 1. Member State Implementation of disclosure of non-financial information based on Directive 2014/95/EU (GRI & CSR Europe 2017, p.10)

The GRI standards (Global Reporting Initiative 2016) enable organizations to measure and understand their most critical impacts on the environment, society and the economy compared to the dimensions of sustainability. Economic concerns include an organization's impact on the economic conditions of its stakeholders and the effects on economic systems at local, national and global levels. Environmental concerns include an organization's impact on living and non-living natural systems, including land, air,

water and ecosystems. Social concerns include an organization's impact on the social systems within which it operates. The adoption of GRI standards means relying on the comparability of results at inter-company and inter-sectoral levels through the definition of a common framework that is recognized at a global level.

The topic-specific standards defined by the GRI are summarized in table 1.

Table 1. GRI topic-specific standards (Global Reporting Initiative 2016)

Economic Dimension	Environmental Dimension	Social Dimension	
Economic Performance	Materials	Employment	Rights of Indigenous Peoples
Market Presence	Energy	Labor/Management Relations	Human Rights Assessment
Indirect Economic Impacts	Water	Occupational Health and Safety	Local Communities
Procurement Practices	Biodiversity	Training and Education	Supplier Social Assessment
Anti-corruption	Emissions	Diversity and Equal Opportunity	Public Policy
Anti-competitive Behavior	Effluents and Waste	Non-discrimination	Customer Health and Safety
	Environmental Compliance	Freedom of Association and Collective Bargaining	Marketing and Labelling
	Supplier Environmental Assessment	Child Labor	Customer Privacy
		Forced or Compulsory Labor	Socioeconomic Compliance
		Security Practices	

Key Performance Indicators (KPIs) are indexes used to monitor the progress of certain business processes based on the triple bottom (Elkington, 1997) line of sustainability for measuring sustainability performance of companies. Since the company is not only financial and economic, but also social and environmental, it must report its results in each of the related areas. To measure the overall business result, the economic, environmental and social levels should be assessed, assigning the same weight to each area (Gray, 2004). In terms of development strategies, KPIs are one of the main tools for assessing the efficiency of production, elaborating based on this assessment and monitoring and controlling employees' business activities structural units and of enterprise as a whole (Lee et al., 2011).

The following are criteria for selecting indicator sets:

- 1) Ease and Understanding. KPIs must be chosen in such a way that there are no wrong or tendentious interpretations.
- 2) Significance. The function of the KPIs should be as a guide for decision-making in order to improve performance.
- 3) Comprehensiveness. The selection of KPIs must offer a significantly measurement of all of the activities and impacts across the economic, environmental and social areas.
- 4) Manageability and Comparability. Standardized KPIs must be chosen to make a benchmark activity of indicator results possible.

- 5) Controllability. Management must be able to vary the indicators by implementing corrective measures over time as stakeholders observe improvements.
- 6) Continuity. The chosen KPIs must be monitored and updated over time to observe the trends.
- 7) Efficiency. The cost of researching the indicators and monitoring them should not be particularly burdensome and complex in order to avoid compromising the performance itself (Baglieri & Vitaliano, 2014).

KPI guidelines can help SMEs cost-effectively manage and report their environmental performance. Some SMEs are not also effectively based on EU guidelines, others, or for the type of products / services or for being micro-enterprises, have an environmental impact as low as to be irrelevant. The effects on SMEs can be positive. SMEs can benefit from improving, and reporting on their environmental performance, because they may have stakeholders who require responsible behavior.

Case study: Santagostino Medical Centre (SMC) and Nau!

The companies involved in the case study are the Santagostino Medical Centre (SMC) and Nau!. The first offers light healthcare at fair costs and with high levels of quality. The companies involved in the case study are the Santagostino Medical Centre (SMC) and Nau!. The first offers light healthcare at fair costs and with high levels of quality. The second is retail establishment that sells and produces eyeglasses and sunglasses; they have an internal recycling program to produce glasses frames. Both companies have adopted the code of ethics suggested by the Assolwcost (Cinosi & Rizzo, 2013); subsequently, they have continued to follow this path.

They have strong ties with the community in which they operate, and they are committed to protecting the environment. Their communication of ethical and sustainable choices of production are more or less formalized. Santagostino Medical Centre publishes an annual report (Querci & Gazzola, 2017). The public activities and participation in the activities of the community where Nau! operates shows their commitment to the protection of the environment and the support of sporting activities. Therefore, both are SMEs that have not yet adhered to the voluntary possibility of non-financial reporting as foreseen by Directive 2014/95/UE, but they have all of the elements to be able to formalize their results through the KPIs and proceed with a benchmarking of their activities.

Table 2. Disclosure of Social Responsibility Santagostino Medical Center (Annual report 2017 Santagostino Medical Centre www.cmsantagostino.it)

SOCIAL RESPONSIBILITY SANTAGOSTINO GREEN
90% of the electricity consumption of our centers is derived from renewable sources.
LISTEN ONLUS: A GIFT THAT CARES
The patients of Santagostino (but not only) can donate visits and free medical care for people in economic and social difficulties reported by local associations. Fundraising is organized by the Ascolto Onlus.
Funds collected to date: about 11 thousand; euroPatients under treatment: 60
I GIVE
Also in 2017, in collaboration with Avis Comunale di Milano, we organized a blood collection campaign between May and June.

PARTNERSHIP WITH MUNICIPALITIES BUCCINASCO

The new Santagostino Medical Center of Buccinasco is the result of an important public-private partnership: the spaces are owned by the Municipality and for its management, the Santagostino has won a public tender. The presence of the Clinic fills a gap, left by the previous manager, responding to a need for territorial health.

SESTO SAN GIOVANNI

Also in 2017, Centro Medico Santagostino joined the project "Bene Comune grows with care" of the Municipality of Sesto San Giovanni. We have organized 4 workshops for children in the redeveloped square.

Since 2007, Nau! has sponsored the green ship of Legambiente (association involved in the protection of the sea and the natural environment). Nau! signature and supports projects for the defense and preservation of the environment, as well as campaigns to protect the ecosystem. For every pair of eyeglasses sold in recycled plastic, Nau! Makes a contribution to Legambiente (Querci, 2015).

The company made the first eyeglasses and sunglasses in recycled plastic. This pre-consumer recycling, takes place using the milling and curls of the frame machining. The scraps are recovered and reground in order to be reused as raw material for a new production of frames. Nau! uses renewable energy sources in their stores and biocartene shopping bags that can be reused by the customer for wet waste disposal. Their shops have eliminated the unnecessary packaging for liquids and contact lenses. Both companies pursue the right balance between sustainability and income results. The SMC turnover, from the 2009 to 2017, has grown respectively by 631.348 euros to 23.256.800 euros. Santagostino Medical Center's business model was replicated 14 times, leading to the opening of 14 new medical centers. In 2017, Nau! reached 135 single-brand stores, including direct stores (76) and franchises (59), and the closed 2017 with a turnover of 35 million euros, up 16% compared to 30 million the previous year. The year was marked by the opening of 22 stores, 18 of which were in Italy and 4 were abroad.

Conclusions

SMEs have a responsibility for their environmental impact on the environment. This responsibility puts constraints on their production and choices, while, at the same time, they must also comply with economic and legal constraints (Wickham 2004), all the time pursuing the right balance between natural and social capital. Those who choose to implement these social and environmental policies can obtain satisfactory profitability and increase the intangible value of consensus and reputation.

Although many companies take a silent approach to sustainability, it is necessary for good practices to emerge. Both individual national institutions and the EU encourage SMEs to make their sustainable strategies explicit. The EU Non-Financial Reporting Directive opens spaces for SMEs to share their KPIs publically. SMEs can reap positive benefits from measuring their indicators and transmitting their non-financial information. SMEs can benefit from improving and reporting on their environmental performance to stakeholders such as customers, neighbors and lenders who require responsible behavior. Both Santagostino Medical Center and Nau! are ethical, respect the environment and participate actively in the life of the communities where they operate. The business model of the Santagostino Medical Center has been carefully studied and evaluated by Databank to ascertain that lower prices are practiced thanks to the efficiency and quality of production and business organization and in compliance with

ethical values, social responsibility and respect for the environment. Confirming that sustainability is good for income growth, the Financial Times in 2018 lists the Santagostino Medical Center among the 1000 companies that grew the most in Europe. For the second consecutive year, Santagostino enters the annual report on the "FT 1000 - Europe's Fastest Growing Companies", which lists the companies of 31 European countries that have achieved the highest compound annual growth rate between 2013 and 2016. The growth rate of Santagostino between 2013 and 2016 was, as reported in the report, 209%. The compound annual growth rate (Cagr) in the same period was 45.6%.

On their website, Nau! declares, "in everything we offer we put passion, competence, respect for the environment and eco-sustainability. We are aware, always and not for fashion, of our responsibility towards the generations who will come and work together with our customers for sustainable development. In all our processes we eliminate what is superfluous and recycle everything that can be recycled. The result is clear: less waste for the environment and less unnecessary costs for you.

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BENEFIT COMPANIES IN ITALY: DEVELOPMENT PERSPECTIVES AND EVALUATION STANDARDS

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Abstract. *Benefit Corporation could be one of the possible reactions to having a new model of capitalism and business management because there is a combination of economic activities with the common satisfaction of social needs. In 2016, the Italian legal system introduces the case of the Benefit Company. Italy becomes the first state to acquire a discipline in this area of for-benefit companies, the analysis of the discipline configures the Benefit Companies as a context solution that mutates, as far as possible, the discipline of Benefit Corporation. The Italian Benefit Society is seen as a revolutionary step forward, in a traditionally static and sometimes obsolete context and the new law has generated a strong interest and enthusiasm and many companies have already decided to become a Benefit Company. The following paper is intended to illustrate the process that led to the birth of the B Corp movement and its first evolution in the United States with the legal legitimacy of the Benefit Corporation and then in Italy with the discipline of the Benefit Company. The objective is to verify the responses of the Italian context to the new legislation on Benefit Company, with particular reference to three aspects: 1. If the Benefit Company will be able to become an appropriate vehicle for entrepreneurs who want to operate in a sustainable way; 2. If the Benefit Company will be able to represent an interesting business model for those long-term investors looking for companies able to simultaneously generate economic and social benefits; 3. If the Italian experience will be able to produce a "domino effect" among other EU Member States that facilitate the dissemination of the "B" approach and, consequently, promote the establishment of companies with a strong positive impact measured with standard verifiable on social and environmental performance.*

Keywords: *Benefit Corporation; Business law; Corporate social responsibility; B Lab; Certified B Corporations.*

Introduction

The Benefit Corporation seems to be one of the possible answers to the need to reinvent a model of capitalism and business management that can combine a typical economic activity with the satisfaction of social needs. This kind of corporation was born legally in 2010 in the State of Maryland, but the basis of this phenomenon in the economic-business, are placed in 2006. In that year, the non-profit organization called B LAB was the promoter of this revolution. In 2007 B LAB certifies the first B(enefit) Corp(oration) applying the first version of the certification process called Benefit Impact Assessment (BIA). This is a process that proposes a system of evaluation of companies not only focusing the attention on the economic elements but also to the effects generated by the same business activity in the social and environmental field, with a particular attention to the definition of the Benefit and Impact concepts.

The certification process (B.I.A.) is divided into phases (Castellani, De Rossi & Rampa, 2016; Michellini et al., 2016; Lanza, 2017):

- First Phase. Self-assessment of the company where there is a spontaneous questionnaire to compile and subsequently it is required the transmission of documents to support the truthfulness of the information provided.
- Second phase: The company is required to demonstrate, through a "legal requirement", the ability to maintain sustainability criteria for a predefined period. Essentially it is required to demonstrate that a possible future management will have the real possibility of continuing to manage the business with sustainable criteria.
- Third Phase. Subscription of a declaration of "interdependence": this is a sort of "declaration of intent" where the company intends to network with the other Benefit Corporation; This is a relevant philosophy step to create useful connections capable to create added value and therefore a competitive advantage for the Benefit Corporation system.

The paper will illustrate the process that led to the birth of the B Corp movement and its evolution in the United States and then in Italy with the discipline of the Benefit Companies. One of the innovative elements fully replicated in the United States and in Italy is that of the certification process: The Benefit Impact Assessment. The Benefit Companies in Italy are pioneers of a new way of doing business, we will analyze the strategic choices made, the positive factors and the management problems that can emerge in relation to this kind of society.

The birth of the Benefit Corporation

The Dodge judgments *v. Ford* (H20, 1919) and the most recent *eBay Domestic Holdings, Inc. v. Newmark* (H20, 2010) contributed, over time, to the legitimacy and consolidation, in the US context, of Shareholder Primacy Theory (Grossman, 2005). In this theory the strong idea is that the top management and management of for-profit companies must act, in the best possible way, to achieve the maximization of value in favor of shareholders: they cannot and must not detect other types of considerations.

The shareholder primacy rule was used by courts to solve a dispute between the different categories of shareholders and this norm has evolved into the modern policy to the minority shareholder oppression (Armour, Deakin & Konzelmann, 2003; Mansell,

2015). This doctrine is criticized because it is in contrast with corporate social responsibility and other legal obligations due to the fact that it focuses exclusively on maximizing shareholder profits (Gazzola & Mella, 2012; Gazzola & Colombo, 2015; Flammer, 2015; Godfrey, Merrill & Hansen, 2009; Stikeleather, 2017).

In this context is born B LAB and the three founding partners, Andrew Kassoy, Bart Houlahan and Jay Coen Gilbert, had an initial approach to develop a proposal of legislation that institutionalizes the Benefit Corporation model. This process should be able to overcome the Shareholder Primacy Theory implementing some instances of the Stakeholder theory with other of the most recent Shared Value Approach (the set of policies and operational practices that increase the competitiveness of a company and at the same time improve the economic and social networks within the communities in which it operates) (Cummings, 2012; Green, 2017; White, 2014).

The features of a Benefit Corporation

B LAB elaborates a Model Benefit Corporate Legislation (Esposito, 2012; Hiller, 2013) because a Benefit Corporation is configured as a special form of enterprise, available only for "for-profit companies", and it has three main characteristics:

- A broader purpose: the purpose of a Benefit Corporation surpasses the unique idea to maximize profit for Shareholders to incorporate the pursuit of a General Public Benefit into the business activity and to add one or more Specific Public Benefits. A General Public Benefit is defined as a positive material impact on the Company and on the Environment while a Specific Public Benefit can be represented by the income support for individuals and communities, job creation or environmental protection against polluting practices (Nicholas & Sacco, 2016). The impact generated must be measured by a "third-party standard" organism.
- Extended responsibility: the responsibilities of the management of a Benefit Corporation are extended. The directors must consider the impact of their choices not only on Shareholders but also on the Stakeholders (Reiser, 2011; Cummings, 2012).
- Transparency: The Benefit Corporation must publish an annual Benefit Report and an overall assessment that indicates the ways in which the Benefit Corporation has pursued the General Public Benefit and its degree of achievement (Robson, 2015).

Certified Benefit Corporation™

B LAB, in addition to developing a Model Benefit Corporation Legislation, implements a certification process, that is capable to evaluate an overall way the impact of the economic activity of companies as well as the corporate social performance and environmental sustainability of the same called Benefit Impact Assessment (BIA). The B.I.A. allows, by meeting the requirements, to certify a company as a Certified Benefit Corporation and it has a numerical score on a scale from 0 to 200 to measure the different characteristics of the firms (Rawhouser, Cummings & Crane, 2015).

The benefit impact assessment

As stated in the previous paragraph, B LAB, since its establishment in 2006, has developed its own certification process called Benefit Impact Assessment. The purpose of this method is to measure the social and environmental performance of a company and, at the end of the process, to release Certified Benefit Corporation™ certification. The certification is valid for two years and allows companies to boast a brand that, is acquiring an increasing importance also in relation to the B Corp Movement diffusion (of which B LAB is the natural reference).

What is the BIA (BIA, 2018)

The BIA is defined as a "free tool" that helps transform the idea of managing the company as a positive force in a series of concrete, measurable and achievable actions. It is the obligatory starting point to evaluate, compare and improve the social and environmental performance of the company without any costs (Nigri, Michelini & Grieco, 2017). The unique cost (that it is due if the company completes all the phases of the certification process obtaining the qualification of Certified Benefit Corporation) in favor of B Lab is represented to an annual fee that is related to the past year sales value.

There are the same phases that a firm must follow to complete this process (Dahlberg, 2016):

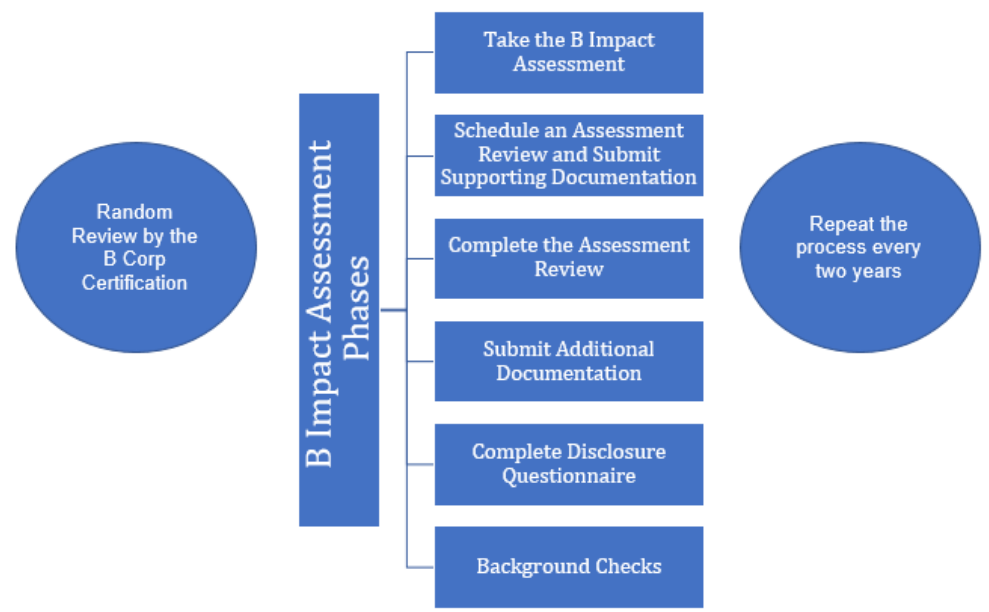


Figure 1 BIA Phases

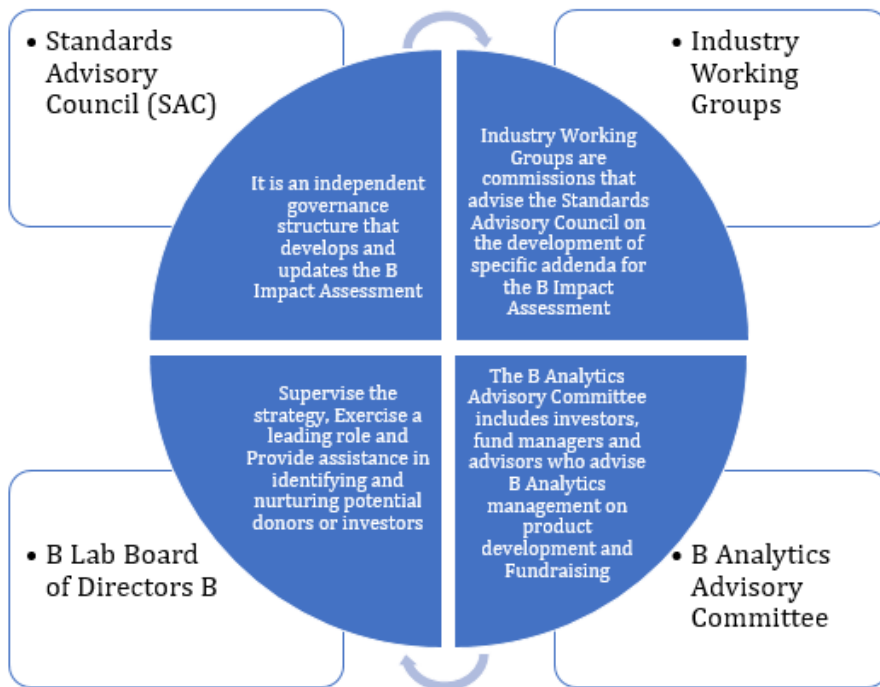


Figure 2 BIA corporate organs (Clark Jr & Babson 2011; Honeymann, 2014)

The specificity of the BIA

The Benefit Impact Assessment has particular characteristics that have made it as one of the most complete and widespread standards of social and environmental impact assessment (at least in the United States of America).

Table 7. The specificity of the BIA (Nigri, Michelini, & Grieco, 2017; Clark Jr & Babson 2011; Honeymann, 2014; Moroz et al., 2018)

Elements	Description
Focus on Positive Impact	The actions that intentionally address the solution of real social and environmental problems are assessed and measured, not only to respect the disciplines and regulations law
All-encompassing and easy to use	All the activities carried out by the company (of any size) are measured and which concern workers, suppliers, the production process, the governance structure is considered
Educational	It allows entrepreneurs and business employees who approach the certification process to measure their level of social and environmental impact
Transparent	The evaluation and weighting criteria for each question of impact areas, sections and sub-categories are available in the assessment process

Elements	Description
Independent	The Standard Advisory Council governs the BIA and the quality of the standard itself. It is made up of entrepreneurs and academics who are experts in the specific fields of process analysis
Dynamic	The process is updated and/or developed every two years

The differences between B Corp and Benefit Corporation

The NGO B LAB, since its establishment, has seen its name closely linked to the B Corporation Movement: it has implemented a certification process (the Benefit Impact Assessment) that has taken on the characteristic of a Third-party standard (Honeyman, 2014). It has contributed to the definition of a Model Benefit Corporation Legislation which has become the necessary point of reference for the drafting of a legislative framework (Moroz et al., 2018; Wilburn & Wilburn, 2014) with a connection between the B Corp in a network constituting a real Community of companies that share the same ideas and ideals in terms of exercising the business activity with a relevant part in the social field. B LAB grants, at the end of the Benefit Impact Assessment process the Certified Benefit Corporation™ a certification mark. The Benefit Corporation is a legal institution that sets up a special business model and it is important to underline that the two entities have important points in common, but also specific and distinctive characteristics reassumed in the following table:

Table 8. Differences between B Corp and Benefit Corporation (Honeyman, 2014; Davis et al., 2012)

Elements	B Corp Certified	Benefit Corporation
Accountability	The directors must take into account the effects of their decisions on both shareholders and stakeholders	Equal to the B Corp Certified
Transparency	The company must make public a report that evaluates its overall impact, drawn up according to an independent standard	Equal to the B Corp Certified
Performance	The performances are verified and certified by the B Lab through the B Impact Assessment standard. A performance >= 80 points out of 200 must be demonstrated.	Self-declared
Permanent checks	It must renew the certification every two years	The only verification over time is related to transparency requirements
Assistance and use of the 'Certified B Corp®' Brand	Access to a range of services and support from B Lab. Certified B Corps can use the 'Certified B Corp' brand and	B Corp® brand cannot be used

Elements	B Corp Certified	Benefit Corporation
	logo on their products and in all their communications No formal support from B Lab.	
Use	Any private enterprise anywhere in the world	Only in the United States that have approved the law on Benefits

The diffusion of the Benefit Corporation in the United States of America

B LAB certifies the first 19 B Corp in 2007, more than 2,500 in the first semester of 2018 and more than 50 States that have at least one (Benefit Corporation & Società benefit). The B.I.A. governed by B LAB allows the NGO to coordinate the B Corp in a network of relationships and set up a real community of businesses, but the most important milestone is the legal recognition: in 2010 the State of Maryland is the first to promulgate a regulation on Benefit Corporation, today the regulation is present in 33 Federal States, while in 6 others the specific procedures of legislative approval are launched.

The diffusion of the B-Corporation in the world

The B Corp movement is spreading even outside the United States of America. It is not possible to identify a univocal trend on the reasons that push companies to share the requests proposed by B LAB, but it is often the intuition of the entrepreneur, in a broad sense, to push, usually in a first phase, to undergo the process to have a certification. One example is represented by the experience of the founders of Nativa.

Nativa is one of the founding companies of the movement in Europe, the first B Corp in Italy and an Italian partner of B Lab. It has collaborated with the Senate for the introduction of the Benefits Society law, moreover, it is committed to promoting the movement and accompanies the companies involved along the path of evaluating their positive impact. For the management of this society, this situation became a stimulus to act: "The fifth time we got the approval (of the Chamber of Commerce of Milan), even if it actually constituted a" forcing "not provided for by Italian law. An article in Corriere defined us this way: "Nativa, the company that produces happiness". But the pioneering flag was not enough for us. For this reason, we have committed ourselves to get out of this illegality and create the conditions for the dominant model of the company to be guided by a common benefit purpose (for this reason) we have promoted the creation of the legal form of Benefit Company in Italy " (Natalab, 2015).

The governance and management distinctive elements of a B-Corporation in Italy (Bauco et al., 2017)

The corporate purpose

The Benefit Company must indicate, the specific purposes of common benefit that it intends to pursue and the aim that constitutes the social purpose. These objectives are followed by the management that should balance the interests of the shareholders and the interests of the stakeholders.

The management of Benefit Companies

In Italy, the Benefit Company will be managed according to the rules of the type of company adopted, appropriately declined according to the provisions of paragraph 380 of law no. 208/2015. The management of the Benefit Company must pursue further objectives (compared to those related to the correct pursuit of statutory obligations and legal obligations) coinciding with the balancing of the interests of the members. Moreover, the management must pursue common benefit objectives and the interests of people, communities, territories, and environment, cultural and social assets and activities and other stakeholders. Finally, the management of the company must necessarily take responsibility in a responsible, sustainable and transparent way to people, communities, territories and the environment, cultural and social assets and activities, bodies, and associations and other stakeholders, as well as the members.

The responsibility of the management

The Benefit Company, without prejudice to the provisions of the regulations for each type of company envisaged by the Italian Civil Code, identifies the subject or the persons in charge to whom assign functions and tasks aimed to pursue the aforementioned purposes.

The annual report for Benefit Companies

The detailed annual report has contents specified by the law:

- i) the description of the specific objectives, methods and actions implemented by the directors for the pursuit of the common benefit objectives and any circumstances that have prevented or slowed down the process (a forecast may represent an extenuating factor in the assessment of the unlawful conduct for not having pursued the purposes of benefit paragraph sanctionable by the AGCM);
- ii) the assessment of the impact generated using the external evaluation standard in accordance with the characteristics described in annex 4 of law no. 208/2015 and which includes the assessment areas identified in Annex 5 of the same law;
- iii) a section dedicated to the description of the new objectives that the company intends to pursue in the following year.

The purpose of the report is disclosure of the administration activity specifically aimed at achieving the common benefit achieved during the year.

Advantages, disadvantages strength and weakness of a Benefit Company (André 2012; Boatright, 2006; Esposito, 2012; Honeyman, 2016; Lanza, 2017)

Below is a list of the possible positive and adverse effects that can be generated by becoming a B-Corp or being a Benefit corporation:

Positive Effects	Critical Elements	Features of the Italian Context
• Be part of a community • Attract Talents • Media and Brand attractiveness • More investment and Saving money • Driving the change in a long term mission and to be able to attract investors	• Not Clear when a B-Corp certified can take the legal form of Benefit Company • There is no Register of the "Annual Reports of the Common Beneficiary Activities" • It is not obligatory for companies to make public the name of the corporate entity appointed responsible for the of the Benefit Company	• The ability to attract Millennials • The redefinition of Management Responsibilities • Strengthening the rights of Shareholders and Investors • Attractiveness for retail investors

Figure 3. Negative and positive effects

Conclusions and limits of the Benefit Companies

One of the debates that are developing in the field of Economic Sciences is that which concerns the ultimate goal of companies and societies; topics such as Circular Economy, Shared Economy, Stakeholder Theory, Hybrid Societies are well known and variously argued. Benefit Corporation and Benefit Societies are fully part of this debate: for-profit companies which, in the exercise of an economic activity, broaden their scope to social and/or environmental objectives and this extended purpose is constitutive for the birth of society and necessary for its continuity/existence.

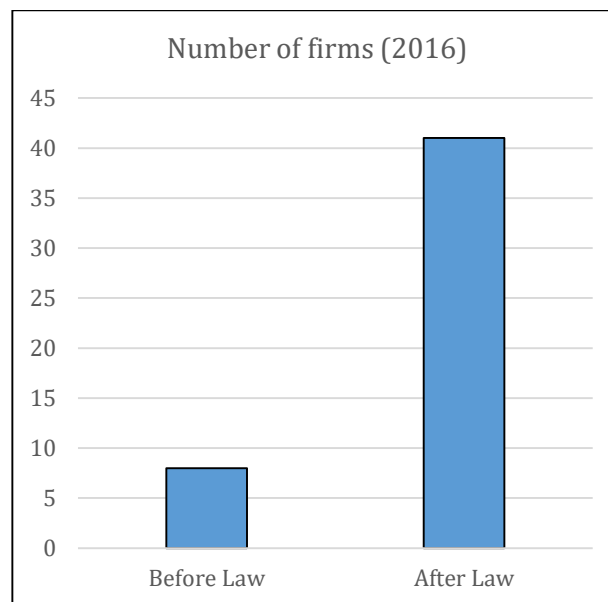


Figure 4. Number of B Firms in Italy

The analysis of the B Corp movement numbers can give rise to doubts: in 10 years of existence the B Corp certified worldwide are little more than 2000 and particularly concentrated in the United States where the movement has its roots; on the other hand, it is surprising that a movement "on the square" for 10 years and with growth rates that are certainly positive, but not surprising, manages to catalyze attention, both vital and capable of re-proposing even outside its natural channel.

The numbers in Italy are not yet significant, but some elements can be highlighted: There are companies that have become B Corp even before that, in Italy existed a legal discipline that qualified them.

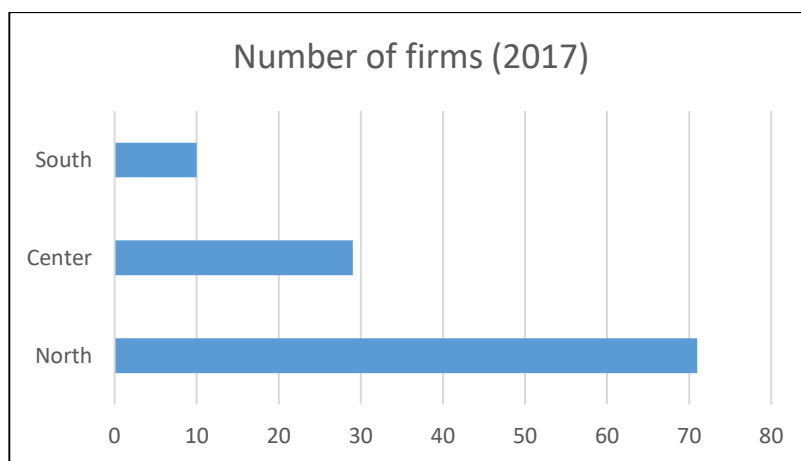


Figure 5. Number of B Firms in Italy per geographic zone

Main evidence (ODIB, 2017; Sole24 ore, 2017)

As at 30 June 2017, the benefits companies registered in the business register were 110, so in six months they almost doubled compared to the analysis made at the end of 2016, where there were 64 companies. Therefore, there was an increase of almost 72%. Specifically:

- The regional distribution, however, still rewards the North significantly from 44 companies to 71 (+ 38%).
- However, we note a strong recovery in Central Italy, which effectively triples the presence of the benefits companies from 11 to 29 companies (+ 163%).
- Tail light, unfortunately, remains the South which, in fact, does not grow.

At the regional level, 40 companies are based in Lombardy (of which 28, so 70%, only in the city of Milan, and over half - 56% - of the total number of companies based in the North.). It follows, but rather distanced, the Lazio that at 30 June had 19 benefit societies.

- Almost 20% of Benefit Companies focus on information technology, usually in the field of web services and e-commerce. The following are personal care (health, social care, medical devices, and wellness), agri-food and environmental firms.
- In general, they are mainly small companies (only 8 are S.p.A., while 90% are S.r.l.), with a strong approach to innovation and environmental protection.

Finally, it is important to underline that the adoption of the model of the Benefit Companies is still at an early stage: the normative discipline has the form of a frame within which the canvas still has many white areas. The main problems concern:

- The ability of the model to concretely guide the company in the direction of the plurality of objectives to be achieved.
- The mechanisms that will allow the Management to reconcile the potentially conflicting goals of profit and socio-environmental wellbeing.
- The sphere of new skills that managers will have to acquire for the exercise of their functions and for the definition of their new responsibilities and capacity for action.
- The evidence of the case in question suggests that the will to operate according to unconventional schemes and in respect of non-eminently economic sensitivities originates from the individual subject-entrepreneur, as a constitutive and essential element in the exercise of business activity and capable of positively influencing the subjects (stakeholders) who enter into a mutual relationship; an element that, however, needs a legal framework to be able to replicate in time and space.

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DEMENTIA TOURISM AS AN OPPORTUNITY FOR DESTINATION REJUVENATION: SIMPLY A SUPPLY SIDE OFFER OR A NEED FOR PEOPLE WITH DEMENTIA AND THEIR CAREGIVERS?

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Abstract. Many tourism destinations worldwide have lost their attractiveness and reached stagnation. In order to enable them to find a way to rejuvenate they need to find new innovative offers and explore new target markets. Recent changes in the population, in particular the aging factor, enable to identify new promising markets, such seniors. Seniors are considered as an important new target market to invest in since they have spending power to travel and they travel for longer time and off-season. Although seniors are an interesting market, they bring with them the effects of ageing, i.e., disability. Among different disability, dementia plays an important role. This made policy makers and businesses starting to be interested in dementia tourism. Some supply led initiatives have already been created, but further insights are needed to understand whether people with dementia and their caregivers are interested in such offers. This paper aims to explore this further. The qualitative findings of this research shows that people with dementia and their caregivers will benefit of such tourism offers, and they are willing to participate in them if extra-care is offered. This shades positive lights on the fact that such an offer could be successful. However, it is important to notice that not every caregiver is positive in making their beloved one participating in such activities, and they won't be willing to participate as well. As a matter of fact, factors such as the level of cognitive impairments, and the level of behavioral impairments influence the possibility to join such activities. The willingness of joining such activities is also influence by the family bond: husbands and wives are more prone to participate than children. This depends as well on the perception of tourism as a beneficial activity by caregivers, and the need of diversion, respite, and enjoyment of time together. If caregivers do not see tourism as something positive for their wellbeing and the one of the beloved one they will not be interested. Last but not least the lifestyle before dementia and past experience of tourism in early stage of dementia influence strongly the willingness to participate. With this in mind the markers should spend time in making sure

that this offer will be appealing to their target market before starting an initiative, which although being extremely good in theory, might not be actually needed in the reality.

Keywords: *destination rejuvenation; seniors; dementia friendly tourism; people with dementia; caregivers; enablers for dementia friendly tourism.*

Introduction

For many destinations living the challenge to find ways for rejuvenation, there is an urgent need to innovate their products and identify new targets for tourism development. For them an alternative positioning strategy is needed to deliver superior value to existing and alternative clients (Kotler, Bowen & Makens, 2014). One of the new markets on which to invest is seniors with dementia and their caregivers. The encounter between tourism and dementia creates a niche market that represents an opportunity for rejuvenation (Page, Innis & Cutler, 2014). As it is well known the World population is ageing (UN, 2014), and as a consequence, ageing diseases are as well increasing. Among different ageing disease, the most common one is dementia (60-70% of dementia is due to Alzheimer (WHO, 2012)). Due to dementia people see their cognitive ability deteriorate and their behavioral problems increase, compromising their emotional control, and social behavior (Mace & Robins, 2006). This causes as well caregivers' burnout (Alzheimer Research UK, 2015). In such a scenario it will be important to provide people with dementia and their caregivers, opportunities, among which tourism opportunities, that will allow them to remain active (Page et al., 2014).

Under this circumstance a tourism offer for people with dementia could benefit them and also stakeholders at tourism destination that see in it an important business opportunity (Page et al., 2014). Some governments have already recognized this opportunity and already invested in it (e.g., UK). One of researches on dementia tourism was the one of Page et al., (2014). They looked into the topic of dementia friendly tourism destinations by researching the supply side. Although this effort was extremely important, little has been done into looking at the demand side. The aim of this paper is to enable further understanding into this aspect. It explores the willingness of people with dementia and their caregivers to take part to tourism activities with the aim of giving to policy makers and entrepreneurs a clearer understanding of whether investing in dementia tourism could be convenient.

Literature review

The current tourism scenario is characterized by the existence of some tourism destination that lost their attractiveness as tourism destination due to different reasons. Under these circumstances these destinations are entrapped in the stagnation: they lost their attractiveness and are at a crossroad between finding ways for rejuvenation or abandoning the tourism industry (Baum, 1998). If these destinations are willing to find opportunities for rejuvenation it is needed, according to Faulkner (2002), to identify innovative products and new targets. This will then allow them to redefine its positioning strategy (Kotler et al., 2014) by identifying more appealing value propositions to new markets. Given the recent increase of them, one of the potential new markets explored are the seniors. This paper emphasizes on the likelihood of investing on seniors' tourism by looking on a particular sub-niche of the seniors: seniors with dementia.

Yeoman and Butterfield (2011) underline how nowadays the demographic changes, in particular ageing population, strongly influence the population characteristics, their behavior and preferences. They also create new and attractive trends for tourism development (e.g., senior tourists, and disable tourists). Senior tourism is a growing market (Paxson, 2009, Nimrod, 2008) that, as per WTO (2001) will characterize tourism development for the future. Seniors are seen as the future most important target for tourism destinations and organizations (Huang & Tsai, 2003, Fleischer & Pizam, 2002): if destination are able to grasp this opportunity, as long as the one of disable tourists, they will be able to develop a strong competitive advantage that creates value for a growing target (Alén, Losada & Domínguez, 2012) and themselves. Since seniors have high willingness to travel and holiday for long periods, also off-season (Fernandez-Morales & Mayorga-Toledano, 2008) this ensures a good level of tourism expenses in the destination that might enable destinations to prosper. According to Buhalis, Eichhorn, Michopoulou & Miller (2005) the value for accessible tourism, that includes seniors and disabled people (in 127.5 million of tourists in Europe), is high. It is estimated on average on 124.5 billion€ (Alén et al., 2012). According to Frye (2015) 2 out of 3 of disabled people are over pension age, and 1 out of 3 has some form of cognitive disability such as dementia. More and more seniors and disabled people would like to travel – travel is a fundamental right (Darcy & Buhalis, 2011) – it is important to set conditions to allow people with disabilities, among other dementia, to travel. The creation of universally designed tourism products is the key for this (Darcy & Dickson, 2009). This would also create a stronger connection between social welfare, community (Williams, Rattray & Grimes, 2006, Wu & Cheng, 2008), disabled people, and business outcomes (Sheldon & Tucker, 2005).

Since 2012 dementia has been recognized as a priority of public health (WHO). Every year 7.7 million new cases of dementia are diagnosed, and no cure exists (WHO, 2015). Dementia is defined as a disease of the central nervous system that bring to cognitive impairments due to progressive deterioration of the brain (Calvarese & Lovati, 2014; WHO, 2015). The first symptom associated with dementia is a memory loss, however there are other symptoms that cause the inability of people with dementia to continue living their lives normally. Dementia affects orientation, comprehension, language, and judgment, etc. (WHO, 2015). It is as well accompanied by behavioral symptoms (e.g., depression, anxiety, aggression, apathy, wandering, etc.) that affect people emotional control, and social behavior. Being dementia an increasing issue for many seniors (46.8 million people affected by dementia in 2015 world wide, with 74.7 million forecasted within 2030, and 131.5 million within 2050, and a cost of US\$ 818 billion (WHO, 2015)), affecting negatively their caregivers as well due to burnout, it will be critical to provide opportunities that allow people with dementia to remain active and independent as much as possible, to be engaged in the community. Leisure and tourism is one of these options, that also help to slow down the progress of dementia, and in particular ss able to reduce behavioral problems. These people, in the early stage of the disease, that lasts 7-10 years (WHO, 2012), maintain a sufficient level of physical, cognitive and behavioral abilities to enable them, if assistance is given, to travel and to be involved in tourism activities. Tourism activities, activities in the open air, and physical activities are in fact beneficial for people with dementia, limiting their behavioral and cognitive problems (Dupuis et al., 2012; Genoe, 2010; Zeisel, 2009; Mapes, 2013; McNair, 2013), providing support for caregivers as well. Actually the entire health system will also benefit, since this provides significant saving to the entire health system (Graff et al., 2008). Live well with dementia is possible if adequate support is given to people with dementia and their

caregivers (WHO, 2012). According to the literature it is then possible to conclude that if policy makers and entrepreneurs invest into this niche market, creating tourism opportunities, they might be able to obtain important business outcomes as well, as also underlined by Page et al. (2014).

However, although such a good opportunity is visible, a little has been done in researching the willingness of this target market to participate in tourism activities. This paper provides further insights into it, to provide evidence of the fact that also people with dementia and their caregivers would like to be involved in such practices.

Methodology

To give further insights into the willingness of the people with dementia and their caregivers to be involved in tourism activities, an exploratory qualitative research was used. This is based on Grounded Theory (Glaser & Strauss, 1967), and Charmaz (2006) approach to Grounded Theory inspired the analysis. Semi-structured interviews were coded and analyzed with the support of NVivo for Mac 11.1.1. Face to face interviews, tape-recorded with the approval of the interviewee, were transcribed verbatim, to avoid recall bias. Non-probability sampling was used to identify the sample of informal caregivers. The total sample size is of 15 caregivers living in the North of Italy and being either spouses or children of people with dementia. Their age ranges from 40 to 80-year-old; the majority of the people interviewed were females, and the majority of them were assisting people with mild dementia. For this research findings here presented have with significant insights.

Results

The aim of the paper was to understand the willingness of participating in tourism activities of people with dementia and their caregivers, in order to get a clearer understanding of the demand before suggesting policymakers and entrepreneurs to invest in dementia tourism.

Among caregivers there is a positive consensus towards tourism activities. They would like their beloved one to join these activities, and they would like to take part to them as well. In order to be able to make them participate it is important to involve people in activities that they like, trying, whenever possible, to be as much personalized as possible. The essential request is to provide support in dealing with caring for people with dementia in their day-to-day activities when on holiday, and give them care in supporting them during lunch and dinner and when on public transportation.

According to our findings, obtained by analysing interview content through content analysis, there are several factors that influence the willingness of people with dementia and their caregivers of participating in tourism activities (Figure 1). These factors are summarized in the following figure. After the figure further insights are given to explain these factors and their relationship with the willingness of participating in tourism activities.

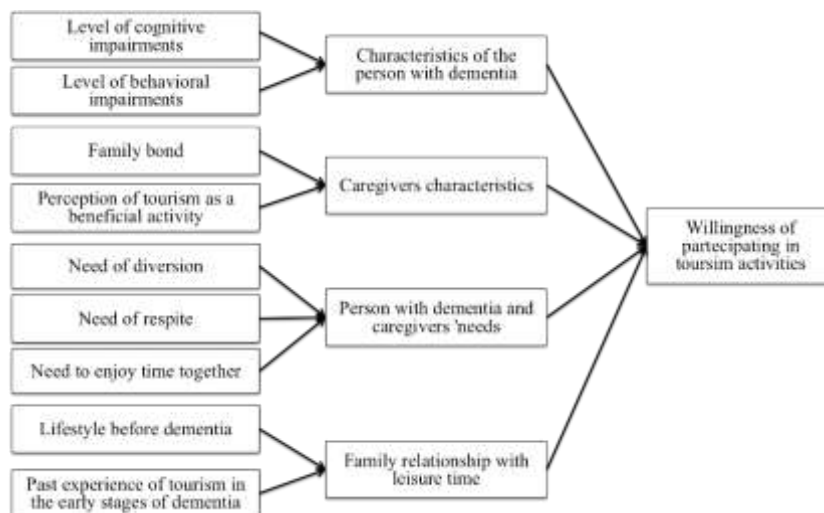


Figure 1. Willingness of participating in tourism activities: the model (Authors' Own)

The degree of willingness to participate in tourism activities depends on the characteristics of the person with dementia, caregivers' characteristics, person with dementia and caregivers' needs and the family relationship with their leisure time.

As it is possible to imagine the cognitive and behavioral characteristics of the person with dementia influence their ability to join tourism activities. Only those people that have maintained sufficient cognitive abilities and do not have severe behavioral problems might be able to join tourism activities. This is a precondition to enable them to enjoy the tourism benefits, showing lower problems related to transportation and to the adaptation to a new environment. People with dementia might join these activities by themselves, but it is very interesting to see that caregivers would like to join as well. As reported by some caregivers interviewed, the tourism offer could offer as well respite opportunities for them without abandoning their beloved one, and it is also an option of respite for people with dementia. This gives an opportunity for both to share happy moments together far from everyday difficulties.

Although it is possible to see enthusiasm behind this opportunity, there are some skeptical caregivers as well. If caregivers see tourism and leisure activities positively there is a higher level of opportunity to see them be willing to participate in tourism activities. If they are not positive, see only barriers, instead it might be difficult to have them be willing to join and have their beloved to join as well. This shows that the perception of the caregiver is essential when it comes to the willingness to participate in tourism activities. The type of behavioral problems that the person with dementia shows influences their perception. The type of family bond that exists between the person with dementia and the caregivers also influences this perception: husbands and wives are more likely to join tourism activities. Another essential aspect to take as well into consideration is the family relationship with leisure (lifestyle, and participation in tourism activities in the beginning of the disease). It is more likely for families to be interested in tourism activities if the family loved tourism and leisure activities before the disease and in the beginning of it.

Representative quotes of the different themes identified in our analysis are summarized in the following table (Table 1). They represent the elements linked to the factors that

influence the willingness of people with dementia and their caregivers to participate in tourism activities.

Table 1. Representative Quotes Underlying Different Themes – Willingness to join tourism activities (Authors' Own)

Theme 1: Characteristics of the person with dementia
Level of cognitive impairments/ Level of behavioural impairments – At the beginning my mother was diagnosed with Mild Cognitive Impairment. This allowed us to do more activities. At the moment she has dementia, and her Mini Mental is 15. – Until last year he was able to go outside by his own. In the first years of the disease my father and my mother were tourists. They were travelling in a group, where everybody knew about the disease and understood very well the situation. When the cognitive problems and the behavioural one became too difficult to handle, my parents stopped travelling. – The cognitive impairment is highly visible, but she is still able to walk, she goes for a stroll very often, she might benefit from some further physical exercise: she likes dancing
Theme 2: Caregivers characteristics
Family Bond – My mother in law used to go on vacation with the husband. – I went on holiday with my mother. We were happy together. – We go walking together, we spend time together
Perception of tourism as a beneficial activity – This is a very interesting idea. It would be lovely to join tourism activities that allow the person with dementia to socialize, and for us to enjoy good time with together, enjoying some respite – Tourism for people with dementia is idyllic. Those that are sick they do not care about tourism. Tourism is for seniors and not for people with dementia. – When she is involved in leisure activities she smiles, although later on she does not remember what just happened – Leisure activities are beneficial, if somebody helps us, especially for lunch and dinner, we could still go for some small trips – If somebody helps us while travelling, this is my main concern, tourism activities could still be beneficial for us
Theme 3: Person with dementia and caregivers 'needs
Need of diversion – It is important to provide diversion to people with dementia – We hike a lot while we were on holiday. We went as well to the SPA. This helps to break the routine – She likes socializing, this is something she really enjoys: she likes the theatre – He likes to go walking and be in places with people: otherwise he gets bored Need of respite – Caregivers need some respite. – It is important for both to spend some time by ourselves – I would enjoy see her happy: this will help me as well – I would like to participate in leisure activities as well Need to enjoy time together – If tourism activities allow me to stay with my wife but also have sometime for myself, it will be great. – We go walking together – We used to travel together

Theme 4: Family relationship with leisure time

Lifestyle before dementia

- We were not used to be tourists
- He was not used to spend a lot of time in leisure activities
- She was used to go out, to go to the mountain
- We used to be tourists, nowadays I am not willing to do it anymore, she is too much compromised
- He used to go to work and fishing

Past experience of tourism in the early stages of dementia

- My mother and me went to several different destinations as tourists, even after she was diagnosed with dementia.
- My mother in law used to go with the husband on holiday in the beginning of the disease. She went as well last year with her formal caregiver.
- Until last year we used to take the train together and go for short trips to Laveno, Lake Como, etc. Unfortunately, now we cannot go for lunch or dinner in a restaurant, she has eating problems.
- She always liked to be involved in leisure activities, be surrounded by people

Discussion and conclusion

This analysis allows us to build further understanding on dementia tourism. It is possible to confirm that there is an interest in this form of tourism and those policy makers and entrepreneurs that will decide to be dementia friendly might be able to succeed. However, it is not possible to assume that people with dementia and their caregivers will be interested in tourism. Integrating dementia into a destination development strategy is an enviable objective, as also stated by Page, et al. (2014), but it is challenging and requires further understanding. Challenges are linked to people with dementia and their caregivers' characteristics, lifestyle and needs. These aspects affect both positively and negatively the willingness of this target market to be involved in tourism activities. Dementia friendly tourism represents an innovative solution for rejuvenation, but it is essential to handle it with care, without assuming that the supply driven initiatives will actually succeed although they are very good in their intentions. Some caregivers in fact won't participate in these activities due to reasons seen before in the result part. This brings us to the conclusion that any business willing to develop such an offer should further research the market needs before investing in such offers. It is as well extremely important to remember that this offer requires adaptation to the existing offer since people with dementia need further support in terms of care. This could be considered as a challenge but at the same time it is an opportunity also in the light of identifying future employment opportunity and new vacancies in the market.

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THE RELATIONSHIP BETWEEN EMPLOYEE PERCEPTIONS OF CORPORATE SOCIAL RESPONSIBILITY AND ORGANISATIONAL CITIZENSHIP BEHAVIOR

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Abstract. Corporate social responsibility (CSR) has gained increasing attention over the past decade arguing that business returns from CSR depend on the way the stakeholders perceive socially responsible practices. Previous research mostly investigated customer perceptions, leaving employee perceptions in the sidelines and accordingly neglecting employee importance. In this context, one more gap is related to attempts to understand the impact of CSR on organizational outcomes. While many studies typically examined the impact of CSR on financial performance or customer satisfaction, scarce research has been done to find the influence of CSR on employees. Although recently the number of studies linking CSR and employee-related outcomes has been growing, nevertheless employee attitudes, such as organizational commitment or job satisfaction, dominate; meanwhile employee behavior, including organizational citizenship behavior (OCB), receives less attention. Thus, the linkage between CSR and OCB remains largely unexplored, whereas OCB can be a source of competitive advantage. Trying to close the gap, the paper aims at revealing the relationship between employee perceptions of CSR and OCB. In doing this, quantitative data were collected (307 responses in total). Consistent with the expectations, the survey indicated that employee perceptions of CSR directed at four main stakeholder groups, namely social and non-social stakeholders, employees, customers and government, had a positive effect on OCB. As regards relationship based on separate dimensions of OCB, distinct findings were revealed. As it was expected, employee perceptions of CSR towards customers and also towards government have a positive effect on each of five OCB dimensions. Slightly different findings appeared in cases of employee perceptions of CSR towards social and non-social stakeholders and also towards employees. As regards the first case, no statistically significant relationship between perceptions and altruism and sportsmanship was found. Meanwhile in the second case, no statistically significant relationship with sportsmanship was discovered. Generally, the provided result underlines the necessity for business to invest not only in CSR, but also in employee perceptions of CSR, as this could drive extra-role employee behavior, namely OCB.

Keywords: corporate social responsibility; organizational citizenship behavior; employee; employee perceptions; stakeholders; social identity theory

Introduction

In recent years, there has been growing acknowledgment that CSR is relevant for organizations individually, as there is “certainly profit to be made from sustainability and losses may occur if sustainability is overlooked” (Harry, 2014, p.405). Although there are many definitions of CSR, the Green Paper (Commission of European Communities, 2001) describes CSR as “a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis” (p. 8). Generally speaking, CSR refers to organization’s awareness of how its actions impact on stakeholders addressing the necessity to serve the needs of multiple stakeholders (Lee, Park & Lee, 2013), as “any stakeholder relationship may be the most critical one at a particular time or on a particular issue” (Post, Preston & Sachs, 2002, p.8). Thus, in this context, it is important to understand how different stakeholders perceive CSR activities pursued by organizations, as CSR has a positive impact on organizations’ competitiveness (European Competitiveness Report, 2008). Whereas till now, the majority of the existing studies on CSR investigated consumer perceptions (Öberseder et al., 2014), the paper fills the gap by focusing on employee perceptions of CSR arguing that employees are relatively highly salient stakeholders to whom the organization owes a perfect duty (Greenwood, 2007).

Turning to CSR impact on organizational performance, customer satisfaction and financial performance seem to be typical outcomes that have received most empirical attention (Lee, Lee & Li, 2012; Zbucha, 2013). A more recent focus on the broader CSR influence understanding includes employee-centered approach (van de Voorde, Paauwe & van Veldhoven, 2012) by examining the effect on the employee attitudes such as organizational commitment (Bramer, Millington & Rayton, 2007; Hofman & Newman, 2014) or job satisfaction (Valentine & Fleischman, 2008). Still and all, the impact of CSR on employee behavior, including OCB, has been largely neglected and remains underdeveloped (Carmeli, Gillat & Waldman, 2007; Rupp, Shao, Thornton & Skarlicki, 2013; Zhang, Fan & Zhu, 2014; Newmann, Nielsen & Miao, 2015). Originally defined by Organ (1988), OCB refers to “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective functioning of the organization” (p.4). Generally, OCB is considered as “individual citizenship” in the organization and reflects individuals’ extra-role behavior involving “going beyond general expectations to promote the effective operation of the organization or to benefit others in the organization” (Lin et al., 2010). Drawing on Organ’s (1998) fundamental assumption and later supporting empirical evidences that OCB enhances organizational performance (Podsakoff, MacKenzie, Paine & Bachrach, 2000), the antecedents of such behavior become of high importance. As it was mentioned before, although CSR is well recognized in the literature as the antecedent of employee attitudes, the question still remains how employee behavior, in terms of OCB, may be driven by CSR perceived by employees. The paper seeks to close this gap analyzing the relationship between employee perceptions of CSR and OCB.

The purpose of this paper is to deepen the current analysis in the fields of CSR and OCB by revealing the relationship between CSR directed at four stakeholder groups and OCB, including its dimensions. In doing this, the paper seeks to answer the following: How can CSR be defined and what are its dimensions? Why is it important to take the employee perspective into consideration? How can OCB be defined and what are its

dimensions? Will the CSR practices perceived by employees result in a positive effect on employee OCB towards a particular organization?

The paper contributes to literature in several ways. Firstly, as a possibility to operationalize and better understand CSR perceived by employees, mostly the following pathways have been suggested in the literature: to organize CSR practices by stakeholder types (Park & Levy, 2014), to use global measure of CSR or to imply CSR practices directed to a single group of stakeholders (Newman et al., 2015). The paper contributes to the first stream by distinguishing between CSR practices towards different stakeholders. This allows enriching literature not only on CSR, but also on stakeholder management. Secondly, the paper responds to the call of Podsakoff et al. (2000) to provide empirical studies that include multiple forms of OCB and test of the differences in the strength of the antecedents. In doing this, the paper analyses if CSR has a different effect on the five dimensions of OCB. Thirdly, the paper provides empirical evidence suggesting for the organization to invest in CSR activities, as employee perception of CSR has an impact on employee behavior, namely OCB.

The paper begins by examining the literature on CSR and OCB and developing hypotheses. The research methodology is then outlined. Following this, the results of the research will be presented and discussed. Last, the paper provides some general conclusions before indicating some future research avenues.

Theoretical background

Corporate social responsibility and employee perception of it.

Drawing on the previous literature, CSR commonly refers to the relationship between business and society, which denotes organization's actions to balance financial performance and impact on environment and society (Park & Levy, 2014). Thus, CSR is seen as a business approach arguing that organizations have a broader range of obligations besides financial and economic ones (Costa & Menichini, 2013). In this context, broadening (expansion of) the scope of responsibilities translates into benefits for organizations themselves. Favorable perceptions of consumers, positive attitude of current and future employees towards the organization or business partners' willingness to do business with the particular organization serve as convincing examples of such benefits created by CSR (Lee et al., 2012). Generally speaking, organizations engaged in CSR perform better (Gallardo-Vazquez & Sanchez-Hernandez, 2014).

The given understanding of CSR, particularly the definition provided in the Green Paper (Commission of European Communities, 2001, see Introduction), allows to conclude that CSR is closely interrelated with concept of "stakeholder" (Turker, 2009a); moreover, it has its roots in stakeholder theory (Friemann, 1984). The central proposition of stakeholder theory relies on business engagement with all stakeholders, defining them as "any individual or group who can affect or is affected by actions, decisions, policies, practices or goals of an organization" (Freeman, 1984, p.25). However, rationality and limited resources force businesses to classify and prioritize the pool of stakeholders (Mitchell, Agle & Wood, 1997). Independent of the classifications provided in the literature (Rodrigo & Arenas, 2008; Wereda et al., 2016), employees are seen as highly salient stakeholders (Lee et al., 2013). However, the employees are often neglected in CSR research giving the priority to customers (Öberseder et al., 2014). Such

fact is particularly troubling at least due to one reason. The previous literature provides the support for idea that business returns of CSR depend on the way the stakeholders perceive organization's socially responsible practices (Costa & Menichini, 2013). In this context, the negation of employees', as a key stakeholders', perceptions can result in negative consequences for the organization, as "employees determine quality of the product/service customers receive" (Lee et al., 2012, p. 745). Moreover, Rupp et al. (2013) argue that employee perceptions of CSR may actually have "more direct and stronger implications for employee's subsequent reactions than actual firm behaviors of which employees may or may not be aware" (p. 897). Thus, the provided argumentations support the idea to include the employees' "subjective point of view, related to the experience and personal opinion" (Costa & Menichini, 2013, p.152) in research, defining employee perceptions of CSR as "a degree to which employees perceive a company supports the activities related to a social cause" (Lee et al., 2013, p.1717).

Organizational citizenship behavior

The interest in OCB has stemmed from the belief that such behavior enhances organizational effectiveness (Podsakoff & MacKenzie, 1997; Podsakoff, Whiting, Podsakoff & Blume, 2009). Following Bolino and Turnley (2003), an organizations' ability to elicit employee OCB "can be a key asset and one that is difficult for competitors to imitate" (p. 60). For gaining a better understanding on this competitive advantage, the literature mainly addresses three aspects: definitional and dimensionality variety and the antecedents of OCB.

Originally, OCB was defined by Organ (1988) arguing that OCB is work-related behavior expressed by three features: discretionality, non-recognition by the formal reward system and promoting efficiency and effectiveness of a particular organization. Later, Organ (1997) provided a more precise understanding of OCB referring to "performance that supports the social and psychological environment in which task performance takes place" (p. 95). Bolino and Turnley (2003) define OCB as employee efforts that go "above and beyond the call of duty". Several years later, Bolino and Turnley (2005) underlined that in OCB, engaged employees "go the extra mile for their organizations and thereby contribute to its effective functioning" (p. 740). Moormann (1991) treats OCB as a non-traditional type of job behavior, whereas, according to Organ (1988), OCB reflects "good soldier syndrome".

Briefly, the given definitions of OCB indicate two common features. First, as OCB goes beyond formal role requirements, it is not directly enforceable, it is a matter of personnel choice (Chahal & Mehta, 2010). Thus, the threat of sanctions is not working (Smith, Organ & Near, 1983). Second, OCB represents the special or extra efforts that organizations need from employees in order to be successful (Bolino & Turnley, 2003). However, for better understanding of OCB it is important to translate the construct into shared meaning or measured outcomes. Thus, such questions, as *What are the examples of OCB?* or *How is OCB manifested in the daily working surrounding?* should be answered. Lin et al. (2010) provide the following examples of employee OCB: volunteering for extra works, cooperating with others, orienting new staff and helping others in their job. Taking on additional assignments, keeping up with developments in one's field or profession, promoting and protecting the organization, following organizational rules even when no one is looking, or keeping a positive attitude and tolerating inconveniences at work can also serve as examples of OCB (Bolino & Turnley, 2003).

The provided examples partly rely on the dimensionality of the construct. Notwithstanding the different views with respect to the dimensionality of OCB (for detail review see Podsakoff et al., 2000), the two best-known sets of dimensions were proposed by Organ (1988, 1990) and by Williams and Anderson (1991). Organ (1988) originally proposed a five-factor OCB model consisting of altruism, courtesy, conscientiousness, civic virtue, and sportsmanship. However, later the model was expanded by including two other dimensions, namely peacekeeping and cheerleading (Organ, 1990). Williams and Anderson (1991) organize OCB into categories on the basis of the direction of the behavior: behaviors directed at the benefit of other individuals (*OCBI*), and behaviors directed at the benefit of the organization (*OCBO*). Actually, all of Organ's (1988, 1990) OCB dimensions can be captured in Williams and Anderson' (1991) model. As altruism, courtesy, peacekeeping, and cheerleading behaviors are aimed at helping other individuals, these dimensions can be included in the *OCBI* category. Accordingly, conscientiousness, civic virtue and sportsmanship can be a part of *OCBO*. As the paper follows the original view of Organ (1998), the brief description of 5 dimensions is provided below.

Altruism represents helping other members of the organization. It encompasses behavior that covers help for co-workers who are overloaded, absent, or less skilled, or help for new employees in assisting to fulfil their tasks. Such help is provided on a voluntary basis and even when it was not requested (Chahal & Mehta, 2010, Abdullah & Rashid, 2012).

Courtesy includes such behavior as being mindful of how one's behavior affects others and attempting to prevent and avoid work-related problems with others (Lin et al., 2010).

Conscientiousness refers to behavior when employees accept and adhere to the rules, regulations, and procedures of a particular organization (Podsakoff et al., 2009). Obeying the rules, following time breaks, and never wasting work time are the elements of conscientiousness (Chahal & Mehta, 2010).

Sportsmanship is perceived as "a willingness on the part of employees to tolerate less than ideal circumstances without complaining and not making problems seem bigger than they actually are" (Podsakoff et al., 2009, p. 123). Several aspects are part of sportsmanship: not complaining when people are inconvenienced by others; maintaining a positive attitude even things do not go their way, not being offended when others do not accept the suggestions; willing to sacrifice personal interest for the group wellbeing, and not taking the rejection of proposed ideas personally (Podsakoff et al., 2000).

Civic virtue represents responsible participation of employees in the life of organization in such forms as attending meetings that are not required or keeping up with the changes in the organization (Abdullah & Rashid, 2012).

Switching to the topic of antecedents of OCB, Podsakoff et al. (2000) concluded that job task variables and different types of leader behavior seem to be the most strongly related to OCB. Thus, previous research suggested that employees are the most likely to engage in OCB when they are satisfied with their job or committed to an organization, when they have supportive or inspirational leaders, and when they receive intrinsic

tasks to perform (Bolino, Turnley & Bloodgood, 2002). This paper attempts to expand the list of antecedents of OCB and joins to the till-now-limited number of empirical papers (Newman et al., 2015) by addressing CSR perceived by employees as a possible driver for OCB.

CSR and OCB relationship: hypothesis development

The prevailing message in the literature is clear – employee perceptions of CSR will trigger emotional, attitudinal, and behavior responses (Rupp, Ganapathi, Aguilera & Williams, 2006). Trying to close the gap in the literature, behavior responses, namely OCB, was chosen. Moreover, following the plea of Podsakoff et al. (2000), the hypotheses are developed not only for the whole construct of OCB, but also for separate dimensions indicated by Organ (1988). Concerning CSR, it should be admitted that CSR is a multi-dimensional construct and often is categorized by the “type” of responsibility. For instance, Gallardo-Vazquez and Sanchez-Hernandez (2014) suggest measuring CSR by incorporating the Triple Bottom Line approach (Elkington, 1998), namely these dimensions: economic, social and environmental. Meanwhile, based on Carroll’s (1991) CSR framework, Lee et al. (2013) propose to measure philanthropic, ethical and environmental CSR. However, Park and Levy (2014) argue that previous studies suggest that CSR practices are better understood theoretically and tested empirically when organized by stakeholder types rather than responsibility types. Following this approach, the paper implies and measures CSR practices directed at four main stakeholder groups, namely: social and non-social stakeholders, employees, customers and government (Turker, 2009b).

Social identity theory (SIT) is employed to explain the relationship between CSR and OCB. SIT suggests that individuals classify themselves as belonging to various social groups, including the organization they work for, and derive either positive or negative self-esteem from such belonging (Tajtel & Turner, 1985; Hofman & Newman, 2014, Brunetto & Farr-Wharton, 2002). A core idea of SIT theory is the statement that the “extent to which people identify with a particular social group determines their inclination to behave in terms of their group membership” (Ellemers et al., 1999, p.372). Thus, organizational identification provides a starting point for employees from which they view and understand “what one should think and feel, and how one should behave” (Hogg, Terry & White, 1995, p.260). Keeping that in mind, the hypotheses are provided below.

CSR towards social and non-social stakeholders. This group of stakeholders encompasses 4 types of the so called secondary stakeholders, who are closely interrelated with each other: society, natural environment, future generations and NGOs (Turker, 2009a). Business practices which seek minimizing its impact on the natural environment, make life better for future generations, support non-governmental organizations and contribute to projects, and activities that promote the wellbeing of society are covered by CSR towards social and non-social stakeholders (Turker, 2009b). From SIT perspective, if an organization engages in the mentioned activities, its employees can be proud of being members of such organization and this leads to increased identification with the particular organization (Turker, 2009b). Additionally, strong organizational identification will lead employees to feel that they have shared values with co-workers and due to these employees will be more likely to engage in extra-role behavior that benefits other members of the organization (Newman et al., 2015). Consistent with these expectations, several studies (Rupp et al., 2013; Zhang et al., 2014; Newman et al.,

2015) have shown that employee perceptions towards social and non-social stakeholders have positive influence on OCB. Therefore, the paper hypothesizes the following:

H1. Employee perceptions of CSR towards social and non-social stakeholders will be positively related to their OCB, including altruism (H1a), courtesy (H1b), conscientiousness (H1c), civic virtue (H1d), and sportsmanship (H1e).

CSR towards employees. Career development opportunities, work-life balance promotion or employee development are only several examples of CSR towards employees (Turker, 2009a). Based on SIT, when employees have positive perceptions that the organization takes care of them and co-workers, they are more likely to feel that the organization shares similar values to their own and as a result develop a high level of organizational identification (Newman et al., 2015). In turn, such identification encourages employees to go “above and beyond the call of duty” for the benefit of others in the organization. Despite these theoretical expectations, empirical results are contradictory. Zhang et al. (2014) found a strong relationship between the general measure of employee perceptions of corporate social performance, including items measuring CSR directed towards employees, and employee OCB. Meanwhile, Newman et al. (2015) found no statistically significant relationship between CSR towards employees and OCB. Thus, based more on theoretical expectations, the paper hypothesizes the following:

H2. Employee perceptions of CSR towards employees will be positively related to their OCB, including altruism (H2a), courtesy (H2b), conscientiousness (H2c), civic virtue (H2d), and sportsmanship (H2e).

CSR towards customers. Turker (2009b) argue that employees seem to be the agents of their employers. This means that if an organization misleads its customers, employees may also feel the shame of this behavior and vice versa, if an organization pays attention to its customers, for instance by providing high quality products, employees may also be proud of being a member of this organization (Turker, 2009b). From the SIT perspective, employees tend to view the success or failure of their organization as a matter of personal success or failure (Hofman & Newman, 2014). Thus, positive feedback from customers will strengthen organizational identification, which will encourage employees to engage in OCB that benefits other member of an organization (Newman et al., 2014). Despite the fact that Newman et al. (2015) found no statistically significant relationship between CSR towards customers and employee OCB, it is hypothesized:

H3. Employee perceptions of CSR towards customers will be positively related to their OCB, including altruism (H3a), courtesy (H3b), conscientiousness (H3c), civic virtue (H3d), and sportsmanship (H3e).

CSR towards government. CSR towards government refers to an organization meeting its obligations under the law and complying with relevant government regulations (Newman et al., 2015). Working for an organization that meets its obligations under the law will increase the employee level of self-esteem and identify with the values of the organization. Further, this leads the employees to put extra efforts and engage in OCBs in order to help co-workers with whom they perceive to have similar values (Carmeli et al., 2007; Bartels et al., 2010). Although Newman et al. (2015) found no statistically

significant relationship between CSR towards government and employee OCB, it is hypothesized:

H4. Employee perceptions of CSR towards government will be positively related to their OCB, including altruism (H4a), courtesy (H4b), conscientiousness (H4c), civic virtue (H4d), and sportsmanship (H4e).

Research method

Sample and data collection. The respondents chosen to gather the data and test the hypotheses were working-age employees in Lithuania. The research was based on criteria of convenience in order to get the data from the respondents who are easier to reach. The questionnaire was distributed online. Data collection took more than 2 months. At the end of the research, 307 questionnaires were collected and, according the number of working people in Lithuania, such amount of responses reflects 5.5 % of error which indicated the reliability of the data. Table 1 provides a profile of the respondents.

Table 1 Respondents' profile

Characteristics	Frequency (n)	Percentage (%)
<i>Gender</i>		
Female	193	62,9
Male	114	37,1
<i>Age</i>		
18-25	163	53,09
26-32	43	14,0
33-41	36	11,73
42-52	48	15,64
53-65	17	5,54
<i>Position</i>		
Holding a managerial position	50	16,3
Holding another position	257	83,7

Measures. OCB was measured using Podsakoff, MacKenzie, Moorman and Fetter's (1990) OCB scale (cit. Fields, 2002), which includes 24 items. Respondents were asked to indicate their agreement with each statement on a 5-point Likert scale, where 1 means strongly disagree, 5 – strongly agree. This instrument measures the five dimensions of OCB, namely altruism (5 items), courtesy (5 items), conscientiousness (5 items), civic virtue (4 items), and sportsmanship (5 items). These subscales had Cronbach's alpha of 0.885; 0.796; 0.736; 0.691 and 0.731 respectively.

Employee perceptions of organizational CSR was measured using Turker's (2009a) scale, which encompasses 4 subscales: CSR practices towards social and non-social stakeholders (8 items), employees (5 items), customers (3 items), and government (2 items). Respondents were asked to indicate their agreement with each statement on a 5-point Likert scale, where 1 means strongly disagree, 5 – strongly agree. The subscales had Cronbach's alpha of 0.896; 0.851; 0.711 and 0.713.

Results

The means, standard deviations for the scales and correlation matrix are provided in Table 2. Referring to Table 2, hypotheses H3 and H4 were fully supported, while hypotheses H1 and H2 were partially supported. However, in all cases, the relationship between employee perceptions of CSR towards different stakeholders and OCB (and its dimensions) was very weak ($r < 0.2$), weak ($r < 0.2 - 0.4$) or of average strength ($r < 0.4 - 0.7$) (Burns, 2000). Employee perceptions of CSR towards customers (H3) was found to have a statistically significant positive effect on OCB ($r = 0.515$, $p < 0.01$). Concerning different dimensions of OCB, employee perceptions of CSR towards customers had the most significant positive effect on courtesy ($r = 0.549$, $p < 0.01$) and a less significant effect on conscientiousness ($r = 0.248$, $p < 0.01$). H4 was confirmed almost in the same manner as in the case of H3. Employee perceptions of CSR towards government was found to have a statistically significant positive effect on OCB ($r = 0.468$, $p < 0.01$). Concerning different dimensions of OCB, employee perceptions of CSR towards customers had the most significant positive effect on courtesy ($r = 0.402$, $p < 0.01$) and a less significant effect on sportsmanship ($r = 0.282$, $p < 0.01$).

H1 was supported partially. Employee perceptions of CSR towards social and non-social stakeholders was found to have a statistically significant positive effect on OCB ($r = 0.315$, $p < 0.01$). However, referring to different dimensions of OCB, no statistically significant relationship was found in regards to altruism and sportsmanship. Very similar situation concerning H2, as no statistically significant relationship was found between employee perceptions of CRS towards employees and sportsmanship.

Discussion

The purpose of this paper was to reveal the relationships between the employee perceptions of CSR towards four stakeholders' groups and OCB, including its five dimensions. Generally, results supported all hypotheses raised concerning OCB, strengthening the basic premise that positive employee perceptions towards different stakeholders will result in higher employee OCB. However, in the case of OCB dimensions, namely altruism and sportsmanship, the results were slightly different.

Results referring to employee perceptions of CSR directed at social and non-social stakeholders demonstrated the existence of a positive relationship with OCB, emphasizing that socially and environmentally responsible practices pay off and lead to increased identification with the organization. These findings are in line with the study of Rupp et al. (2013) and support the conclusion of Newman et al. (2015), that "commitment to such practices is likely to reap organizational rewards in promoting employees' extra-role behavior" (p.1238). Further, it is relevant to note that the same positive relationship was found in different geographic contexts: China (Newman et al., 2015) and Lithuania. Thus, the findings strengthen the idea that the employees are concerned about the natural environment, future generations and life of society in whole. More specifically, employees feeling that the organization cares "about the present and future of world" (Turker, 2009b) results in a sense of pride in working for such an organization, and further, increased identification with organization fostering extra-role behavior.

Table 2. Means, Standard deviations and Correlations (compiled by the authors)

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender	1.37	0.48													
2. Position	1.84	0.37													
3. CSR towards social and non-social stakeholders	3.50	0.79	-.068	-.299**	1										
4. CSR towards employees	3.51	0.82	-.100	-.247**	.644**	1									
5. CSR towards customers	3.86	0.71	-.109	-.206*	.472**	.496**	1								
6. CSR towards government	3.89	0.83	-.125*	-.154**	.425**	.472**	.539**	1							
7. Perceived CSR	3.61	0.65	-.110	-.295**	.906**	.851**	.660**	.606**	1						
8. Altruism	3.90	0.71	-.136*	-.057	.096	.343**	.413**	.340**	.310**	1					
9. Courtesy	3.99	0.60	-.120*	-.139*	.266**	.426**	.549**	.402**	.421**	.676**	1				
10. Conscientiousness	3.46	0.74	-.145*	-.287**	.317**	.385**	.248**	.286**	.371**	.368**	.344**	1			
11. Civic virtue	3.56	0.72	-.056	-.367**	.336**	.470**	.398**	.379**	.449**	.427**	.476**	.561**	1		
12. Sportsmanship	3.19	0.77	-.028	-.040	.052	.069	.294**	.282**	.218*	.156**	.209**	-.061	-.015	1	
13. OCB	3.62	0.46	-.137*		.315**	.464**	.515**	.468**	.467**	.755**	.779**	.647**	.698**	.400**	1

**p<0.01. *p<0.05

Turning to relationship between employee perceptions of CSR directed at social and non-social stakeholders and five OCB dimensions, no statistically significant relationship was found in cases of altruism and sportsmanship. The explanation for such findings may result from context or working setting in which the research was conducted. One of the frightening features of working setting is workload. Thus, due to workload employees may not be willing or even have no time to help other members in the organization in their tasks or be not willing to accept less than ideal working circumstances. Employees may feel that instead of supporting environmental, non-governmental or other initiatives, some organizational resources should be allocated to improvement of their working conditions.

As it was expected, positive relationship between employee perceptions of CSR directed at employees and OCB was found. Thus, taking care of employees in terms of increased workplace flexibility, career development opportunities, fair treatment or considering employee needs (Turker, 2009a), create the perception that the organization shares similar values to those of employees. This in turn, following the empirical conclusion on CSR and identification of Carmeli et al. (2007), increases the employee identification with the organization and their willingness to behave in such a way that benefits other members of the organization. Incidentally, the findings of the paper are inconsistent with the findings of Newman et al. (2015), but this might be explained by different working settings. Turning to separate dimensions of OCB, no statistically significant relationship between CSR directed at employees and sportsmanship was found. It could be argued that employees are not willing to tolerate organizational difficulties or inconveniences, or accept work-related problems without complaining (Boiral, 2009).

Consistent with the expectations, the findings revealed that the perceived CSR towards customers results in a higher level of OCB and each of its dimensions. Such results support the idea that employees interact closely with customers (Turker, 2009b) and the feedback from customers or organization's actions directed to customers and consequences of such actions is interpreted on a personal level. The sharing of success in regard to customers encourages employees to do more in terms of OCB. It seems that better treatment of customers pushes the employees towards higher altruism, courtesy, conscientiousness, sportsmanship and civil virtue. As in the previous case, the findings of the paper are inconsistent with the findings of Newman et al. (2015), which found no statistically significant relationship between CSR towards customers and OCB, but this might be explained by different working settings.

Finally, not surprisingly, employee perceptions of CSR directed at government were found to be positively related to OCB and each of its dimensions. Considering that some businesses still do not follow the legal requirements and try to avoid paying taxes or to pay less, the employees are more willing to work for organizations which are more socially responsible and, accordingly, to put extra efforts, resulting in OCB.

Conclusions

Following the idea that is well-established in literature that organizations benefit from CSR depending on how these socially responsible practices are perceived by different stakeholders, the paper aimed at revealing the relationship between the employee perceptions of CSR towards four stakeholder groups and OCB. The results demonstrated that employee perceptions of the organization investing in CSR towards social and non-

social stakeholders, employees, customers and government may lead to the greater exhibition of OCB by employees.

The paper provides several practical implications. Practitioners will benefit from considering CSR in order to foster OCB. It seems that employee perceptions of CSR directed at customers and government have a potential to encourage employees for higher altruism, courtesy, conscientiousness, sportsmanship and civil virtue. More generally speaking, the research showed that practitioners should not neglect the perceptions of employees as highly salient stakeholders.

The paper has certain limitations that suggest the directions for future research. It might be impossible to generalize the outcomes of the research to other geographic contexts. A large-scale study or study including employees from different countries might yield the results that could be transferable outwards. Another limitation is related to methodology, as the paper did not control the extent to which the employees were involved in CSR initiatives. It could be possible that the level of involvement predicts the perceptions of employees, and further, the relationship between the perceived CSR and employee OCB. Finally, considering CSR as an antecedent of OCB, this paper did not examine the consequences of OCB. Future research could further develop a holistic model that incorporates both antecedents and consequences of OCB.

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VALORIZATION OF HISTORICAL AND CULTURAL HERITAGE: A STRATEGY OF SUSTAINABLE GROWTH

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Abstract. *A new strategy to revamp Italian economy must enhance potentialities of internal market and of needs of citizens. This article suggests that taking care of the historical-monumental goods could be good in order to boost the economy towards sustainable growth, provided that everything takes place in close partnership with the stakeholders also through public-private partnership (PPP). This study examines the case study of the Agenzia del Demanio and the potential and policies it has undertaken. The conclusion to be pursued is that the enhancement and redevelopment of the territory must be based on economic integration and tourism, which is one of the main sectors driving economic development of different territories. It has to be implemented in a sustainable manner, combining the needs for use of the attractors and the safeguard of the heritage as a precious entity to be preserved, transmitted and handed down to future generations.*

Keywords: *Sustainable development; Agenda 2030; Re-qualification; Public-private partnership; cultural heritage.*

Introduction

Cultural heritage, material and immaterial, is our common wealth: the legacy of the generations that preceded us and ours to posterity. It is a heritage of irreplaceable knowledge and a precious resource for economic growth, employment and social cohesion, which enriches the lives of hundreds of millions of people, a source of inspiration for thinkers and artists and a driving force for our cultural and creative industries. Our cultural heritage and the ways in which we preserve and enhance it are a determining factor in defining Italy's position in the world and its attractiveness as a place to live and work in and visit. Cultural heritage is a shared resource and a common good.

The purpose of this research is to demonstrate that the public administration is able to stimulate the local (and, consequently, national) economy exploiting the endogenous

A characteristics of the territory, enhancing it and pushing the community towards sustainable growth and the pursuit of the SDGs in an innovative way (Sustainable Development Solution Network Report, 2016), i.e. encouraging innovation and growth from abandoned ruins (owned by the State) with limited financial resources and lack of know-how, while satisfying the needs of the territory.

The paper, after providing a theoretical framework focused on the sustainable territorial development, analyses a case study of the Agenzia del Demanio: the "Valore Paese" project, which aims to redevelop and enhance the state property.

Theoretical framework: cultural heritage as a growth strategy

Cultural heritage generates both direct and indirect benefits (Cappellin, 2014). The first ones concern the satisfaction of needs of those who directly use it, the latter are those that cultural heritage can activate in favor of the community. These benefits are both of an economic nature, concerning the increase in employment, investment, tourism, services, infrastructures and trade, and of a social nature, which means development of human capital, creation of a common identity, modelling strong collaborative relationships between citizens and with a general improvement in the quality of life (Barresi, 2013).

However, it is not possible to separate the idea of local cultural heritage as an *asset* for the economic development of a community from the idea of sustainable development. Sustainability concerns the standards of life of a community as it goes to check whether this leads to a healthy and productive life. If development is not sustainable, the impact of enhancing cultural heritage on the local community could be negative. It could undermine the integrity of traditional social systems, determine the cultural conflict with the increasing flow of tourists, the rise of prices of local goods, increased pollution is understood as a negative externality, and more generally a deterioration in the quality of life of the entire resident community (Cicerchia, 2009). On the other hand, if the economic development determined by the enhancement of cultural heritage is sustainable, optimal use of environmental resources is made, the social and cultural entity of the resident community is respected and long-term economic sustainability is assured, guaranteeing more jobs and more income opportunities (Cicerchia, 2009). However, we must consider that the mere presence of a cultural asset is not a guarantee of economic development of the territory, but it is necessary to implement a series of policies (Cappellin, 2014). This must be oriented towards the establishment of a system of integration between cultural heritage and the territorial context of belonging in compliance with the objectives of sustainability (Agenda 2030; ASVISS, 2017; Zbucnea, 2014).

"If a territory fails, the companies that operate in this area also fail and vice versa the success of the companies that insist on it" (Zamagni, 2017). An action of sustainable and local growth based on the valorization of a common good must provide for the pursuit of the SDGs (United Nations, 2016; Sustainable Development Solution Network Report, 2016), through the definition of a program that values the good by making the community an inclusive settlement, safe, durable and sustainable, respecting the SDGs 11 and 15, but also through the involvement of the local community that promotes companies to implement innovation, the SDGs 8 and 9, through collaborative and partnership logics, the SDGs 17. Therefore, development strategies can no longer be

defined by the central government and secondly transferred to territorial community for their implementation. "Rather it is the local that must be able to reacquire its capacity for innovation that has remained so long asleep, during the season of the industrial society" (Zamagni, 2017).

"Local development is not identified [...] with a given model of productive organization but it is built by the ability of local actors to collaborate to produce collective assets that enrich the external economies, but also to enhance common goods" (Triglia, 2005). Those who are the first to actually enjoy these assets are the local citizens and, playing both promoters and users, they are fundamental in the process of local innovation. The latter is an essential tool in terms of competitiveness: by adopting innovative systems for managing and monitoring heritage and cultural activities, it is possible to provide basic support for territorial policies aimed at both citizens and tourists. That the tourist relationship is a composite package of different goods and services and what is known. [...] The success of a territory, or of a city, in the competition between tourist destinations, depends only partly on the endowment of natural (or historical cultural) resources: it depends instead on the ability of the local community to organize a package (i.e. network - Candela, 2012) and offer a product that is firstly and foremost an *experience* (Cellini, 2017). In this way it is possible to build a targeted offer to meet the ever more diversified requests for tourism flows and an increasingly demanding demand, to efficiently manage local cultural sites through the continuous updating of management methods and coordination between all the *stakeholders* (Pultrone, 2013; Zbucheá, 2014).

Case Study: Agenzia del Demanio and project "Valore Paese"

The Agenzia del Demanio is responsible for the management, rationalization and enhancement of the real estate assets. These are real estate for government use, available assets, historical and artistic heritage. The Agency also promotes the enhancement and regeneration of the entire public real estate assets, in synergy with the institutions and local authorities, also identifying innovative and participatory strategies and instruments. The goal is to contribute to the development of the country's economic-productive, social and cultural fabric and to reduce public spending, maximizing the value of goods and optimizing the spaces used by public administrations." (Agenzia del Demanio, 2018). The agency, pursuant to D.lgs. 33/2013 Transparency¹, has structured the "OpenDemanio portal" as an online window that allows citizens, associations, local authorities and entrepreneurs to become aware of the composition of public real estate assets and of investment, recovery and reuse projects. This tool, as well as a dutiful example of transparency, is fundamental for awareness of the community and an incentive to become promoters of initiatives aimed at enhancing cultural heritage (Agenzia del Demanio, sd). Data of the State Balance Sheet give us an overview of the composition of the State Heritage of the Italian distributed at the territorial level (Region and Province) and by category (available assets, unavailable assets, artistic-historical heritage)² about 43.185 assets (Figure 1) for a value of about 60.5 billion (Figure 2) of euros (Agenzia del Demanio, 2018).

¹ Legislative Decree 33/2013 Transparency - New Article 9bis * Database of state-owned properties - Management System (REMS / ADDRESS) * introduced by Legislative Decree 97/2016

² The data of the State Balance Sheet are updated annually, allow you to know the territorial distribution of properties and areas, their category (available assets, unavailable assets, artistic-historical heritage) and their value. Data on the real estate assets of the State under management at the Agenzia del Demanio are

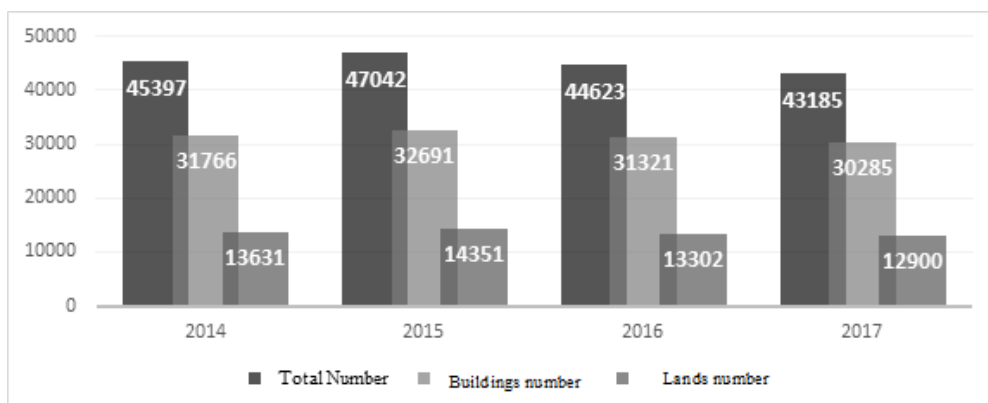


Figure 1. Consistency of the patrimony of the Italian state

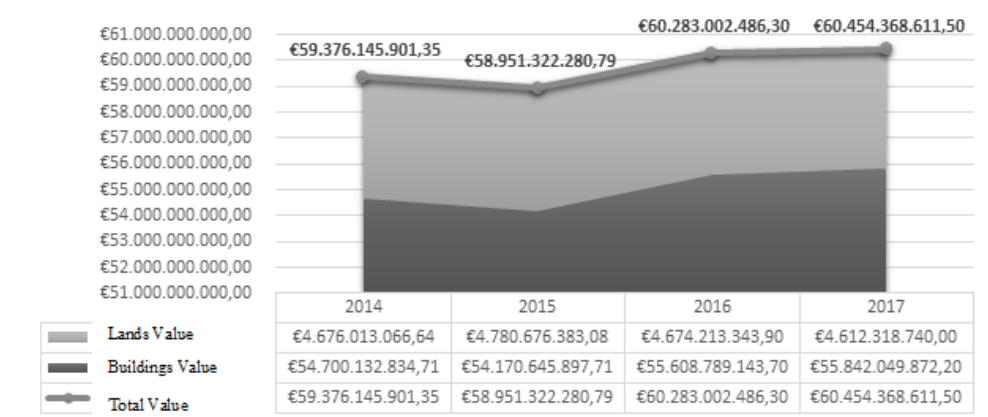


Figure 2. Value of the State Heritage

Moreover, we need to distinguish between assets of available assets and assets of unavailable assets (art 828 CC) and historical artistic heritage (Fig. 3). Figure 3 and Figure 4 provide, respectively, an overview of the consistency and value of Italian assets³ from 2014 to 2017: data are reported in aggregate form at the territorial level and distinguishing between land, buildings and their sum (Total State Property).

divided into "Number of assets" and "Value of assets" both at the total level and detailed by type (buildings and non-built assets) and by category (equity available, unavailable heritage, historical artistic heritage). All data are also available by region and by province.

³ The values refer to book inventory values that are not comparable to market values.

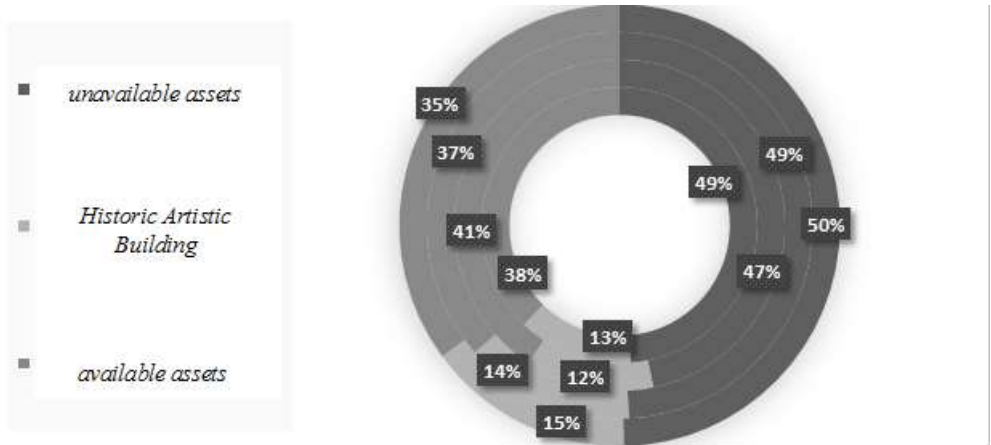


Figure 3. Percentage evolution of the consistency of the Italian state assets (by category)

Assets of *unavailable assets* (Figures 4 and 5) represent an average of 49%(figure 3) of the State's consistency. This type of property is subject to the public law regime and intended for use for public purposes (e.g. assets used by the Central Public Administrations, the endowment of the President of the Republic, mines, assets confiscated from organized crime, goods in free and perpetual use to universities and ecclesiastical institutions, public housing not yet transferred to local authorities) (Agenzia del Demanio, 2018).

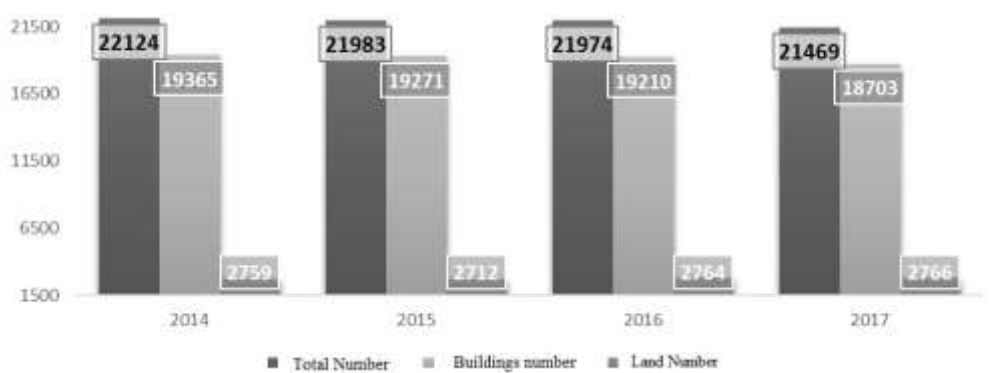


Figure 4. Consistency of the Unavailable Assets of the State



Figure 5. Value of the Unavailable Assets of the Italian State

The *Historic Artistic Building* (Figures 6 and 7) represents an average of 14% (figure 3) of the State's consistency. The MIBACT recognized a historical, archaeological, artistic and cultural, limiting availability to only a few types and special storage guarantees and proper intended use. Below is the trend from 2014 to 2017 of the amount (Figure 8) and the value of the aforementioned category of assets.

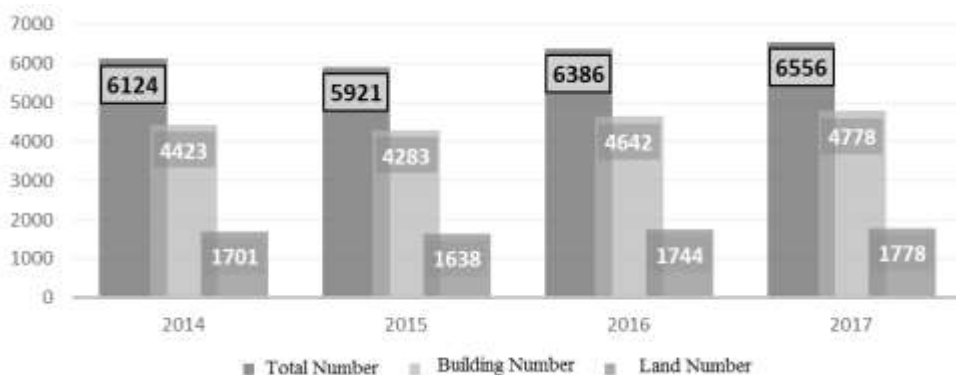


Figure 6. Consistency of the Historic Artistic Building of the Italian State

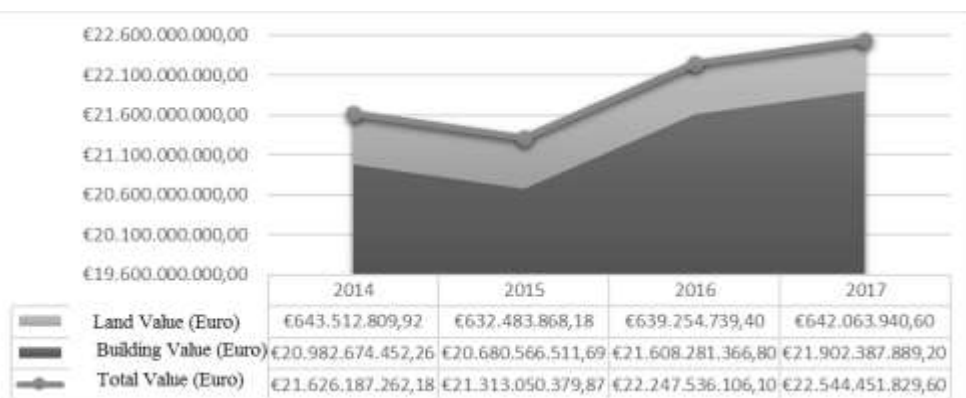


Figure 7. Value of the Historic Artistic Building of the Italian State

Assets of *available assets* (Figures 8 and 9) represent on average 38%⁴ (figure 3) of the State's consistency and they are managed through the rules of private law (e.g. residential properties, agricultural land, devolved inheritances, donations, vacant real estate, properties devolved for tax debts, interbedded funds, quotas and assets non-strategic residual assets, assets in the process of transfer to Territorial Entities pursuant to State-owned Federalism)¹² (Agenzia del Demanio, 2018).

⁴ The reported value was calculated by the author on data from the State Property Agency and corresponds to the average percentage change from 2017 to 2017.

¹² The reported value was calculated by the author on data from the state property agency and corresponds to the average percentage change from 2017 to 2017.

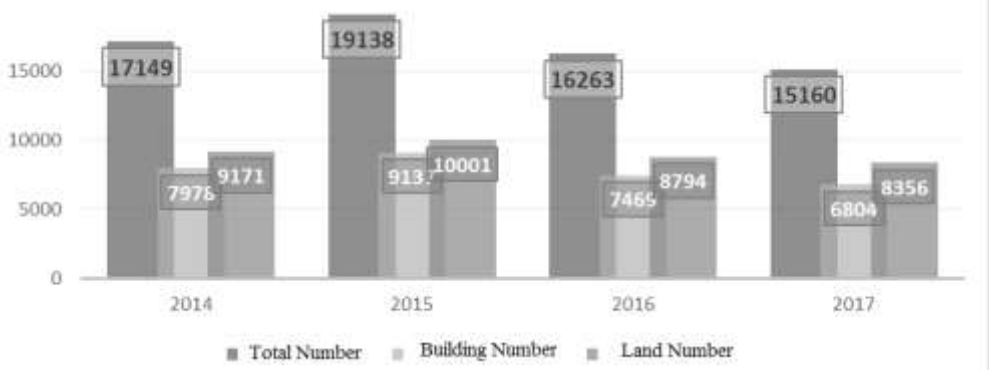


Figure 8. Available Asset Capital Property of the Italian State



Figure 9. Consistency of the available assets of the Italian State

The Public Administration (Meneguzzo et al., 2012) needs to evolve in order to implement sustainable policies. In this context, the goals of the agency of the State property are regeneration and reuse of properties, enhancing them for triggering revitalization and development processes in the territories concerned. The different reuse projects include assets that are protagonists of administrative, financial and urbanistic paths aimed at maximizing their economic, social and cultural value: to 2017¹³ we count 410 initiatives in Italy (Agenzia del Demanio, sd).

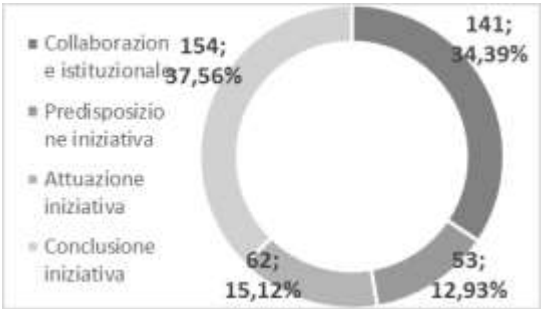


Figure 10. Distribution by status of work progress

¹³ Data updated to December 2017, present on the OpeDate , the state property agency.

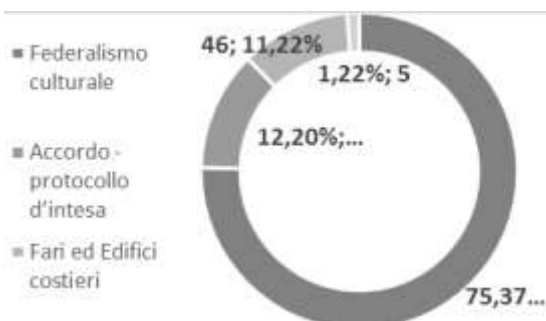


Figure 11. Distribution by project type

In 2007 the "*Valore Paese - Dimore*" project was born from the Agenzia del Demanio, Invitalia and ANCI - Foundation of the Common Heritage, with the involvement and participation of the Ministry for Cultural Heritage and Activities and Tourism, the Ministry of Economic Development / Territorial Cohesion, the Conference of Regions and the Autonomous Provinces and the collaboration of other public and private subjects particularly interested in the initiative (Cassa Depositi e Prestiti, Institute for Sports Credit, Italian Association of Confindustria Hotels, Assoimmobiliare, Confindustria, Italian Geographical Society). "*Valore Paese*" is a program for the valorization of buildings owned by the State, kicking off thanks to the 2007 Budget Law, which introduced two important instruments: the granting of valorization for which a property can be rented up to 50 years and "Unitary Valorization Programs", with which it can be planned the redevelopment of public real estates located in the same territory. On the model of the "Paradores" in Spain and the "Pousadas" in Portugal, "Dimore" is a network system of prestigious public properties, such as villas, historic buildings, castles, prisons, barracks, lighthouses, and of receptive-cultural structures diffused on a national scale, to be realized in buildings of great historical-artistic value and in sites of environmental and landscape value with the aim of promoting Italian excellence (nature, art, history, music, fashion, design, creative industry, food and wine) and enhance the tourism-cultural offer, then the development of the territories.

The strategic objective of this operation is to optimize the income generated by the State's real estate assets to favor territorial development and contribute to the productive use of public goods. The project envisaged the transfer of various assets from the Ministry of Defense to the state heritage. The project aims, therefore, at *Ex Immobili della Difesa*, Unique Properties of high value with great historical-artistic value, and the Network Goods, which are inserted in a path of enhancement and redevelopment and then be returned to the community with new functions of social, cultural and commercial type consistent with the needs of local authorities and the community. Assignment of real estate takes place through the Valorisation Concession: an instrument of PPP that allows the development and enhancement of public real estate assets through the assignment to private parties of the right to use real estate for economic purposes for a certain period of time in the face of their requalification, functional reconversion and ordinary and extraordinary maintenance. Through the concession instrument, the private investor does not burden the costs for purchasing properties that remain publicly owned, while the State, in addition to collecting a license fee for the entire duration of the concession, saves the unproductive costs of supervision, custody, safety and maintenance reactivating, at the same time, virtuous circuits of urban transformation and local development. The duration of the concession

is commensurate with the achievement of the economic-financial balance of the investment plan and the related management, for a period of time not exceeding 50 years. For this reason, the assignment for a long period is an important tool capable of guaranteeing redevelopment interventions on capital (investments), using the properties owned by the state as "containers" of economic and social activities. This extension of the rent up to 50 years is intended to attract investors who are genuinely interested, who will be able to amortize expenses over a longer period, but which at the same time will guarantee adequate guarantees on the enhancement intervention and on its duration over time. In this way assets, while remaining property of the State, will be re-qualified and their value will be increased. At the expiry of the concession, the State automatically re-enters the full availability of the properties granted in use, with the acquisition of any transformation, improvement, addition and accession to them.

Sensitivity, and probably an increasingly growing awareness of the winning strategy of revaluing historical and cultural assets, gives rise to a second project within the Value Country program: the *Value Country-Headlights project* that consists of placing public headlights and coastal buildings on the market. In view of Valorisation and redevelopment of the territory, the Agenzia del Demanio in collaboration with Difesa Servizi SpA in 2015 proposed the localization of these assets, an endogenous, irreplaceable and unequalled feature that makes this type of property attractive for innovative and sustainable business projects. The project aims to create a network for the transformation of Italian coastal buildings into a development opportunity for the territories that host them. Figure 14 shows the amount of goods subject to three tenders, made from 2015 to 2017 for the granting of certain structures selected (Value Country lighthouses Agenzia del Demanio, 2018).

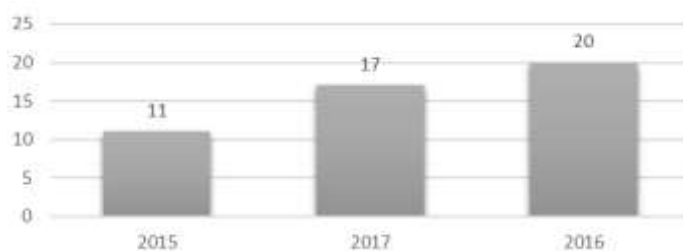


Figure 12. Value Country Lighthouses: number of projects (2015-2017)

In the first two years of the project, the agency has assigned 24 facilities to entrepreneurs and associations that will be redeveloped in *lighthouse accommodation*. The social economic impact in the local area estimated by the agency is about 60 million euros, 17 million euros of direct investments and an employment impact of about 300 operators. The last year the project involved two additional regions, Liguria and Marche, and islands of the Venetian lagoon with the release of 17 assets, 9 structures managed by the Agency and 8 by Difesa Servizi SpA.

The "Valore Paese" program has been strengthened in the last two years by a further and ambitious project: *Value Country Routes and Routes*. Promoted by MIBACT and MIT, it has the aim of redeveloping and reusing public buildings located along cycle paths and historical-religious itineraries, containers of services and authentic experiences in line with the philosophy of slow travel. Giving life to this program, the agency seeks to involve many stakeholders, using the tool of public consultation in order

to implement a more rigorous planning making use of the know-how of the private sector, in a logic of PPP, for the benefit of the whole local community. "Recover over 100 public buildings along the paths and cycle-pedestrian and historical-religious routes that cross all of Italy to turn them into hostels, small hotels, food outlets, cycle shops, service and assistance points for all pilgrims, tourists, walkers and cyclists who walk through these tracks every year. Promote and support the development of slow tourism by offering the possibility of reusing public buildings as containers of services and authentic experiences, strongly rooted in the territory: this is the philosophy that moves "Cammini and Percorsi" the new project "network" of the Demanio, promoted by MiBACT and MIT. "(press release Agezia del Demanio, 2017). The "Cammini e Percorsi" project sees today the closure of two calls. The first is a "free leasing for 9 years" closes on 11 December 2017 with 47 offers (14 foreign) and 33 participants (8 cooperatives, 9 associations and 16 companies), and sees the awarding of 13 state buildings, mainly in the center-south, entrusted in "free grant for 9 years" to companies, cooperatives and associations under 40. The second call, recently ended on April 16th 2018, differently from the first one provides for the assignment of 48 public buildings according to the "concession of valorization". This concession provides for the assignment of the asset for a period of 50 years and for the payment of a rent and is awarded the most valid project, or the best investment and local requalification project.

Conclusions

One of the sectors to be exploited and increased to make our country converge towards sustainable development in full respect of the objectives of sustainable development (SDGs) is undoubtedly that of culture, understood both as cultural activities and as cultural heritage.

It is well known that Italy is one of the first countries for its artistic heritage. Despite the activity to date of the State Property Agency, the patrimony of the Italian State is not adequately valued, and its economic, financial and cultural potential is underestimated. Actually, we often discuss about "valorization" of a good in mere economic terms and in a short-term perspective. According to this view, the argument of preservation of the good for both exogenous and endogenous development of the local area is neglected. *Exogenous* development means that the external environment stimulates it and it relates to the attractiveness that the cultural asset exerts on both the flow of tourists and capital investments in that specific area. In this context, the good is appraised as a source of income and investment. Certainly tourism is one of the most dynamic sector of the global economy and, despite the crisis, has maintained its relevance in the positive items of income in the Italian State budget (Pultrone, 2013). Thanks to its positive impact it can both contribute to the resolution of fundamental problems such as the creation of new jobs (implementing the SDGs 8), and be the engine of development for those regions that preserves the traditional territorial and landscape aspects (implementing the SDGs 15). *From an endogenous point of view*, however, in order to be able to self-sustain, the development must start from the local territorial context. Since cultural assets, by nature, are local and relational public goods, they are the first candidates to start such a process. In this way, starting a process aimed at enhancing the endogenous and exogenous characteristics of the good and the local territory, a mechanism of sustainable development is triggered based on the pursuit of the objectives promoted by Agenda 2030 (United Nations, 2016) in particular of the SDGs 11, 17, 8, 9, and 15.

On one hand, it is necessary to take into consideration the protection of heritage, a link between tourists and local community. On the other hand, heritage itself must be promoted, fostering the generation of financial resources in the whole territory. Tourism, as an activity that involves cultural and natural heritage, as well as traditions and contemporary cultures of the European Union, connects economic growth and sustainable development with ethical dimension. The tourism is a major economic activity, with a very positive impact on economic growth and employment in Europe. It is an economic activity capable of creating growth and employment, contributing, at the same time, to the development and economic and social integration, in particular of rural and mountain areas, coastal regions and islands, outlying regions, ultra peripheral or convergent.

Cultural enhancement, therefore, is achieved through processes both at macro-level (involving territorial development and collective well-being) and micro-level (reducing the inefficient use of dedicated public resources). Cultural policies must aim to trigger territorial development mechanisms through the stimulation of synergies that can be activated between cultural heritage and the local economic-productive fabric.

The strategies for the valorization of heritage assets must respect the intrinsic peculiarities of the asset. The Italian State assets, as we have seen, are divided into available and unavailable assets and historical assets, which are differently governed by private and public law. As relational goods they are placed as entities of which more individuals can enjoy together and whose fruition creates bonds and social relationships that contribute to a local identity and relationships of collaboration between citizens. If the recovery of the whole country is a phenomenon that initiates and develops locally, valorization of sites and cultural activities is a crucial factor. It is fundamental to liaise with stakeholders in order to make this strategy efficient.

The sectors connected to the world of culture and heritage are innumerable: in the process of redevelopment, a large number of industries are required to provide different intermediate and final goods. It is easy to see that, by way of example, the opening of a cultural site stimulates the creation of new infrastructures, transport and complementary services (catering services, gadgets), generates new jobs (dramatically increasing the SDGs 8) and stimulates the level of income of residents (dramatically increasing the SDGs 9).

The Program "Valore Paese" implemented by the State Property Agency represents the path to be pursued to achieve a sustainable development (United Nations, 2016) first and foremost national.

In fact, with the three "Value Country-Dimore, Fari e Cammini e Percorsi" projects, the agency seeks to overcome the limits, and to approach the community from a local development perspective, using two tools: public consultation and concession of valorization. The public consultation is an excellent tool for stakeholder engagement as it compares public and private parties in the pursuit of a common goal. The concession of valorization, as a PPP, establishes a virtuous collaboration: large national, public - private investment plan for innovation and projects aimed at improving the quality of life, using cultural historical assets as they give a cultural identity to the individual areas and, consequently, ensure cohesion and synergy between the various sectoral actions of a local development policy. We are witnessing changing roles:

the State, custodian and *dominus* of the public good, stays apart for the most efficient private individual identified through the competitive tender procedure. The focus of the relationship between the principal and the agent (State and private) lies precisely in the greater efficiency of the management of the asset or service delivery, a feature also given by the presence of complete contracts: the Public-Private Partnership (PPP), the signing of *bonus-malus* clauses, sponsorships and constant monitoring in the contractual execution phase allow both an inventiveness on cost minimization and an increase in the level of quality offered. Moreover, the importance of the demand for good or service is fundamental above all in line with the horizontal proliferation of similar market segments. Culture shall be able to generate income and the public must be able to access it: markets with more inelastic demand can finance where it lacks. Ramsey price application can be congenial, as well as it is important that, *ex ante*, tariffs are identified that embrace as many consumers as possible with contract times suitable to ensure that there is a fertile field for investments and retraining of assets.

It is therefore necessary to pay attention when addressing local territory as the starting point: it must not necessarily involve only the local communities. The Value Country Project identifies an extraordinary awareness, and the L. n. 228/2012 has provided that, at the end of the period of time envisaged by the concession, the Ministry of Economy and Finance - Agenzia del demanio, verified the achievement of the purpose of redevelopment and reconversion of assets, can recognize the concessionaire, where there are no needs for use for institutional purposes, the right of pre-emption for the purchase of the asset, at the market price. The DL n. 95/2012 also expressly provided for the possibility of sub-granting to third parties the economic or service activities envisaged in the management plan. This innovation may allow a significant extension of the valorization concession, already tested for the recovery of public buildings for tourism and cultural purposes, to transformation projects that provide for other functional destinations, including residential and commercial destinations.

There is absolutely no need to create monopolies or markets that are detrimental to ex-post competition to the consumer: capital or labor force must be welcome that come from anywhere (Italy and Europe) must be welcome, in presenting projects and offers judged more economically advantageous. The free circulation not only of the workers, but also of the capitals, and how much nowadays these are the manna from heaven. It will be up to investors and management to exploit economies of scale or more simply everything that is productive and that makes local communities participate.

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REGENERATION AS A DEVELOPMENT PROCESS FOR SUSTAINABLE DEVELOPMENT. CROSS COUNTRIES ANALYSIS: ITALY, BELGIUM AND SPAIN.

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Abstract. *The aim of the research is to analyse the state-of-the-art of Italian railway heritage, in particular the mismanaged stations, disused railway lines, the National action-plan of railway reconversion, the role of the Public Administration in the requalification and regeneration processes and the impact that these processes have on territories in terms of social and environmental sustainability. After an analysis of the literature on the processes of territorial change, such as regeneration and requalification (Borri, 1995; Evans & Shaw, 2004), the research focuses on the analysis of the causes of dismiss and abandonment of the stations and railways and on a cross-country analysis of Italy, Belgium and Spain. The research methodology applied to the case study, mainly qualitative, is based on the document analysis (Bowen, 2009), with the aim of "registering" the unused Italian, Belgian and Spanish railway assets, analysing reuse methodologies and the stakeholder engaged.*

Keywords: *Sustainability; regeneration; requalification; railways sector; greenways; cross countries analysis.*

Introduction

The social changes, urbanization (Gottmann, 1961), migration, economic and technological changes that occurred at the end of the XIX century have significantly changed the territorial infrastructural system. The opening of new roads and railways that provide greater convenience in terms of travel time has often led to the closure of pre-existing railway lines, which have become marginal or technologically obsolescent. Furthermore, the scarce number of users, the equipment made available by technological innovation and the national political choices regarding infrastructures, have led in some cases to the closure of stations and disuse railways, in consideration of management costs that are no longer sustainable or necessary. It is clear that public administration needs to set itself goals for rebirth of the dismissed railway heritage with

a view to sustainability, as requested by the international strategies and regional dynamics on the sustainable development of territorial and urban areas (Agenda, 2030).

The objective of the research is to analyse the impact that regeneration processes have on the territories, by studying how public policies can guide and support sustainable development processes that can achieve positive results in social and environmental terms. After an analysis of the literature on territorially changing processes, such as regeneration and retraining (Borri, 1995; Evans & Shaw, 2004), the authors focused their research on the objectives of these processes, on the stakeholders and on the role held by the Public Administration (paragraph 1). The paper is enriched by a cross countries analysis between Italy, Belgium and Spain (paragraphs 3 and 4) on the reconversion of disused railway networks and an ad hoc interview with the Head of the "Green Station Legambiente" project of Legambiente, a non-profit association that has collaborated with "Ferrovie dello Stato" (Italian railways public company) on projects of regeneration of the dismissed stations. The research methodology (paragraph 2) applied to the case study, mainly qualitative, is based on the document analysis (Bowen, 2009), with the aim of "registering" the Italian, Belgian and Spanish railway heritage not being used, and analysing the methods of reuse, the subjects involved and the reasons for the activation of networks and railway stations.

Literature review

The main changing processes, which see the Public Administration as the principal operator in their implementation, are requalification and regeneration, two of the four processes of change that also include gentrification (Florida, 2002, 2005; Glass, 1964) and self-made urbanism (Litardi, Pastore & Trimarchi, 2016).

Requalification (Borri, 1995) is defined as the transformation of a place (residential, industrial or open space) that shows symptoms of environmental (physical), social and/or economic decline. Retraining is the process that sees "the infusion of a new vitality for communities, industries and places in decline that bring sustainable and long-term improvements in local quality of life, including economic, social and environmental" (Evans & Shaw, 2004).

Regeneration is the rehabilitation of poor or impoverished spaces by the renovation or reconstruction of large-scale housing and public works; when regeneration is considered in the context of "urban", it involves the rebirth or renewal of these. Regeneration is mainly concerned with cities and suburbs facing periods of decline (Litardi et al., 2016).

Requalification is a process that sees a physical restructuring of places and spaces that does not alter the primary use of the space subject to change; the goal of regeneration is to rethink a new use for the place under examination through interventions of a cultural, social, economic and environmental nature, aimed at increasing the quality of life, by respecting the principles of sustainability (Brundtland, 1987) and stakeholder engagement (Jeffrey, 2009).

Table 1. Changing process where Public Administration is the principal operator.
(Source: elaboration from Litardi & Pastore, 2017)

Process	Objects	Pioneer	Stakeholder	Aim/outcome	Results
Requalification	Public space, public building and public service	Public Administration (PA)	Residents and PA	Decoration and renovation	Increasing the value of properties; increasing green areas and public transport services
Regeneration	Private building and public space	Private company, non-profit organization and Public Administration (PA)	Residents, PA, private company, SME, associations	Community aggregation and engagement, Decoration and renovation	Increasing the value of properties; new business; new social and cultural activities; social participation; sense of belonging

Requalification and regeneration could be processes that are not necessarily dependent on each other (Table 1), but when the “pioneer”, i.e. the actor who implements the process of change, is the Public Administration, an attempt is made to implement both processes, for example: “Macro Testaccio” in Rome, a former redevelopment slaughterhouse converted into a museum of contemporary art, the “Greenways” (Little, 1990) in Europe (see paragraph 3) and in New York the “High Line”, a road that crosses the Chelsea district, re-qualified and converted into a real “overhead” park. In particular, the greenways, the object of study of the present research, are defined “as linear open spaces, established along a natural corridor, such as the course of a river, a valley or a ridge line, or long sections of pertinence of infrastructures of transport, such as disused and reconverted railways to recreational uses, or canals and scenic roads” (Little, 1990). In Little’s definition, greenways are also the pedestrian or cycle paths immersed in natural settings, the open spaces that connect parks, reserves, and cultural and historical sites, with populated areas.

Research methodology

The assumption of the research starts from a theoretical analysis elaborated on two of the four principal processes (Borri, 1985; Evans and Shaw, 2004) of urban change: regeneration and requalification, and the pioneers who allowed these processes (paragraph 1). However, the aim of the research is to analyse what kind of sustainable development model has been created in the process of changing greenways at the European level.

The research is enriched by interviews (Kvale, 1996; McNamara, 1999) that the authors have had with key stakeholders of the Italian experience: the General Manager of *Legambiente* Rossella Muroi and the project manager of Green Station *Legambiente* Lorenzo Barucca (paragraph 3 and 4).

Italy, Spain and Belgium are the countries of interest for the cross-country analysis (paragraph 4). The factors for choosing these countries are the quantity of disused railway lines, the modalities of conversion and the causes that led to this divestment (paragraph 3).

The main causes and effects of the disused railways and railways station, are:

- European regulations, Directive n. 34/2012 / EU, establishing a single European railway area through the strengthening of competition rules, such as, for example, the separation between the railway transport service and the ownership of infrastructure through the establishment of an open railway market, eliminating administrative and technical obstacles and ensuring a level playing field with other modes of transport;
- The increase in new technologies applied to the railway sector has made it possible to regulate the movement of trains and manage all the technical operations connected by a single operating post that oversees scheduled sections and controls. These remote operations without the need for the presence of personnel on site, has caused an increase in the presence of railway facilities (stations and toll booths) but depleted the territory due to the lowering of labour supply;
- The urbanization of cities, relative impoverishment of rural areas and depopulation.

Cross countries analysis is enriched by a qualitative research methodology such as document analysis for the review and evaluation of electronic documents (Bowen, 2009). During the research, the information was systematized, summarized and elaborated in order to present a map of the use and interpretation of unprecedented territorial initiatives and their critical reading, on the basis of the main theories and models considered. In particular, the authors organized the parameters into seven specific categories through the information analysed in the documents (Labuschagne, 2003), which helped to have a mapping of the practices, their similarities and distinctions: a) country, b) year, c) object disused, d) pioneers, e) results, f) processes of change, g) type of partnership or concession. This scheme is useful for replicating the study in other case studies and comparing the results.

Cross countries analysis: Italy, Belgium and Spain

Italian scenario

Ferrovie dello Stato Italiane (FS), like other European railway companies, has in recent years engaged in a deep effort to reorganize and redevelop unused real estate assets. These are disused railway lines and stations which now run the risk being vandalised because, due to the technological evolution underway, they no longer need the physical presence of railway personnel, but are remotely managed through IT devices. Currently, there are about 1,700 (see Figure 1) stations of the Italian Railway Network, for the most part in good condition and close to towns, which occupy a total area covered including the station buildings and apartments of about 420,000 square metres, and that were recorded in the FS budget of 1996 with a global value exceeding €200 billion.

The FS Group has started a programme of concessions through free loan contracts for associations and municipalities to launch social projects that have positive effects on the territory and the quality of the services offered at the railways station. Of these, about 345 stations, corresponding to an area of over 63,683 square metres, have been assigned (2014 FS data). Furthermore, a new redevelopment project has been launched for the social and environmental reuse of space thanks to the signing of a "Memoranda of

Understanding” with the Tuscany Region, Legambiente, AITR (Italian Association of Responsible Tourism), CSVnet (Service Centres for Volunteering) and Legacoop Sociali (social cooperative).

Also part of the FS Heritage are 3,000 km of disused railway lines, of which 325 km were destined for greenways: cycle paths and green paths accessible to all, reserved for soft mobility. In particular, for small stations with very low attendance, with no possibility of commercial development, RFI (Italian Railway Network) has activated to stipulate free loan contracts (as defined in Article 1803 of the Civil Code) with Local Authorities or non-profit associations, thus responding to the growing demand for spaces to be dedicated to welfare activities.

These contracts provide for the sale of station premises no longer functional for railway operation to be used for social, cultural, and assistance activities (including, for example, art exhibitions, tourist accommodation, toy libraries, neighbourhood meetings, civil protection, traffic wardens), and assistance to the disadvantaged, (pro loco, etc.). In return it is required that the institution or association takes care of the small maintenance and cleaning of the building. In this way the community is enriched by services structures and guarantees an human presence in the station, with positive effects also in terms of quality and decorum of the structure.

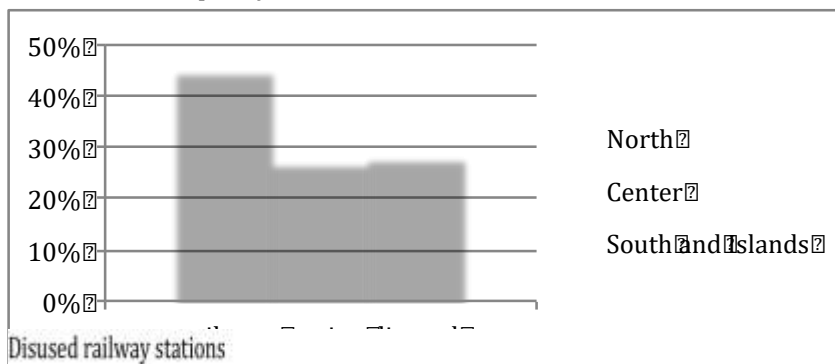


Figure 1. Percentage of disused railways stations on Italian territory

In order to guarantee to the users of the stations an ever better use of the spaces and services and a high architectural and functional quality of the buildings RFI has started several redevelopment programmes at approximately 2,150 stations. In particular, for the valorisation of 101 stations in the south of Italy, significant in terms of location, size, architectural merit and tourist attraction, a project called the “Evolved Program for the Management of Station Areas Located in Southern Italy” (Pegasus Project) is being created.

In 2011 Legambiente signed a Memorandum of Understanding (MoU) with Rete Ferroviaria Italiana (RFI) and FS to promote a policy of support and planning for social initiatives in the railway areas; to enhance central stations as a physical space to offer citizens services and opportunities for meetings; propose new models of development of their territory to make it more sustainable, healthy and attractive; to combat the phenomena of social exclusion of the weakest subjects and to promote the processes of social inclusion. “The purpose of the Memorandum of Understanding - declares Lorenzo Barucca, Responsible for the “Green Station Legambiente” projects - has as its objective

the granting by FS and RFI, to national associations and non-profit organizations, of free loan facilities for communities in order to realize help centre, social and cultural association. This contributes to the construction of a social environment that is the driving force of sustainable development in the city, encouraging the processes of recovery of social trust and the offer of innovative and qualified services. Citizens will be able to take advantage of a kind of “Service Centre” at the station, as well as participate in activities related to the cultural, tourist and social promotion of the territory.

Belgium scenario

Belgium, at the end of the Second World War, had the densest railway network in the world with about 5,000 km of normal railway lines plus another 5,000 km of tram lines. After the war, 1,600 km of normal railway lines and almost all tram lines were abandoned. Towards the end of the 1970s, a unified national policy began to spread for the recovery of this heritage. In Flanders, the national activity was joined by that of the provinces, cities and municipalities that bought or rented the railway offices of disused lines by the SNCB, the national railway company, for the construction of paths that, along with towpaths and country roads, were going to constitute a first network of “greenways”. In the mid-90s, in Flanders over 250 km of disused railway lines had already been transformed into chemins du rail, train paths. In contrast, in Wallonia there had been only isolated and scattered initiatives. In 1987 the Commission du trafic lent promoted the creation of an inventory of abandoned lines: the results showed how the tramlines had been fragmented in such a way that they could no longer be reused for the construction of a network of green routes. On the other hand, the 80 disused lines of the SNCB, with a total length of about 1,000 km, could form the backbone of a network, including also towpaths, cycle paths, walking paths and country roads. In 1991, the Walloons proposed to create a first batch of five lines, identified as great routes for slow traffic, but initially met with some opposition, especially from the SNCB and the Belgian State. However, they continued to pursue the idea of creating a real network of routes reserved for slow traffic, called RAVeL (Réseau Autonome de Voies Lentes), in 1997, a framework agreement with the SNCB was reached, which provided for the concession in emphyteusis of about 1,000 km of disused lines for 99 years. Up to now, 900 km of green paths have been created of which almost 200 km uses disused railway lines.

Spain scenario

In Spain, after the “boom” in rail transport in the early 1900s, when there were about 13,000 km of railway tracks, the decommissioning processes began, which have led today to more than 7,000 km of disused railway lines.

At the beginning of the 1990s a national programme was launched, called Vías Verdes (greenways), coordinated by the Fundación de los Ferrocarriles Españoles (FFE), for the recovery never completed railway lines, for the development of initiatives related to eco-tourism and reuse. The pioneer of the initiative was, in 1993, the Ministerio de Obras Públicas (MOP), Transportes y Medio Ambiente (TMA); today the project is managed by the Ministerio de Medio Ambiente (MIMAM). The Vías Verdes programme is the result of a cooperation agreement between MOP and TMA, which has pledged to allocate €6 million a year for the construction of greenways.

In June 2001, the Spanish National Parliament, “Senado”, unanimously voted for a motion encouraging the Spanish government to improve the necessary instruments and laws in order to convert all the disused railway lines of the country into Vías Verdes, through a procedure involving local and/or regional authorities interested in drafting a feasibility plan, with the collaboration, if requested, of the FFE. Once the land ownership status has been analysed, a design competition is then defined for the redevelopment of the greenway railway line, in agreement with local authorities and associations. Once the feasibility study has been completed, the agreed measures are incorporated into the construction plan, whose insurance can be financed in one of three ways: entirely by MIMAM, co-financed through MIMAM and other regional or local authorities (this is the most used), or through a specific financing project adapted to regional or local conditions.

The positive effect of the greenways on the areas they cross is not limited to the tourism sector, but produces other, very different effects on population and economic dynamics. These effects are more significant when considering rural areas, as in the case of the Sierra Vías Verdes (36 km already built). Here, thanks to the School-Training Laboratory and work programmes, groups of 60 unemployed young people were employed for two years to rehabilitate the four former stations along the greenways and to install tourist facilities. The Sierra Vías Verdes project has allowed the creation of 17 new jobs.

In 2005, 12 years after its launch, the balance of the programme in Spain was very positive. More than €60 million have been invested in converting 1,500 km of disused railway line into 45 Vías Verdes, and there are over 350 km of the project which have already been completed.

Results and conclusion

The disused buildings should remain efficient from a structural and decorative point of view, as continue to be used by railway customers. It is necessary to hypothesize a redefinition of the use of these buildings, also for extra-railway activities, which do not however contradict the use of the station as a service for the community. The reuse activities of the unmanned stations and the railway networks (paragraph 3) can be reconfigured in four macro areas:

- Social: assigning part of the premises of a station to a non-profit association that operates in the field of social services to support the most exposed and indigent population contributes to reinforce the concept of the station as a centre of service provision for the community and it promotes, above all, the continuity of the link with the inhabitants in the smaller centres;
- Tourism: in this regard, in Italy the Department of Tourism has developed a multi-regional plan to boost tourism in the South by financing 447 projects with about €530 billion from the European Union, provided they do not contribute to the further overlap of environmental areas;
- Commercial: establishment of entrepreneurial activities, with particular reference to the Italian law 44 on youth entrepreneurship, or to the recovery of traditional activities of local crafts in danger of extinction within the municipality where the station is located;
- Cultural: cultural activities such as exhibitions, or a museum (also concerning local traditions and customs), library activities, youth orientation to study or work,

educational activities (computer literacy, linguistics, university of the third age) and reconstruction of relational networks (e.g. TimeBank).

In Italy, contrary to what has happened in other countries, a coordination policy has so far been lacking, both at the regional and national level, that is aimed at enhancing the railway tracks no longer being used through the creation of “green routes”. The conversion of the disused railway lines into green routes has, in fact, been sporadic and the result of the initiative of some particularly sensitive local authorities, which have acted without having the necessary reference framework. Until now, an overall vision has been lacking: i.e. to consider the recovery of individual traits as a step towards the creation of a network. This lack has meant that there is no definitive data in Italy about the extension of the disused railway network.

The Spanish scenario is different, as it has designed a precise strategic framework that sees Spanish greenways, “Vías Verdes”, as a strategic factor for economic and social re-launching, succeeding in structuring a programmatic plan that promotes sustainable mobility in the territory, ecological transport, active tourism, sports and various outdoor activities, preservation of abandoned railway heritage, access of the population to nature, and environmental education activities. It is increasingly common for regional or local governments to invest in Vías Verdes projects because they are considered profitable from the point of view of social services and value creation.

Table 2. Comparison between Italy, Spain and Belgium on conversion strategies in greenways

Country	Year	Object disused	Pioneer	Results	Changing process	Partnership
Italy	Second half of 2000	1,700 stations; 3.000 km railway lines	Public Company and non-profit organization	345 station re-qualified, 325 km railway lines regenerated into greenways	Requalification and regeneration	Partnership with associations and loans' concessions
Belgium	Beginning of 1970s	6,600 km railway lines	Public Administration and Public Company	900 km of greenways and 200 km railway lines regenerated into greenways	Requalification and regeneration	Master agreement
Spain	Beginning of 1990s	7,000 km railway lines	Public Administration	1,500 km railway lines regenerated into greenways	Requalification and regeneration	Project financing

The authors compare the greenways programmes of the countries (paragraph 3) by individualising seven indicators (Table 2). Belgium is a pioneering country in the conversion programmes of disused railway lines. The analysis also shows that, while the role of the Public Administration in Spain and Belgium is preponderant, in Italy the Public Authorities are redefining their function in solving problems, reducing the direct intervention to assume the role of “directors” and “facilitators” of the collaboration between companies and third sector realities, but they are not the real pioneers of the redevelopment project. This is done through the enactment of new rules (incentives, tax advantages) that promote bilateral partnerships. Bilateral collaboration, pushing the two realities, the third sector and companies, especially public ones, to work together – albeit with different accents depending on the type – can be a valuable tool for sharing skills and mutual enrichment. “By analysing the phenomenon of partnership between a public company, such as FS, and non-profit, such as *Legambiente*, we can say that Italy holds a position of advantage over other European countries both for the initiatives carried out between these partners and for collaborations with other organizations. In fact, more than 1,700 stations, owned by the FS Group, are not present workers in railways station. Of these, 345 have already been redeveloped with a social focus with 63,683 square meters granted in free loan for a market value of 95,524,500 euros. Today they host Italian social associations, such as: Red Cross, Green Cross, Fire Brigade, Civil Protection, Natural Parks, Environmental or Cultural Associations”, said Barucca.

The FS Group as therefore adopted a policy of support and planning for social initiatives in the railway areas, in agreement with associations and local authorities. At the beginning some of these projects for social utility regarding the assignment of the territory of the stations, were signed with the Regions (Local Authorities) but the results were uncertain, negative and disappointing on the part of the latter. Through the bids-application, each association may request a loan to develop services and infrastructures necessary for the development of the territory, its communities and projects. The projects of the MoU will have a focus on regenerating spaces within railway stations and junctions, understood no longer as just places of arrival and departure but increasingly as meeting places, as well as poles of urban attraction, and social, environmental and collective mobility service centres, concluded Barucca. In this way “Green Stations” project regarded as having solidarity with the territory, a piece of economy that can produce values, such as trust, social capital, civic sense, solidarity, together with economic value and new opportunities. These projects contribute to the creation of a network of social relations within the territory, starting from these structures that for decades have evoked movements, hopes, and dreams of a better life.

It is not a matter of redesigning the disused railway lines but of activating integrated actions to recover disused infrastructures and buildings, coherent with the requirements dictated by new ways of using these goods “networks” (Torella, 2010).

It is desirable to think that these operations should allow, in the long-term, strategies that are without additional costs for companies in the railway sector, the preservation and maintenance of the structural efficiency of the building, the cleaning of the entire station area and the care of the spaces, green annexes, the surveillance of the building and of the areas open to the public and, where possible, services to railway customers.

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DISCLOSURE INDEX RELATED TO CORRUPTION AND BRIBERY INFORMATION IN EUROSTOXX50 COMPANIES

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Abstract. *The European Union (EU) draw up a strategic for the time period 2011-2014 related to corporate social responsibility. In this vein, it is published the Directive 2014/95/UE about non-financial and diversity information by certain large undertakings and groups. This directive is focused on the importance of businesses divulging information on sustainability such as environmental, social and employees matters, related to human rights, anti-corruption and bribery aspects. According to the above arguments, the purpose of this investigation is to analyze the non-financial information about anti-corruption and bribery through a disclosure index in European firms. Namely, we have analyzed the Eurostoxx 50 in 2017 in order to know the disclosure of information related to the above directive about the fight against corruption and bribery. We find that the level of corruption and bribery disclosure in our firm sample is around sixty percent. In particular, the corruption and bribery aspects more disclosed are related to the anti-corruption policies, procedures and standards; internal and external control processes and resources allocated to preventing corruption and bribery; and criteria used in corruption related to risk assessments. Together, these results have public policy implications because they suggest that firm are responding to the disclosure of corruption and bribery information. However, we should highlight that there is still a long way to get disclosure about corruption and bribery from all companies.*

Keywords: *Directive 2014/95/EU; corruption; bribery; Disclosure index.*

Introduction

The financial crisis started around 2008, led to a loss of confidence of society related to financial information provided by organizations, which had repercussions in the reinforcement of the information transparency in order to recover the legitimacy which is lost (Garralda, 2015). All this, based on regulations, recommendations, standards and others. In this regard, the European Commission published in December 2012, an action plan on organization rights. This action plan identifies three priority lines as main

actions such as the promotion of transparency, the involvement of shareholders in corporate governance and support for growth and competitiveness of organizations. The above-mentioned plan aims to promote transparency, through the disclosure of better information from organizations to investors and society. In this regard, it was said the intention to incorporate the obligation to report on social and environmental issues, through a reform of the accounting directives, foreseeing the possibility of including such information in the annual accounts (Quijano, 2013). Subsequently, in November 2014, was published the Directive 2014/95/EU of the European Parliament and Council of 22 October 2014, amending Directive 2013/34/EU, related to disclosure of non-financial information and information on diversity by large companies and certain groups.

The Directive 2014/95/EU determines that those organizations considered of general interest must specifically report on certain issues related to social and environmental impacts. Accepting this requirement, that supposes a high degree of transparency, is the necessary condition to manage the reputational risk, whose cost, in the case of being subjected to a media campaign or a complaint, can be very high for an organization (Garraalda, 2015).

According to the aforementioned Directive, the information that will be disclosed must be relevant and proportionate, and highlights the need for it to be adequate on aspects that are more likely to materialize the main risks of serious effects, or on those aspects on which said risks have already materialized. We therefore consider that the Directive 2014/95/EU, on the one hand, highlights the transparency of the information and, on the other hand, that it is relevant and proportionate, so that it implicitly highlights the materiality of the information.

In this sense, there have been a number of studies (Jain, 2001; Svensson, 2005; Galang, 2012) that focus on how companies disclosing information related to corruption issues that are highlighted in the Directive 2014/95/EU. Disclosing information on how firms work in anti-corruption has been considered a prevention tool of bribery, extortion, accounting fraud, conflict of interest and so on (Rose-Ackermann & Palifka, 2016).

According to the above arguments, the main issue of our work is to verify the degree of disclosure of information about corruption and bribery presented by the listed companies on the Eurostoxx50 stock index. The rest of the paper proceeds in the following ways. In next section, we discuss the disclosure of non-financial information on corporate social responsibility: corruption perspective. We next talk about the directive 2014/95/EU and we then present our methodology. Finally, we end by providing conclusions.

Disclosure of non-financial information on corporate social responsibility: Corruption perspective.

Stakeholders give more importance to non-financial information. Nowadays, there is no doubt about the need for organizations to offer to their stakeholders' information about the impacts that their activity provokes from the social and environmental point of view, in aspects such as intellectual, human and social capital, corporate governance, environment and diversity policies and the fight against corruption and bribery.

In an investigation carried out by Brown and Deegan (1998), it was demonstrated that there is an increase in the disclosure of environmental information by companies. In this line, Patten (1992) argued that the increase in the disclosure occurred, namely in petrol organizations, because companies wanted to increase the organization reliability. In accordance with the foregoing, we understand that the disclosure of social and environmental information is an attempt by organizations to legitimize its actions with its stakeholders (Roberts, 1992; Blackburn et al., 1994; Moneva & Llena, 1996).

According to the above arguments, organizations attend to the expectations of the stakeholders, therefore, it will be beneficial for their survival in the long term. The aforementioned links with the theory of stakeholders, according to which "the essential mission of management is to conveniently satisfy the different groups of stakeholders, in order to achieve an adequate return and an acceptable increase in wealth for the company to medium and long term" (Lorca, 2003). For this, the organizations organize its resources in such a way that it can satisfy the diversity of their stakeholders (Donaldson & Preston, 1995; Pava & Krausz, 1997).

Henceforth, stakeholder theory responds to a series of fundamentals such as (Näsi, 1995; Freeman & Harrison, 1999; Freeman et al., 2010; Parmar et al., 2010):

- Organizations depend on the relationships between their stakeholders, being affected and affecting in turn.
- Organizations exist due to the interactions, transactions and exchanges carried out with stakeholders, studying this theory the origin of these relationships, understood as processes and their results (Piñera et al., 2000).
- The stakeholders' interests and objectives have an intrinsic value, highlighting that none is more important than another one.
- Conflicts of interest may arise between stakeholders that make up the organizations.

According to these aspects, organizations are aware of this trend, and currently, are addressing the disclosure of what is known with the term non-financial information. Despite the advances in this regard, we are still in the homogenization phase. Until the publication of the European Directive on non-financial information, of November 2014, companies had no obligation to disclose this type of information.

In the business environment and once organizations have been convinced of the need and importance of devoting resources to the preparation of the CSR report, large companies adopted more or less quickly international initiatives in this area. Despite the fact that information on corporate social responsibility lacks some sufficiently objective and standardized measurement systems that provide comparable and rigorous non-financial information (Lizano, 2013), some works related to the Global Reporting Initiative (GRI) have been carried out in recent years. In this line, we should highlight some legal norms, such as in South Africa, some precursor works such as those carried out in the United States at the end of the 20th century, and the beginning of the 21st: Jenkins and Enhanced Business Reports (Flores, Lizcano, Mora, & Rejón, 2012b). In this regard, we may say that the voluntary nature of Corporate Social Responsibility and, therefore, of the issuance of reports on these aspects, is being dissolved by new normative additions such as the aforementioned European Directive. All of this aspects marks a milestone in the obligation of non-financial information.

In light of the above arguments, this study focuses on studying the corruption disclosure as part of non-financial reporting into annual accounts. In this sense, we argue that corruption is a phenomenon that covers a broad range of acts such as bribery, extortion, accounting fraud, conflict of interest and so on (Rose-Ackermann & Palifka, 2016). Especially, corporate reporting on corruption efforts is an instrument of prevention because, firstly, it guides organizations to adopt measure and to ensure their effectiveness (Hess, 2009), secondly, it contributes to increase the awareness of this problem among stakeholders. In this line, on one hand, there have been a number of studies that try to identify, corruptions' determinants and consequences for society and firms (Jain, 2001; Svensson, 2005; Galang, 2012), and, on the other hand, we should highlight international institutions and initiatives fighting of corruption, such as, World Bank, International Monetary Fund, Organization of Economic Cooperation and Development, United Nations and so on. Corruption disclosure is included in corporate social responsibility report, Global Reporting Initiative guidelines, United Nations Global Compact reporting and, since the publication of the Directive 2014/95/ EU, it should be published in a non-financial information section in the Annual Report. In the next section, we are going to talk about the Directive 2014/95/ EU.

Statement of non-financial information related to Directive 2014/95/EU

Directive 2014/95/ EU of the European Parliament and of the Council, of October 22, 2014, supposes the modification of the Directive 2013/34/EU of June 26, on the consolidated financial statements and other related reports of certain types of organizations. This directive deals with the disclosure of non-financial information and information on diversity by certain large companies and certain groups. As a starting point, this directive establishes that certain companies, by size or public interest should publish in their management reports or in independent reports, from 2017, their impacts on social, environmental, diversity policies, respect for human rights and measures against corruption and bribery (TECNISA, 2015).

Firstly, article 19 bis, which is called Non-Financial State, is inserted in chapter 5, on Management Report. Namely, it is determined that large companies that are entities of public interest (see note 2) that, on their balance sheet closing dates exceed the criterion of an average number of employees over 500 during the year will include in the management report a non-financial state related to environmental, social issues and the fight against corruption and bribery.

Secondly, article 20 is modified, in relation to the Declaration on Corporate Governance, which requires the incorporation of a description of the diversity policy applied to the administrative, management and supervision bodies of the company, on issues such as age, gender, training and professional experience. If a policy of this type is not applied, organizations must offer an explanation about it.

Thirdly, another of the amendments included in this Directive is related to the information of the payments made to public administrations, which were already contemplated in the previous Directive. In this case, the European Commission must consider in a report- that has to prepare before the July 21, 2018- the possibility of introducing an obligation for large companies to submit annually, a report by country for each member state and third country in which operates, at least, the benefits obtained, taxes on benefits paid and the public subsidies received.

Fourthly, it is also necessary to inform about the way to apply the modifications established in the analyzed Directive to the consolidated reports, as well as the responsibility of the administrative, direction and supervision bodies of the companies on the writing, publication of the financial reports and non-financial aspects of the company, in accordance with the applicable regulations.

Lastly, and with regard to modifications, article 29 bis is inserted, in relation to the consolidated non-financial statement, which is identical to 19 bis, but for the groups of companies.

In relation to matters related to the fight against corruption and bribery, which is the main objective to be addressed in this investigation, the directive 2014/95/EU argues that organizations should disclose material information about how to manage anti-corruption and bribery cases. For this reason, organizations may disclose information on decision and management instruments and on resources allocated to the fight against corruption and bribery. At the same time, organizations explain how they evaluate the fight against corruption and bribery and the measures that they adopt to prevent or mitigate adverse effects, monitor effectiveness and communicate the matter internally and externally. In this sense, organizations may disclose significant information and key performance indicators on aspects such as the following:

- Anti-corruption policies, procedures and standards;
- Criteria used in corruption-related risk assessments;
- Internal control processes and resources allocated to preventing corruption and bribery;
- Employees having received appropriate training;
- Use of whistleblowing mechanisms;
- The number of pending or completed legal actions on anti-competitive behavior.

The transposition of this Directive to the member states should be carried out before the end of 2016, and the contemplated provisions should be applied by the companies as of the fiscal year that began on January 1, 2017. Finally, all the member states have made the aforementioned transposition, and in the matter that concerns us all countries incorporate the need to report on corruption and bribery .

Methodology

Sample and time period

To carry out this work, we have chosen the companies that are listed on the Eurostoxx50, for the year 2017. The Eurostoxx 50 index was presented in partnership on February 26, 1998. Its birth is related to the definitive formation of the European Union and the establishment of a single currency, the Euro.

In this sense, in table 1, our sample is presented by country and industry. In panel A, figures show that the industry with highest representation in our sample is technology and telecommunications and the lowest is consumer services. According to the country, the countries with more representation in our sample are France and Germany and the lowest Finland and England.

Table 1: Sample selection and analysis

Panel A: Composition of the sample firms according to the industry type	N	%
Oil and energy	7	14
Basic materials, manufacturing and construction	5	10
Consumer goods	11	22
Consumer services	4	8
Technology and telecommunications	12	26
Financial services and insurance	10	20
Total	50	100
Panel B: Composition of the sample firms according to the country	N	%
Spain	5	10
Netherlands	6	12
Germany	15	30
Finland	1	2
France	18	36
England	1	2
Italy	3	8
Total	50	100

The choice of this sample is due to the fact that since the objective of our work is to analyze the degree to which companies are complying with the requirements imposed by the community directive, we understand that a significant sample will be represented by European companies, since we are referring to a European regulation. Nowadays, all European Union countries have incorporated this disposition into their national regulations, so the reports referring to 2017 should comply with the requirements set out on it.

CSR disclosure index

A disclosure index of particular information has been used in numerous research which analyze company reports. An index of disclosure shows the level of disclosure in a set of company in which they compliance with regulations (Marston & Shrives, 1991). In this investigation, we have carried out an index of disclosure which includes a mixture of items required by regulation and voluntary about corruption and bribery of the Eurostoxx 50 companies. In this regard, we have started from the base information that according to the guidelines should be included in the non-financial information report, and the European Union countries have incorporated into their national regulations. Subsequently, each of the main points have been divided into different items on corruption and bribery that are already foreseen in standards generally accepted and contrasted by some interest groups, such as the GRI, the Global Compact or the OCDE Guidelines.

For these purposes, each category was assigned a score according to the amount of information that is included in the annual report. In this study, what we intend to measure is the amount of information disclosed by the company (Wallace et al., 1994; Giner, 1997), so we give the following score: 1 if full information is provided; 0 if information is not provided; and 0.5 if partial information is provided. In order to locate the required information, we have used the analysis of the contents of the annual reports presented in the year 2017 by the listed companies on the Eurostoxx 50. In this regard,

we have checked in the non-financial report or sustainability report within its annual report information related to the corruption and bribery (see table 2). According to the Directive 2014/95/EU, one of the models that can be used to provide non-financial information is the GRI. For this reason, for the development of the factors that make up table 2, we have taken the information related corruption and bribery that companies have to disclose following what is established in both the G4 and the standard 205 from the GRI.

Table 2. Corruption and bribery information

There is a non-financial section into the annual report or sustainability report	
Anti-corruption policies, procedures and standards	Report the anti-corruption policies, procedures and standards
	Reports on the managerial position responsible for this issue
Criteria used in corruption-related risk assessments	Report the total number and percentage of operations assessed for risks related to corruption
	Report the significant risks related to corruption identified through the risk assessment
Internal control processes and resources allocated to preventing corruption and bribery	Report the internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines
	Reports on the managerial position responsible for this issue
Employees having received appropriate training	Report the total number and percentage of employees that have received training on anti-corruption, broken down by employee category and region.
	Report that employees have received training on anti-corruption, broken down by employee category and region.
Use of whistleblowing mechanisms	Report the use of whistleblowing mechanisms
	Report the possibility of making complaints anonymously
	Report on the degree of satisfaction of the users of the irregularity reporting mechanisms
The number of pending or completed legal actions on anticompetitive behavior	Report the total number and nature of confirmed incidents of corruption
	Report the total number of confirmed incidents in which employees were dismissed or disciplined for corruption
	Report public legal cases regarding corruption brought against the organization or its employees during the reporting period and the outcomes of such cases.

According to Muttakin and Khan (2014) the corruption and bribery disclosure index has been calculated as follows:

$$CBDj \text{ index} = (\sum_{i=1}^n (t_i)^{nj} \cdot X_{ij}) / nj$$

Where: CBDj index is the corruption and bribery disclosure index for j firms; nj is the numbers of items expected for j firms, where $n \leq 14$; and X is 1 if full information is provided, 0 if information is not provided, and 0.5 if partial information is provided, so that $0 \leq CBDj \text{ index} \leq 1$.

Empirical results and discussion

In this section, we report the factor analysis, descriptive statistics and correlation matrix.

In table 3, we highlight that the factors of the corruption and bribery index have a p-value smaller than 0.05. It means that we can accept the null hypothesis which argues that our factors are suitable.

Table 3. Factors of the corruption and bribery index

Factors of the corruption and bribery index	Bartlett test	
	Chi-square	Sig.
Anti-corruption factor	3.437	0.050
Risk related to corruption factor	5.814	0.016
Internal and external mechanism factor	11.570	0.001
Training factor	7.600	0.006
Whistleblowing factor	46.325	0.000
Completed legal factor	85.434	0.000

The Table 4 and 5 show descriptive statistics on corruption and bribery information, such as mean, standard deviation, minimum and maximum, for the studied corruption and bribery disclosure index. In this regard, as indicated in table 4, the figures present that only 59.2% of our sample publishes a non-financial section in the annual accounts and 46,9% of our sample says that firms present information related to corruption and bribery into the financial statements or sustainability report. Thus, the listed firms from the Eurostoxx 50 are still missing the corruption and bribery disclosure in the respective non-financial section.

Table 4. Descriptive Statistic about corruption and bribery disclosure I

Variable	Obs	Mean	Std. Dev.	Min	Max
There is a non-financial section	50	0.592	0.497	0	1
There is corruption and bribery information into the financial statements	50	0.469	0.504	0	1
There is corruption and bribery information into the sustainability report	50	0.469	0.504	0	1
There is corruption and bribery information into others parts of the annual accounts	50	0.561	0.496	0	1

Table 5 shows the corruption and bribery disclosures about our firm sample. In this vein, figures present that the aspects which are more disclosed to follow the next order: the anti-corruption policies, procedures and standards with a mean of 64.3%; internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity with a mean of 58.7%; criteria used in corruption-related risk assessments with a mean of 54.1%; use of whistleblowing mechanisms with a mean of 51%; employees have received training on anti-corruption with a mean of 46%; and number of pending or completed legal actions on

anticompetitive behavior with a mean of 26%. Finally, the mean scores for the total index shows a corruption and bribery disclosure of 48.6%. Thus, we highlight that our firm sample should keep focusing on corruption and bribery disclosure because it has some aspects where is still having some lack information.

Table 5. Descriptive Statistic about corruption and bribery disclosure II

Variable	Obs	Mean	Std. Dev.	Min	Max
Anti-corruption factor	50	0.643	0.306	0	1
Anti-corruption policies	50	0.867	0.285	0	1
Anti-corruption policy officer	50	0.418	0.472	0	1
Risk related to corruption factor	50	0.541	0.358	0	1
Quantification of risks related to corruption	50	0.367	0.454	0	1
Description of risks related to corruption	50	0.714	0.421	0	1
Internal and external mechanism factor	50	0.587	0.366	0	1
Internal and external mechanisms to preventing corruption and bribery	50	0.745	0.410	0	1
Internal and external mechanism officer	50	0.429	0.445	0	1
Training factor	50	0.469	0.374	0	1
Number of training employees	50	0.265	0.434	0	1
Training employees	50	0.673	0.463	0	1
Whistleblowing factor	50	0.510	0.320	0	1
Whistleblowing mechanisms	50	0.745	0.410	0	1
Anonymously whistleblowing mechanisms	50	0.622	0.484	0	1
Satisfaction whistleblowing mechanisms	50	0.163	0.344	0	1

Variable	Obs	Mean	Std. Dev.	Min	Max
Completed legal factor	50	0.265	0.373	0	1
Number of incidents of corruption	50	0.388	0.482	0	1
Number of incidents in which employees were dismissed	50	0.214	0.395	0	1
Number of corruption public legal cases (pending or completed legal actions)	50	0.194	0.379	0	1
Size	50	11,623	1,342	9,417	14,489
Index of disclosure	50	0.486	0.238	0	0.93

Table 6 presents the correlation matrix among the factors that compose the disclosure index and other variables such as size, country and industry. As Table 6 indicated, the correlations among the variables show that anticorruption factor has a positive and significant relationship between risk related to corruption, internal and external mechanism and whistleblowing factors. Risk related to corruption factor has a positive and significant relationship between internal and external mechanism, training, whistleblowing and completed legal factors. Internal and external mechanism factor has a positive and significant relationship with training and whistleblowing factors. Training factor has a positive and significant relationship with whistleblowing factor. And whistleblowing factor has a positive and significant relationship with completed legal factor.

Table 6. Correlation matrix

	CBDI	Anti-corruption factor	Risk related to corruption factor	Internal and external mechanism factor	Training factor	Whistleblowing factor	Completed legal factor	Size	Country	Industry
CBDI	1									
Anti-corruption factor	,578**	1								
Risk related to corruption factor	,666**	,373**	1							
Internal and external mechanism factor	,751**	,526**	,498**	1						
Training factor	,630**	,255	,379**	,457**	1					
Whistleblowing factor	,799**	,366**	,314*	,570**	,388**	1				
Completed legal factor	,644**	,110	,294*	,184	,197	,492**	1			
Size	,084	-,049	,065	-,012	,130	,151	,027	1		
Country	-,103	,237	-,063	-,167	,015	-,238	-,094	-,074	1	
Industry	-,065	-,189	,131	-,045	,087	-,009	-,194	,421**	,016	1

In table 7, we can see a crosstab between the level of corruption and bribery disclosure and the industry. The figures present that the industries that disclose more information about corruption and bribery are some from technology and telecommunications and financial services and insurance. But we should highlight that their level of corruption and bribery disclosure is about 51% and 75%.

Table 7. Relationship between the level of corruption and bribery disclosure and industry

		Level of corruption and bribery disclosure				Total
		Between 0 and 25%	Between 26% and 50%	Between 51% and 75%	Between 76% and 100%	
Industry	Oil and energy	2	0	4	1	7
	Basic materials, manufacturing and construction	1	1	0	3	5
	Consumer goods	5	1	4	1	11
	Consumer services	0	2	2	0	4
	Technology and telecommunications	3	1	8	0	12
	Financial services and insurance	0	3	6	1	10
Total		11	8	24	6	49

Furthermore, in table 8, there is a crosstab with the relationship between the level of corruption and bribery disclosure and country. In this case, table presents that the countries with more level of corruption and bribery disclosure in our sample are France and Germany disclosing a level of 51% and 75% of information.

Table 8. Relationship between the level of corruption and bribery disclosure and country

		Level of corruption and bribery disclosure				Total
		Between 0 and 25%	Between 26% and 50%	Between 51% and 75%	Between 76% and 100%	
Country	Germany	4	2	7	2	15
	Spain	0	0	4	1	5
	Finland	1	0	0	0	1
	France	3	4	9	2	18
	England	1	0	0	0	1
	Italy	0	0	2	1	3
	Netherlands	2	2	2	0	6
Total		11	8	24	6	49

Conclusions

This investigation examines the degree of disclosure of information about corruption and bribery presented by the listed companies on the Eurostoxx50 in 2017, year in which the European companies have to publish a mandatory non-financial information. Specifically, we analyze the corruption and bribery matters included in the annual accounts by a sample of 50 European listed companies that were affected by the new EU-legislation.

In this sense, we statistically verify the level of corruption and bribery disclosure showing that around sixty percent of our firm sample was disclosing non-financial information in the mandatory section that the Directive 2014/95/EU argues. Furthermore, we find that the corruption and bribery aspects more disclosed are related to the anti-corruption policies, procedures and standards; internal and external control processes and resources allocated to preventing corruption and bribery; and criteria used in corruption related to risk assessments. On the other hand, we highlight that training on anti-corruption that employees have received and the number of pending or completed legal actions on anticompetitive behavior are the less disclosed aspects. Our findings also show that the industries that disclose more information about corruption and bribery are technology and telecommunications and financial services and insurance. Finally, the countries that present the highest levels of disclosing are France and Germany.

Overall, this work provides insights about the behavior that Eurostoxx50 firms have done during the implementation of the Directive 2014/95/EU in the year where European firms have had to publish non-financial information in a specifically section. In this sense, our findings have public policy implications because they suggest that firm are responding to the disclosure of corruption and bribery information. However, we should point out that there is still a long way to get disclosure about corruption and bribery from all companies.

This investigation shows a first step in studying the evolution of disclosure aspects related to corruption and bribery under the Directive 2014/95/EU. In this line, we should highlight that this work also has several limitations: firstly, we have examined only a limited sample of European listed companies during on year. For this reason, this work should extend the sample and the time period in order to corroborate our results. Secondly, another limitation is focused on the idea that scoring model represents a non-objective evaluation of the quality of information. Additionally, further investigations could be focused on analyzing what factors affect or impact on the level of disclosing.

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RESPONSIBLE CONSUMPTION AND CIVIC ENGAGEMENT AS SUSTAINABILITY ORIENTED BEHAVIORS

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Abstract. *The paper presents the findings of a survey based study investigating predictors of socially conscious consumption in Romania, a European country confronted with many societal issues, whose citizens were found to be highly concerned about some of the environmental problems, but less aware about some important others. The paper presents in brief the Romanian context and the theoretical background, focusing on the role of socially conscious consumers and the literature explaining the importance of cultivating pro-social behaviors, as necessary ingredients towards sustainability. Data collection and statistical analysis are detailed, discussing the findings and research limitations, as well as potential directions for the future studies. In line with previous literature, the present study finds the positive influences of education and civic engagement on socially responsible consumption behavior. Results indicate education as a highly relevant demographic characteristic in predicting consumer's responsibility. The paper emphasizes the need of investment in Romanian education, and the multiple benefits Romania would gain by narrowing the gap in this important area, but not only.*

Keywords: *Socially conscious consumption; social responsibility; civic engagement; education, Romania.*

Introduction

Civic life of modern consumers is subject of intense academic education and research debate. Social implications of consumption are scrutinized and non-material needs, such as civic participation, are analyzed (Briceno & Stagl, 2006), because consumption habits and patterns are one of the main causes for serious environmental problems, and not only. Developed and even emergent societies are increasingly worried that present consumer culture, stimulating excessive and selfish consumption, negatively influences societal values and civic engagement, hurting social cohesion and integration, as well as long term sustainable development. As a consequence, social responsible behaviors, consumer citizenship, socially conscious consumerism and relationships between various types of responsible consumption and civic engagement have been thoroughly investigated (Antil, 1984; McGregor, 2002; Keum et al., 2004; Briceno & Stagl, 2006; Cotte, 2009; Atkinson, 2011; Bocken et al., 2014; Cho, Keum & Shah, 2015; Chang, 2017; Crișan, Zbucnea & Moraru, 2017).

Consumerism is more and more criticized for the negative influences on various social goods, such as civic values and social connection (Atkinson, 2011). There are, however, newly developed trends towards a so called socially conscious consumption, or responsible consumption. Consumer responsible behaviors and civic minded consumers can change the way companies operate on markets, to incorporate societal interests and ensure greater sustainability. Pro-social consumer orientations are cultivated, because they can positively influence civic engagement and sustainability. Such efforts result in support for social responsible companies (Bocken et al., 2014; Andrei et al., 2017), despite of the fact that socially responsible consumers are not always willing to pay a premium price for the products sold by CSR involved companies, and serious gaps exist between stated intentions and real behaviors (Cotte, 2009; Bradu & Zait, 2016; Chang, 2017; Zbucnea, 2013).

Recent studies indicated that consumers not only undertake socially responsible actions in support of those companies they perceive as honest players in the market (Andrei et al., 2017, but they also manifest the willingness to become activists and fight against big societal issues (i.e. pollution, depletion of natural resources, loss of biodiversity, unethical business practices and so on), as Chang (2017) emphasized. In this way, they develop a civic conscience and become better citizens, involved and active (Zait, 2017), some authors indicating a growing number of those adopting socially responsible behaviors across the world (Cotte, 2009).

However, defining and describing the social conscious consumer is not an easy task, since many studies discovered that the most common descriptors used in consumer research – both demographics and psychographics – often lead to contradictory results and suggest that more personality variables and values should be considered for better explanations. To make things even more provocative, nowadays democratic societies struggle for cohesion and integration through diversity and pluralism, allocating even more weight to civic minded behaviors and community feelings, civic engagement being sometimes the only one holding a pluralistic society together (Bertelsmann, 2003).

Therefore, environment and society interests are more and more valued, by both companies and consumers (Crane, Matten, & Moon, 2008), and we are witnessing an increase in the levels of civic participation but a simultaneous growth of consumption of all types: both socially conscious consumption, and status oriented, selfish consumption. This reality indicates the need of investigating the connections between the level of civic participation and the type of consumption behavior a person adopts: socially conscious or status-oriented consumption. We remind here that socially conscious consumption refers to a buying behavior that benefits society as a whole, consumers being aware of the public consequences of their purchasing actions, while status-oriented consumption involves purchasing of products that reveal an individual's social position, heavily materialistic (Cho, Keum & Shah, 2015).

Research assumptions

Considering described context, our study was designed to diagnose the relationships between socially responsible consumption behavior and civic engagement in Romania. an EU country from East-Central Europe zone, confronted with many societal issues, whose citizens were found to worry less than other Europeans about the negative impact of consumption habits, but to be highly concerned about environmental issues

such as air pollution, as Luca et al. (2018) indicated in a study discussing the main environmental concerns in European Union. Highlighting that 60% of Romanians are worried about air pollution (comparing to 56% at EU-28 level), water pollution (45% of Romanians, comparing to 50% at EU-28 level), the growing waste (37% of Romanians, comparing to 43% at EU-28 level), health impact of the chemicals which are used in consumer goods (33% of Romanians, comparing to 43% at EU-28 level), and the depletion of natural resources (24% of Romanians, comparing to 36% at EU-28 level), Luca et al.(2018) reported consumption habits among top 10 environmental concerns of Europeans. Their study has found that almost a quarter (24%) of EU-28 citizens are worried about the negative impact of consumption habits, while slightly lower concerns on this issue (18%) were found among people from East-Central Europe zone which includes Romania, as well as Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia (see details in Figure 1).

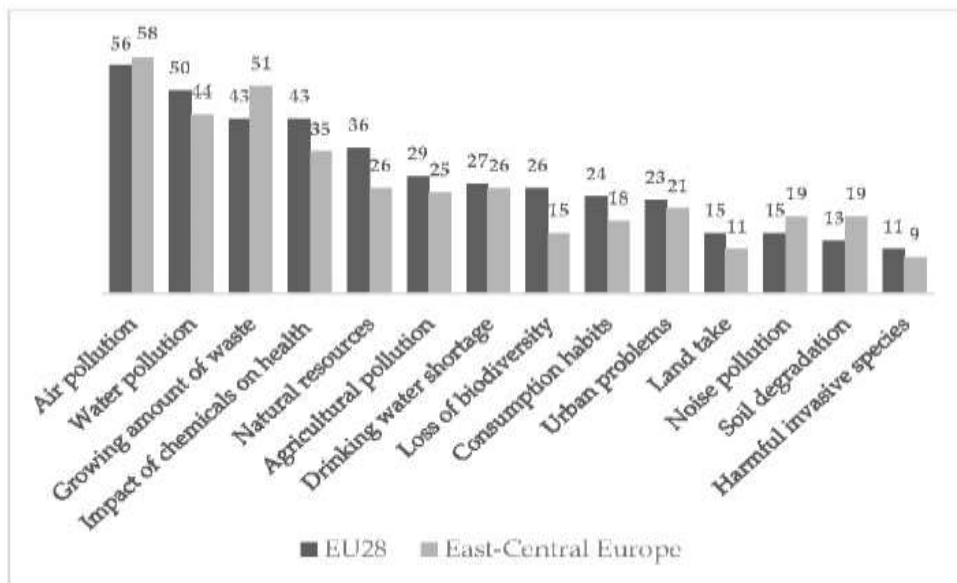


Figure 1. Main environmental concerns in EU28 and East-Central Europe (Luca et al., 2018, p.5)

Given the aforementioned considerations, the study hypothesized that:

H: Civic engagement exerts a positive influence on socially responsible consumption behavior.

The research tested assumed relationship on a Romanian sample, taking also into account the potential influences which might appear due to participant's characteristics such as: education level, family income, work experience, age, gender, urban or rural area of provenience.

Method, measurement and data collection

A survey study was conducted to explore responsible consumption phenomenon in Romania, using an online questionnaire applied with 259 participants (64.9% female, ages 19-30, Romanian nationality students enrolled in the academic year 2016-2017 at

undergraduate (62.5%), master (33.3%) or doctoral studies (4.2%) in Bucharest or Iasi - two of the largest university centers of the country).

Applied questionnaire collected data on 41 items (detailed in Table 1) measuring on 5 points Likert scale (1= not at all; 5 = very much) the level of person's engagement in civic actions (1 item denoting civic engagement dimension: *"I have often participated in activities such as volunteering, environmental protection actions, community support actions, social projects of non-governmental organizations"*), and socially responsible consumption behavior (40 items comprised in SRCB scale advanced by Antil,1984; Antil & Bennett,1979), plus participant's demographic data (8 traits: education level, family income, work experience, age, gender, urban or rural area of provenience, county, nationality).

The questionnaire was applied in the local language, after a translation and back translation process employed to ensure cultural adaptation of the 40 items of SRCB scale (Antil, 1984; Antil & Bennett, 1979).

The sum-scores of participant's ratings on the 40 SRCB items (detailed in Table1 according to original scale of Antil, 1984; Antil & Bennett, 1979) were computed into the variable '*socially responsible consumption behavior*', which was further used in the statistical analysis.

SPSS software package was used to perform data analysis.

**Table1. Socially responsible consumption behavior
(SRCB scale of Antil, 1984; Antil & Bennett, 1979)**

Items
1. People should be more concerned about reducing or limiting the noise in our society.
2. Every person should stop increasing their consumption of products so that our resources will last longer.
*3. The benefits of modern consumption are more important than the pollution which results from their production and use.
4. Pollution is presently one of the most critical problems facing this nation.
5. I don't think we are doing enough to encourage manufacturers to use recyclable packages.
6. I think we are just not doing enough to save scarce natural resources from being used up.
7. Natural resources must be preserved even if people must do without some products.
8. All consumers should be interested in the environmental consequences of the products they purchase.
*9. Pollution is not personally affecting my life.
10. Consumers should be made to pay higher prices for products which pollute the environment.
11. It genuinely infuriates me to think that the government does not do more to help control pollution of the environment.
12. Non-returnable bottles and cans for soft drinks and beer should be banned by law.
13. I would be willing to sign a petition or demonstrate for an environmental cause.
14. I have often thought that if we could just get by with a little less there would be more left for future generations.
15. The government should subsidize research on technology for recycling waste products.
16. I'd be willing to ride a bicycle or take a bus to work in order to reduce air pollution.
*17. I would probably never join a club or group which is solely concerned with ecological issues.

Items

- *18. I feel people worry too much about pesticides on food products.
- *19. The whole pollution issue has never upset me too much since I feel it's somewhat overrated.
- 20. I would donate a day's salary to a foundation to help improve the environment.
- 21. I would be willing to have my laundry less white or bright in order to ensure that I was using a nonpolluting laundry product.
- 22. Manufacturers should be forced to use recycled materials in their manufacturing.
- 23. I think that a person should urge his/her friends not to use products that pollute or harm the environment.
- 24. Commercial advertising should be forced to mention the ecological disadvantages of products.
- *25. Much more fuss is being made about air and water pollution than is really justified.
- 26. The government should provide each citizen with a list of agencies and organizations to which citizens could report grievances concerning pollution.
- 27. I would be willing to pay a 5% increase in my taxes to support greater governmental control of pollution.
- *28. Trying to control water pollution is more trouble than it is worth.
- 29. I become incensed when I think about the harm being done to plant and animal life by pollution.
- 30. People should urge their friends to limit their use of products made from scarce resources.
- 31. I would be willing to pay 10 RON more each month for electricity if it meant cleaner air.
- 32. It would be wise for the government to devote much more money toward supporting a strong conservation program.
- 33. I would be willing to accept an increase in my family's total expense of 120 RON- to promote the wise use of natural resources.
- 34. Products which during their manufacturing or use pollute the environment should be heavily taxed by the government.
- *35. People should be willing to accept smog in exchange for the convenience of automobiles.
- 36. When I think of ways industries are polluting the environment I get frustrated and angry.
- 37. Our public schools should require all students to take a course dealing with environmental and conservation problems.
- 38. I would be willing to stop buying products from companies guilty of polluting the environment even though it might be inconvenient.
- 39. I'd be willing to make personal sacrifices for the sake of slowing down pollution even though the immediate results may not seem significant.
- *40. I rarely ever worry about the effects of smog on myself and my family.

Note: *Denotes items that are reverse coded.

Data analysis and results

Descriptive analysis indicated the following structure of the sample: N=256 participants of Romanian nationality, 64.9% female, ages 19-30, undergraduate (62.5%), master (33.3%) and doctoral (4.2%) students, with an approximate family income per member under 2000 RON (68.7%), or over 2000 RON (31.3%), most of them (81,5 %) having a

little working experience or no experience, and only 18,5% reporting a consistent working experience.

Considering *socially responsible consumption behavior* as dependent variable, regression analysis was applied to test potential influences exerted on it by independent variables: *civic engagement*; *education*; *work experience*; *income per family member*; *age*; *gender*.

Statistical results (details in Table 2 and Table 3) indicated that two of the six independent variables considered, namely *civic engagement* and *education*, predict dependent variable *responsible consumption behavior* ($F = 63.473$, $p < 0.05$), explaining 60,2 % of its variance ($R \text{ square} = 0.602$).

Regression analysis output detailed in Table 3, have shown that *socially responsible consumption behavior* is positively influenced by *education* ($\beta = 0.136$; $t = 2.967$; $p < 0.05$) and *civic engagement* ($\beta = 0.728$; $t = 16.931$; $p < 0.05$; research hypothesis confirms).

The other 4 variables included in the analysis (*age*, *gender*, *family income per member*, *work experience*) were found to have no significant influences on *socially responsible consumption behavior*, as it is indicated by β coefficients detailed in Table 3.

Table 2. Results of regression analysis. Model Summary and ANOVA^a

Model Summary		R	R Square	R Square Adjusted	
		0.776	.602	.592	
ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	73592.675	6	12265.446	63.473	.000 ^b
Residual	48696.051	252	193.238	-	-
Total	122288.726	258	-	-	-
a. Dependent variable: Socially responsible consumption behavior					
b. Predictors: Civic engagement, Education, Work experience, Income per family member, Age, Gender.					

Table 3. Results of regression analysis. Coefficients^a

Model	B	Std. error	Beta	t	Sig.
(Constant)	87.6	4.697		18.649	.000
Civic participation	22.719	1.342	.728	16.931	.000
Age	-2.386	1.912	-.076	-1.248	.213
Gender	2.682	1.873	.059	1.432	.153
Education	5.150	1.736	.136	2.967	.003
Work experience	4.902	3.233	.088	1.516	.131
Income per family member	-3.522	2.176	-.075	-1.619	.107
a. Dependent Variable: Socially responsible consumption behavior					

Overall, the results obtained on the Romanian student sample indicate that person's level of education (in this case enrollment in undergraduate, master or doctoral studies) and person's engagement in civic actions have positive influences on person's socially responsible consumption behavior.

Conclusions and discussions

Analyzing the data collected from 259 students (ages 19-30) enrolled in Romanian universities (undergraduate students 62.5%, master students 33.3% and PhD students 4.2%) the present study offers insights regarding responsible consumption phenomenon in Romania. The study finds positive relationships between responsible consumption and civic engagement, respectively between responsible consumption and education, indicating a profile of socially conscious consumers among young and educated Romanians.

In line with previous literature (Bodur & Sarigöllü, 2005; Andrei et al., 2017), the results of the present study indicate that person's level of education (in this case participant's enrollment in undergraduate, master or doctoral studies) and person's engagement in civic actions have positive influences on the tendency of consuming responsible and committing into "a deliberate effort to acquire, use and dispose of products in manners minimizing negative consequences and maximizing positive ones on both environmental and social levels", as Ertz (2016, p.6) described socially responsible consumption behavior.

Although the literature acknowledges that the level of income (which is known to induce price sensitiveness), as well as work experience should influence responsible consumption decisions (Gandhi & Kaushik, 2016; Kai & Liang, 2016; Vătmănescu et al., 2017, 2018) the present study finds no influences on these directions. The lack of significant influences exerted on responsible consumption decisions by participant's income and work experience in the present study might be a limiting consequence of a student sample. In this vein we mention that only 18,5 % participants reported a consistent working experience. Also, the single item measurement of civic engagement ("I have often participated in activities such as volunteering, environmental protection actions, community support actions, social projects of non-governmental organizations") represent a second limitation. To overcome these limitations, future studies might consider one of the multi-item measurements of civic engagement indicated in the literature (Doolittle & Faul, 2013; Jugert et al., 2013; Zait et al., 2017), as well as a larger sample. comprising all population categories.

Finally, the findings regarding the positive impact of both education and civic engagement on socially conscious consumption indicate education as most relevant among demographics in predicting consumer's responsibility. The result highlights the need of investment in Romanian education and the benefits Romania would gain by narrowing the gap it actually has in this important area comparing to other EU-28 countries.

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CHALLENGES IN PROJECT MANAGEMENT

SUCCESS CRITERIA AND CRITICAL SUCCESS FACTORS OF CRM PROJECTS IN TELECOMMUNICATION COMPANIES

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Abstract. *The paper aims to fill in the gap of investigating the success criteria and the critical success factors of CRM projects completed in Hungarian telecommunication sector. It highlights the importance of CRM projects aligned with the organization strategy, and introduces, what are the most important success criteria of these projects and what factors have an influence on the successful realization of CRM projects. The paper first gives an overview of the strategic importance of projects and project management. Then project success criteria and factors are discussed. Customer Relationship Management is introduced in order to analyze its role in strategic decision making. In the empirical part of the paper CRM projects at Hungarian telecommunication companies and their information technology suppliers are analyzed. Telecommunication companies are leaders in introducing and applying CRM systems in Hungary. In order to identify project success criteria, and the key success factors of CRM projects, as well as the relationship between them, a questionnaire was developed. Project managers and team members, as well as representatives of stakeholders – suppliers, consultants - of CRM projects at these companies, were asked to fill out the questionnaire by evaluating the CRM project they have worked for or they have been involved in. Experience in agile project management, in innovation, and in CRM system introduction is the characteristic feature of the selected respondents. 90 experts were selected and asked to fill out the questionnaire. Quantitative analysis has been made by using a database of 62 respondents. The importance of the research is that no empirical survey has been made by focusing on success criteria and factors of CRM projects neither in global nor in Hungarian perspective. The Standish Group has been investigating software development projects by applying the project triangle as success criterion and reveals the most important success factors of these projects, however, it provides general information of software development projects but no special attention has been made to CRM projects (Standish Group, 1995-2015). The PMI's Pulse of the Profession survey series also provides useful knowledge of success factors and criteria of projects, but its investigation doesn't give IT- and CRM-related information (PMI, 2012-2018). Furthermore, Hungarian projects don't take part in these surveys' samples. This indicates how our research fills in the gap of investigating the success criteria and the critical success factors of CRM projects completed in Hungarian telecommunication sector*

Keywords: *sustainability; strategy, project; success; assessment tool.*

Introduction

Project management is one of the most dynamic fields of management science and practice. The main challenge of project management is not just how to complete projects successfully, but how these projects contribute to the successful realization of organizational strategic goals as well (Martens et al., 2018; Pinto, 2016; Blaskovics, 2016; Cserhádi & Szabó 2014; Artto et al., 2008).

Customer Relationship Management plays an important role in strategic project management given that CRM systems as an outcome of these projects perform a bridging function between the project owner organization and its customers (Steel et al., 2013). Customer Relationship Management refers to principles, guidelines, tools, and methods used in order to identify, attract and satisfy the organization's customers. It is very important to understand the needs and behavior of customers and respond to the shifts of the customer's desire (Chen & Popovich, 2003; Krasnikov et al., 2009; Peppers & Rogers, 2011). CRM projects aim to develop and introduce CRM systems in order to increase the customer orientation of the organization. According to the Nucleus Research Report (Nucleus Research Report, 2016) companies are increasing their investments in CRM applications because of 4 times higher ROI. And yet, at the same time, C5Insight research shows that CRM projects fail between 30-60% of the time and this low-level success rate hasn't been improving over the last decade (C5Insight Report, 2017).

Project and project management

The Project Management Institute defines a project as "a temporary endeavor undertaken to create a unique product, service, or result" (PMBOK, 2017, p.4). Turner's definition – "an endeavor in which human, material and financial resources are organized in a novel way, to undertake a unique scope of work, of given specification, within constraints of cost and time, so as to achieve beneficial change defined by qualitative and quantitative objectives" (Turner, 2000, p.2) – highlights the importance of realizing project goals on time and on budget. Kerzner represents the process-based view by defining a project as "any series of activities and tasks that have a specific objective to be completed within certain specifications" (Kerzner, 2017, p.2).

Project characteristics are as follows:

- Unique;
- complex, complicated, one-time process;
- has a specific objective to be completed;
- limited by budget, deadline, and quality (project triangle);
- consumes human and nonhuman resources (fitness);
- has defined start and end dates (temporary);
- the project is customer-focused (added value);
- aligned with the organizational strategic goals.

Based on the management definition of Griffin (2017), project management can be defined as a set of activities (including planning, decision-making, organizing, leading, and controlling) directed at a project's resources (human, financial, physical, and information) with the aim of achieving project goals in an efficient and effective manner.

Project success

Project success is widely studied and discussed the phenomenon of project management. While some success criteria and factors are common across different project types, there are unique criteria and factors applying only to specific projects (Cserhádi-Szabó, 2014).

Approaches to project success have changed continuously over the past couple of decades from definitions of success and critical success factors to a more strategic, holistic view (Judgev & Müller, 2005).

Project success criteria

There are several theories focusing on project success criteria. The most used approach highlights the importance of the “project triangle” (Turner & Cochrane, 1993; Agarwal & Rathod, 2006; Fortune & White, 2002; Judgev & Müller, 2005) according to which successful projects are completed on time, on a budget, with all features and functions as initially specified.

However, this conception does not fully evaluate project success, since examining these parameters indicates merely the direct contribution to profit, whereas it omits taking into account whether the project meets all the expectations of the project’s stakeholders (Turner, 2000). Each interest group involved in the project may have different and sometimes conflicting criteria for evaluating outputs of the project (Artto et al., 2008). By evaluation of project success not only project effectiveness, the fulfillment of project triangle, but also project efficiency, stakeholders’ interests need to be taken into account (Deák, 2017; Görög, 2013).

The distinction between the task and psychosocial related criteria reflect the importance of stakeholders’ satisfaction as well (Cserhádi & Szabó, 2014). Task-related aspects are mainly based on the project triangle, whereas psychosocial-related criteria include the satisfaction of customers and end users, as well as the opinion of other project stakeholders (Pinto & Pinto, 1991).

In our understanding project, success criteria can be grouped into three categories as Figure 1 indicates.

The first perspective represents the traditional view of project success. Meeting the project triangle (time, cost, qualitative and quantitative requirements) includes criteria that indicate how effectively the project has been completed.

The next perspective represents the satisfaction of the project owner. It shows to what extent the project meets the owner’s expectations. In some cases, these expectations can be exactly defined already at the beginning of the project life cycle, like in construction industry, meanwhile, in many other cases the expectations and requirements are changing and are being modified during the whole project life cycle, like in case of software development, service development or reorganization projects. Therefore, this perspective is about the subjective evaluation of project success through the lenses of the project owner. It reflects how efficiently the project has been completed.



Figure 1. Different perspectives of project success criteria

The satisfaction of other parties involved in the project can also play an important role in assessing project success. End users, suppliers, vendors, consultants, contractors, local residents, as well as project team members have to be taken into account when analyzing the project success from this perspective.

Meanwhile, the satisfaction level of project stakeholders can be measured on a selected scale like on a five-grade Likert scale, the project effectiveness relies on objective data as total cost, the duration of the project and on different parameters of the project outcome. Consequently, empirical studies that evaluate project success by using the project triangle as success criteria provide comparative results, the evaluation of project efficiency is limited to the selected project and doesn't enable to collate them.

Project success factors

Once the project success criteria are defined, it is important to analyze, how project requirements could be accomplished. The successful project realization is determined by project success factors (Lim & Mohamed, 1999). Early studies (Baker et al., 1988; Pinto & Slevin, 1988) concentrated on revealing factors influencing a project's success or failure. Further publications (Belassi & Tukel, 1996; Cooke-Davies, 2002; Lechler, 1997) tried to classify factors and create a consistent model of success factors.

Belassi and Tukel (1996) reviewed the project literature and grouped project success factors into four categories: factors related to the project; to the project manager and team; to the organization; and factors related to the external environment.

Lechler (1997) developed a model of project success factors by creating three main categories: context, participants and functions. Using this framework, Gemünden and Lechler (1997) carried out an empirical survey which resulted in identifying critical success factors as the qualities of top management and project team as well as the communication.

Cooke-Davies (2002) defined project success factors at three different levels: the success of project management activity, project success, and consistent project success. The project management activity's success depends on specifying responsibilities and competences, integrated performance rating and effective risk management. As far as project success is considered efficient supporter and process management are the most important factors, whereas in reaching consistent project success practice of portfolio and program management as well as organizational learning play an important role.

Customer Relationship Management (CRM)

Customer Relationship Management is defined as “process companies use to understand their customer groups and respond quickly—and at times, instantly—to shifting customer desires” (Rigby, 2015). In order to increase competitiveness, organizations have to scan their environment by systematically collecting, storing, analyzing and using information and knowledge. Rapid change in the environment, new customer expectations, new products and services of competitors, technological revolution are examples why CRM became strategically more important.

Importance and functions of CRM systems

Since 1993, Bain & Company has surveyed executives around the world regarding the management tools they use and how effectively those tools have performed. The results of the global survey show that CRM has become one of the most important strategic management tools executives use. The last survey revealed that Customer Relationship Management (CRM) is the most used management tool regarding the executives' preferences (Rigby & Bilodeau, 2015).

Chen and Popovich (2003) and Fickel (1999) stress that CRM technology application has a key role in linking the front office functions (sales, marketing) and back office functions (operation, logistics, HR, finance) with the “company's customer touch points” like Internet, e-mail, social media, stores, kiosks, call centers.

Chen and Popovich (2003), and Goldenberg (2000) point out that CRM is not only a kind of technology but rather a “cross-functional, customer-driven, technology-integrated business process management strategy that maximizes relationships and encompasses the entire organization” (Chan-Popovich, p.673).

CRM systems are integrated, data-driven solutions. CRM systems offer various functions to be used in strategic decision making. These functions may include but not limited to:

- contact management that allows to segment contacts into groups to organize them;
- sales and sales related functions that help organizations to acquire new customers and to improve the sales processes;
- reporting functions with dashboards where users can view statistics using customized reports and dashboards including real-time data updates and a platform that can be accessed from various portals;
- customizable user interface;
- sales analytics;
- sales force automation that allows automating certain aspects of sales including outgoing calls, follow-up campaigns and the organization of data for more effective campaigns;

- sales forecasting that helps organizations to know a benchmark by which they can determine whether their results are actually on par with their efforts;
- workflow and approvals;
- sales performance management;
- creation of test environment;
- third-party integrations;
- case management (selecthub, 2015).

All of the above features are supporting the interaction with customers, customer service activities, sales support activities, customer care activities as well as finance and operations with automated solutions resulting in the modernization of operation and processing bulk amount of data (microsoft.com, 2017).

Advantages of CRM systems

The implementation of modern CRM systems offers a wide range of benefits. CRM system functions significantly improve the efficiency of operation and foster the interaction with customers. One of the biggest advantages includes collaboration. Even in small organizations, the entire customer lifecycle is typically too complex to be managed effectively by one person, but the use of CRM platforms supports the management of these complex systems. Besides, it is important to highlight other benefits as data storage, analytical functions, and the visualization toolset. Increased accountability can be achieved by logged changes of every activity resulting in improved customer experience (Robles, 2015).

The role of CRM in Telecommunication

CRM systems aim to provide agile and dynamic solutions resulting in the most effective customer serving activities. According to Deloitte's assessment from 2017, there is a higher tendency in the past few years in the telecommunication industry of adopting CRM systems (Wigginton, 2017). The reason for the dramatic increase is behind their needs for an efficient way of working with good quality. It is a high priority for companies working in this industry to be as fast as they can in order to serve the customers' increasing needs. In addition to this, the product portfolios of telecommunication companies change even faster than the environment. They must align their processes to this accelerated speed of changes. It is not only important because of their aspirations of becoming the leader of the market, but to stay alive there.

Empirical study

The aim of the research

The study aims to fill in the gap of investigating the success criteria and the critical success factors of CRM projects completed in Hungarian telecommunication sector.

The main research questions are as follows:

- What does project success mean for CRM projects in Hungarian telecommunication sector? What are the success criteria of CRM projects based on which the success of CRM projects is evaluated?

- What are the key success factors that have a significant influence on the success of CRM projects in Hungarian telecommunication sector?
- What is the relationship between success factors and success criteria of CRM projects in Hungarian telecommunication sector?

Methodology

Telecommunication companies are leaders in introducing and applying CRM systems in Hungary. The three biggest telecommunication companies – Telekom, Telenor, and Vodafone -- and two of their partners, big-sized information technology suppliers – Virtusa and Amdocs - were selected.

CRM projects at these Hungarian telecommunication companies and two of their big-sized information technology suppliers were analyzed.

In order to identify project success criteria, and the key success factors of CRM projects, as well as the relationship between them, a questionnaire was developed. Project managers and team members, as well as representatives of stakeholders – suppliers, consultants - of CRM projects at these companies, were asked to fill out the questionnaire by evaluating the CRM project they have worked for or they have been involved in. Experience in agile project management, in innovation, and in CRM system introduction is the characteristic feature of the selected respondents. 90 experts were selected and asked to fill out the questionnaire. Quantitative analysis has been made by using a database of 62 respondents.

Besides, three personal interviews were carried out in order to validate the results of the quantitative survey as well as to get a deeper understanding of the relationship between success factors and criteria of CRM projects. The interview partners represent the key strategic areas of CRM projects: marketing, IT development and consulting:

- Telenor SOHO segment value manager represents the marketing perspective of CRM projects.
- Telekom Lead Solution Architect represents the IT development perspective of CRM projects.
- BCA Hungary Lead Consultant represents the consulting perspective of CRM projects.

Research results

In this chapter, the paper concentrates on success criteria and key success factors as well as the relationship between factors and criteria of CRM projects based on the quantitative survey. In the discussion part of the paper, we use the outcomes of the interviews with representatives of different stakeholders.

Success criteria of CRM projects

Respondents were asked to list and rank the criteria based on which the success of CRM projects are evaluated at their organizations. The questionnaire itemized the success factors as follows:

- Project completion on time
- Project completion on budget
- Project completion by meeting the qualitative and quantitative requirements
- Satisfaction of project owner

- Satisfaction of other parties involved

Respondents had to determine the importance of each of these success criteria on a five-grade Likert scale where “5” indicates a very important and “1” a non-important success criterion.

Figure 2 shows the importance of project success criteria based on their average values.

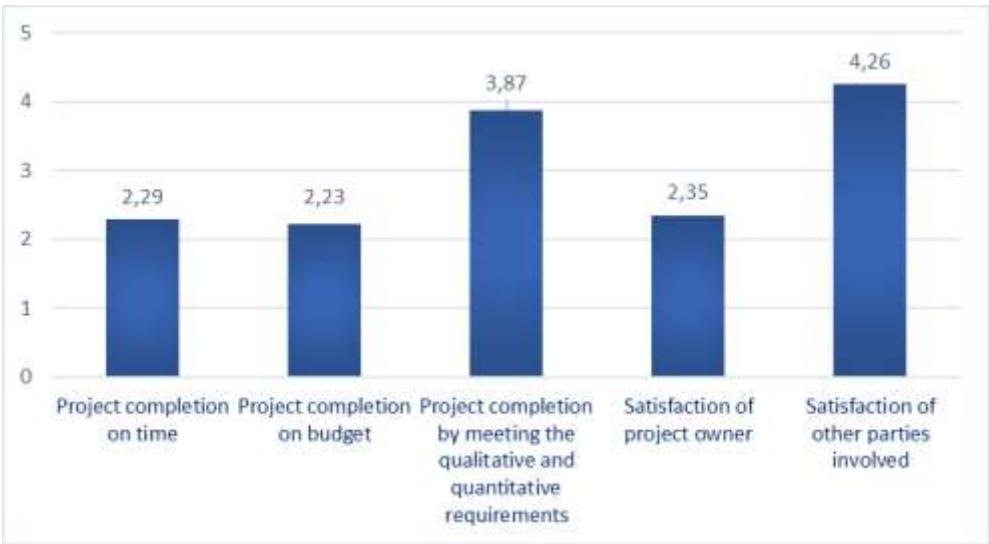


Figure 2. The importance of the success criteria of CRM projects based on their average values

According to the survey, the most important success criterion of CRM projects is the satisfaction of other parties involved, followed by the project completion by meeting the qualitative and quantitative requirements. Project completion on time and on a budget, as well as the satisfaction of owner organization play less important role in evaluating the success of CRM projects.

Success factors of CRM projects

Based on previous empirical surveys on project success factors, a long list of factors was created. Respondents had to evaluate all items according to the extent they have an effect on the success criteria of CRM projects. A 5-grade Likert scale was used where “5” indicates a very high and “1” indicates a very low extent of influence.

Satisfaction of other parties involved

Figure 3 shows what factors have an influence on the satisfaction of the other parties involved in the CRM projects.

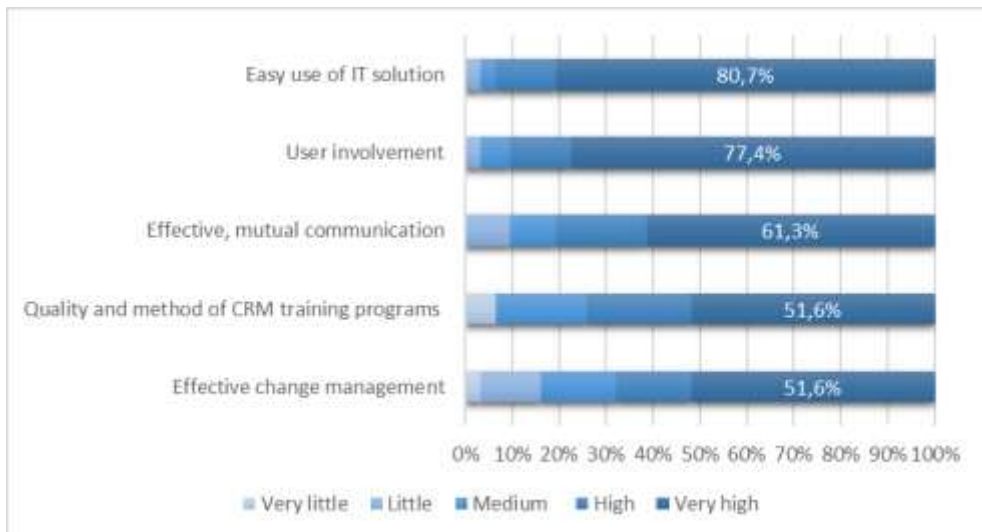


Figure 3. The effect of success factors on the satisfaction of the other parties involved

According to the survey, the *easy use of IT solution* is the most important factor that influences the project success from the perspective of other parties involved. More than 80% of the respondents stated the highest level of influence of this success factor, followed by *user involvement* (77,4 %) and *effective, mutual communication* (61,3%).

Project completion by meeting the qualitative and quantitative requirements

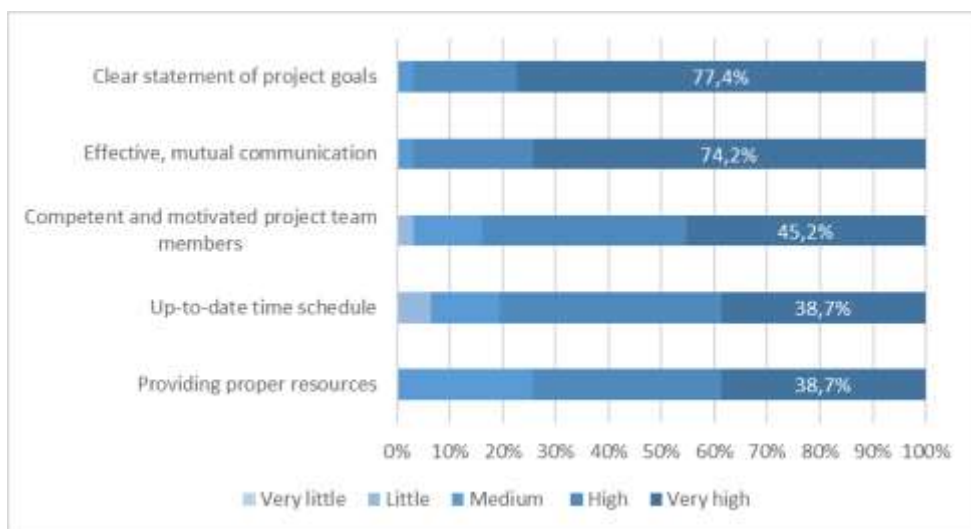


Figure 4. The effect of success factors on project completion by meeting the qualitative and quantitative requirements

Regarding the project completion by meeting the qualitative and quantitative requirements, the most determining success factor is the *clear statement of project goals* as more than 77% of the respondents stated the highest level of influence of this factor. Not significantly differs from this high level of influence the role of *effective, mutual*

communication (74,2%), meanwhile, other factors have a medium level effect on the qualitative and quantitative requirements.

Project completion on time, on a budget, the satisfaction of the project owner

The following three figures illustrate what are the most determining factors of project completion on time, on a budget, and on the satisfaction of the project owner. Although these criteria have lower priority in evaluating project success of CRM projects, it may be beneficial to identify their effects.



Figure 5. The effect of success factors on project completion by keeping the deadline

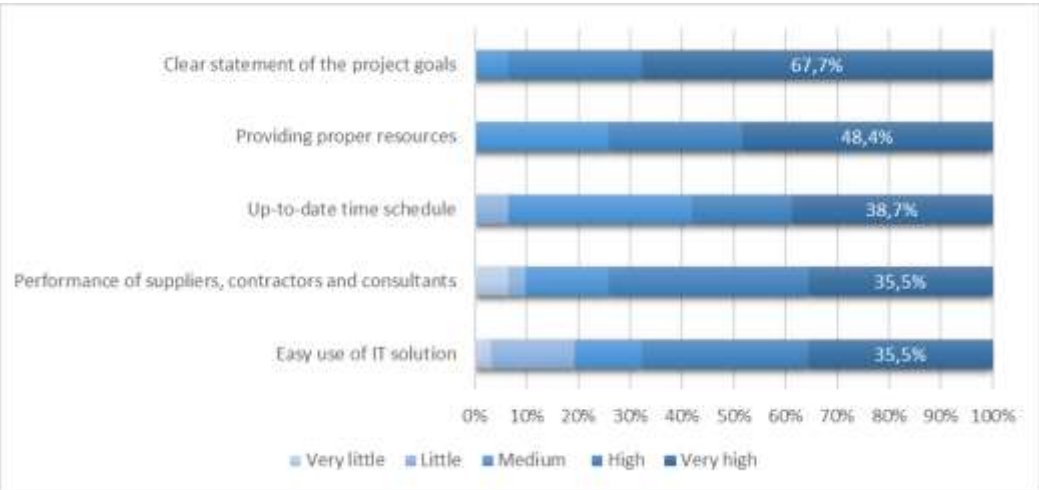


Figure 6. The effect of success factors on project completion by keeping the budget

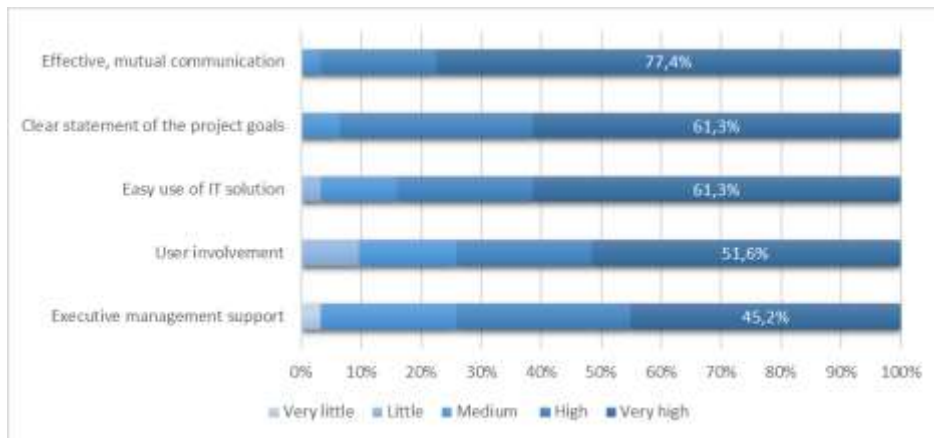


Figure 7. The effect of success factors on the satisfaction of the project owner

A clear statement of the project goals, as well as an up-to-date time schedule, are the decisive factors on keeping the deadline and the budget, while *competent and motivated project team members* appear as success factor of keeping the deadline and *providing proper resources* is a key success factor of keeping the budget. As far as the satisfaction of project owner concerns, *effective, mutual communication*, a *clear statement of the project goals* as well as the *easy use of IT solution* are the most decisive factors.

Table 1. gives an overview of the most important success factors of CRM projects at Hungarian telecommunication companies.

Table 1. Summary of the results regarding the effect of key success factors on project success criteria

No.	Satisfaction of other parties involved (4.26)	Project completion by meeting the qualitative and quantitative requirements (3.87)	Satisfaction of project owner (2.29)	Project completion on time (2.29)	Project completion on budget (2.23)
1	Easy use of IT solution	Clear statement of project goals	Effective, mutual communication	Clear statement of the project goals	Clear statement of the project goals
2	User involvement	Effective, mutual communication	Clear statement of project goals	Competent and motivated project team members	Providing proper resources
3	Effective, mutual communication	Competent and motivated project team members	Easy use of IT solution	Up-to-date time schedule	Up-to-date time schedule
4	Quality and method of CRM training programs	Up-to-date time schedule	User involvement	Providing proper resources	Performance of suppliers, contractors and consultants
5	Effective change management	Providing proper resources	Executive management support	Performance of suppliers, contractors and consultants	Easy use of IT solution

Discussion

As indicated in Figure 2, the evaluation of CRM projects' success is based primarily on the satisfaction of other parties involved. The most important stakeholder is the client who is, at the same time, the end-user of the project outcome. Projects must satisfy the needs of the client by fulfilling all the requirements it specifies. However, in many cases, the client is not able to define all the requirements of CRM projects already at the beginning of the project. This is why agile project management is spreading rapidly in ICT projects. Agile approach embraces change even in the development or execution phase of the project lifecycle. The project life cycle is divided into short-term development phases, for what project and product requirements are defined. At the end of each cycles, results are controlled, assessed and activities, requirements for the next cycle are determined. Given the time-frame and the budget, requirements are adjusted during the project life cycle. The latest issue of Chaos report by Standish Group (2015) revealed that the success rate of software development projects using agile project management is 3-times higher than of traditional waterfall projects. Taking into account that many CRM projects (and almost all in the sample) use agile project management, keeping the deadline and the budget are of less importance when evaluating project success of CRM projects.

Project success factors are those factors that determine the project success. In order to manage CRM projects successfully, we have to identify them properly.

The most important success criterion of the CRM projects is the satisfaction of other parties involved. This is why factors that influence on this criterion are considered to be key success factors of CRM projects. Easy use of IT solution, user involvement, and effective, mutual communication are on top of key success factors of CRM projects followed by factors such as a clear statement of project goals, competent and motivated project team members, up-to-date time schedule and providing proper resources.

This finding is on the one hand aligned with the results of the Chaos Report (Standish Group, 2015) where user involvement, clear business objectives, skilled resources are among the most important success factors of software development projects. On the other hand, our study reveals additional, sector-specific success factors as easy use of IT solution, effective, mutual communication and up-to-date time schedule. CRM projects involve new IT solutions and the success depends on how easily these CRM systems can be used. The nature of CRM projects requires effective, mutual communication among the development team, consultants, users and other groups of stakeholders like suppliers, marketing experts. Interviews revealed that in the case of CRM projects the time-to-market is the center of attention. For this reason, up-to-date time schedule has to be managed.

Furthermore, the interviews revealed that identifying the success factors and the relationship between factors and criteria is crucial because of the high level of complexity of CRM projects. Risks can be effectively managed only if concentrating on key project success factors. CRM projects' success or failure have an impact on organizational strategic goals. These facts highlight the relevance of our study.

Limitations and further research direction

The results show a comprehensive view of CRM projects at Hungarian telecommunication companies. The selected companies cover a great part of the Hungarian telecommunication sector. Respondents and the interview partners have demonstrated considerable experience in managing CRM projects. Despite all of these facts, there are many other companies in the Hungarian telecommunication industry dealing with CRM projects. Besides, the three biggest telecommunication companies have been applying well-established project management standards by using their international experiences; consequently, these results do not reflect the real Hungarian case. Further investigation should focus on CRM projects at small- and medium-sized enterprises in order to discover success factors and criteria of CRM projects at these companies that enables a comparative analysis by differentiating success factors and criteria by size and by organizational project management maturity.

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CHANGES IN COOPERATION IN PROJECT MANAGEMENT

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Abstract. *Today, project management (PM) has to meet the requirements of customers' rapidly changing requirements, new opportunities arising from technical progress, the ideas of investors or the legal framework in ongoing development. Gone are the days of contracts with fixed targets. Problems are named and outlined. Changes in the approach to PM and the transfer of self-responsibility to teams through agile processes such as Scrum, eXtreme Programming, Crystal or Kanban have already been introduced 12 years ago. This already had serious effects in communication. Furthermore, the approach of the anti-fragility claims in addition to the ability to communicate co-operation, readiness and assumption of responsibility. In this paper, we focus our discussion on changes in PM on the antifragility approach and address the tasks to be tackled in the change process from the transition from agile to anti-fragile approaches. First of all, the question is which requirements are to be placed on these supporting instruments for PM and which boundary conditions must be taken into account. Are new success factors to be considered in the new PM? How do we deal with internationalization? How about virtual worlds? How about the demand for mobility? And what is the impact of increasing multicultural diversity? Are disadvantages of the previous PM minimized or are they completely eliminated? Do disadvantages have to be accepted? Which? Who are the winners in the use of our newly developed anti-fragile PM? Is it financeable? In order to answer these questions, we deal intensively with the evaluation of existing methods and techniques. Because of projects that are rated as critical - this so far concerned quality, legality, financing, time and benefits - require the special attention of top management our new recognized factors have to be included in the evaluation of a crisis to obtain a better benefit of a project.*

Keywords: *cooperation; antifragility; digitalization; mobility; virtual organization.*

Introduction

The main goals of a project management (PM) are to achieve results that consist of - partly changing customer requirements, but still keeping to planned costs, planned times, planned use of resources and employees. The project manager can sometimes be part of the company, sometimes outside the company. Sometimes he has a team of members of different companies - sometimes even from different countries - to lead. They all have a common problem to solve. Due to the rapidly changing requirements of customers, a contract with fixed goals is no longer possible. Too many new technical possibilities, new laws that allow expansion or reduce the planned chances, or new ideas of the addressed clientele influence the further development. To meet changing environments, agile PM addresses the flow of communication within teams, as well as the scope and responsibility of each team member (seen in Sutherland, 2015). To date, the manager has been tasked with organizing and controlling the use of new technologies, selecting standards and methods, coordinating interactions between colleagues or between colleagues and customers, in conjunction with the permanent,

fast - changing environment. The core idea of reducing the complexity of these challenges is to gradually divide up the entire project. Instead of following fixed plans, agile PM can act flexibly. Permanent changes are possible and accepted.

In this paper, we focus our discussion on changes from the planned via the agile to the anti-fragile approach. Essential in agile PM is the self- responsible work of team members in a decentral network with distributed responsibilities (Agile Manifest 2001).

A stable working environment and exact predictions for the continuation of the work are necessary in a plan-oriented PM, where first a work plan is set up. This one is very fragile. Therefore, the ongoing development of the project is subject to fluctuations and shocks. It's about surviving these situations. The goals of an anti-fragile approach are to have more advantages than disadvantages in stressful situations and to be profitable. Taleb (2012, pp.31-40) compares to the Hydra. The main question is: What do we have to change in agile PM to get an anti-fragile PM? To answer this question, we need to consider the process, methods, and capabilities of anti-fragile PM.

Methodology

The anti-fragile approach claims to be able to support a high co-operation, including readiness and assumption of self-responsibility of all team members. The question is: What is the right manner of cooperation and how the top management can support this?

Beforehand, we provide a brief overview of task management in PM in general, special features in multi-project management, agile features before we use this scheme to highlight the specific challenges of the anti-fragile approach in PM. Discussion elements of the organization are procedures in the project process, new tasks and new roles, and subsequently the adoption of outdated concepts. We examine the question of the needed methods, techniques, standards and IT-Support. The anchoring in the company from a corporate and strategic point of view is another point of discussion. This is intended to ensure the sustainability of a changed PM. Training concepts and further developments in the area of the anti-fragile approach must also be taken into account in order not to miss the connection to further changes. As last result we list the recognized factors which have to be taken into account in addition to financing, time and benefits to make sure that ultimately, motivation and creativity should all be maintained for a long time.

Our methodology is shown in the figure 1. We start with the discussion of tasks of different types of PM to highlight the specific challenges of a planned, agile and anti-fragile project approach, we compare the organizational possibilities to support the needed cooperation within the development of a project, we examine which tools are used to support cooperation, and we end summarizing our discussion within a short table which will content the difference between a planned, an agile and an anti-fragile PM taking into account boundary conditions.

At the end you will find out why the sole good communication flow with the view of time stamps and costs are not enough.

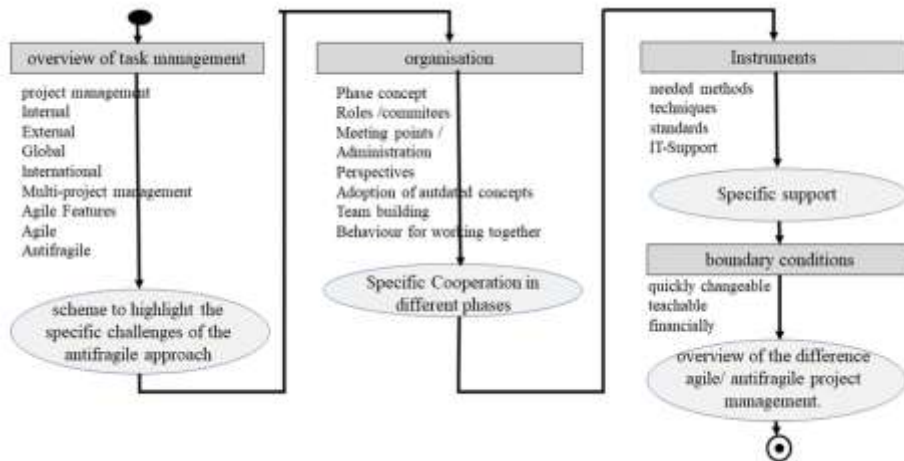


Figure 1. Methodology to show changes of PM

Tasks of PM

In this part of the paper, our goal is to figure out a scheme to highlight the specific challenges of the anti-fragile approach coming from a waterfall and an agile PM phase concept – as a process to develop products or services. In every PM the main tasks of a manager are, to plan, to decide, to coordinate and to control (as seen in Gabriel & Baier, 2003), but the tasks will be done in different phase dependent of the underlying process. In the case of PM for developing software a special subject, called Software Engineering, exist to develop specific methods and technics to make sure that the requirements of clients are right understand and the results will be done in given time and costs. The construction of a phase concept as well as each phase itself, and even each tasks within the phases following the questions first why, then what, and at last how. In this way the complexity of working on a problem is reduced. After each phase the top management can say stop or go, or they can introduce some changes. There exist more or less phases, dependent from the constellation of the type of PM, product's boundary conditions, of the team compilation and the organization. For example, in the case of software development, waterfall PM requires separation of the phase concept into phases such as phase requirement analyses (1), phase conception of the expert view (user) for the required functions (2), user interface (3) and data processing concept (4). In the case of the desire to buy software, you only need the whole phase (1), a small part of the phase (2) and sometimes, if you have the possibility to determine the user interface yourself, a small part of the tasks of phase (3). We believe that analyzing a chess point to find out the problems is always necessary before starting the project definition. In the project definition you start to work on the specifications, and you name the goals, and the associated problems. Using phase models, you need to create a timestamp plan and resources. As shown in Balzert (2008), there are different types of plan-oriented phase models such as waterfall model (linear or cyclic), V-model, prototype model (horizontal / vertical), evolution / incremental model, object-oriented model, or spiral model. They all have the same goals in the PM – minimize the costs, times, risks, management expenses or maximize quality. The great difference in the characteristic is solving the whole problems step by step or only an increment from begin to end. Sometimes you start with the basic system and then you develop the next part - like an evolution. If you will go fast to market, you will have developed some parts of the product in such way

that you can sell it. Sometimes you begin the next part before the other part is finished, and sometimes you can work parallel on parts of your new product.

In agile PM, this recognition is the basis for the development of a product. Here, the product owner describes the requirements, sets the priorities and estimates the effort. From this, he creates Blogs with deadlines, which he discusses with the so-called master. This master manages the development process. The team is urged to answer any problems that occur immediately. With Scrum there can be daily or weekly meetings that only last a short time. In a sprint of 2-4 months the team members can working on Blogs. At the daily meeting each team member is asked for the first time which problem he wants to solve and what he will do until the next time. At the 2nd - nth time there are always exactly 3 questions: were you done until today? There were problems? What are you going to do until next time? Here is no way to hide in a group. Everyone must answer for himself. If someone has had problems, he can say so openly. Everyone helps, so there is no delay in the whole project. First, the problems are resolved before it is allowed to proceed. An old slogan says: a chain is as strong as the weakest link. And who would like to pay for a project in which one person has done a wonderful job and another does not, so that the product cannot be sold?

Agile methods are focused on the result. Now, it may be that all team members belong to the enterprise. Then it is an internal project. But if the members are from different companies - as is generally the case with developments, for example, of projects that receive funding, we speak of external projects. Contracts are necessary. In the V-Modell this was extended by extensions to document templates for the necessary tasks of the tendering and the conclusion of the contract. It then creates a decentralized network of employees with distributed responsibilities. All the more important is the division into Blogs, which must then be suitably distributed from a technical point of view. Another distinction when looking at tasks is, that the project can only be distributed in one country or over several countries. How do we deal with internationalization? With knowledge about other cultures the impact of multicultural diversity can increase. In addition, we need tasks for education in other cultures. In other words, in IT support. But this IT support is harder to realize because of different tools and the problems between the different tools. Also, the bills, especially in publicly funded projects are also not easy to do. There are extra jobs like the GIZ, which do these tasks by specialists. But this means that more documentation tasks have to be completed and contracts have to be concluded.

If we consider the portfolio of projects in a company, then a multi-PM for coordination by a committee for the decision-making of selection of project proposals, financing (budget finding), appropriate resource planning (or even during the project term advantageous allocation) of resources, the prioritization of projects, supported by risk assessment with impact on the project landscape and portfolio review of all projects including the holistic coordination with the corporate strategy as well as standardized reporting and performance control necessary (as seen in Bircks, 2009). Furthermore, according to Bircks (2009), a regulation on decision-making powers and instructions also applies to management during the course of the project, the establishment of a knowledge pool and the provision of project-relevant information during and after the project. The project teams must be trained in the tools and methods and standards to be used. These framework conditions for the implementation of many projects in a company are thus possible in a planned PM with the focus on expertise, in the agile and

in the anti-fragile approach can be made some compromises. For both, the distribution of responsibilities per se is clear: everyone is jointly responsible for the success. Resources can be requested or exchanged at any time as the situation requires. The immediate danger of success must be avoided.

While the team spirit of the agile approach to the high-performance team - in which team members trust each other and sometimes work more to help others - has evolved, the anti-fragile approach is such that everyone can act on their own to find the best solution to find. Accordingly, everyone also needs a certain budget, which he may spend.

Table 1. Highlighted tasks in planed, agile and anti-fragile PM

Tasks:	PM →	planed	agile	Anti-fragile
Demand		Predetermined plan (time, costs, resources, methods, standards) from Manager/ MPM to fixed team	Blogs with timestamps from Product Owner to Scrum-Master to team, new Blogs in product Backlog	Problem to group of members, the members say how long time they need
Selection of works (operational level)		assignment from Manager to person	Free selection of an increment to work on it	Free selection of an part problem to solve it
Handling of problems occurred		Solution by manager	Solution within Team	Self-optimizing search for solution
Budget allocation		MPM/ Top manager	Product Owner	Each team member
Interchange of Instructions		Planed timestamps	Daily/weekly meeting/ Sprint	If necessary
Hindsight of finished projects		Institutionally (MPM) registration through questionnaires and forms	Every day / week or at the latest after Sprint: Discussion about mistakes	Learning from mistakes, these are openly discussed

In table 1 you will see the differences of important tasks between the planed, agile and anti-fragile PM. But how different are the manifold tasks organized?

Organization

On the basis of the analysis of task complexes described above, it can be stated that companies today carry out several projects virtually at the same time and therefore use multi PM (MPM) - also called portfolio controlling or product controlling (Krcmar 2000). This can be organized differently. It ranges from a separate department, to committees that always arrive at the same intervals, to outsourced assignments from specific companies. (Gabriel Beier, 2003, pp.136-143). And how is the project carried out from an organizational point of view? In a project, team members have to work directly on (part of) project and service team members have to document the state of a project (in plan, deviations) and to assist manager. Roles will be addressed to the team members. As seen in (V-Modell: Kap. 4, Pkt2.) roles are the description of capabilities, description of roles (name and text), tasks and powers, skills profile, casting, responsible for contributor. More details you will find in Balzert (2008, pp.5, 114, 120 ff, 255 ff, 556). Many different roles (34 in V-Modell) are distinguished in project teams' roles, project

specific roles and organizational roles (V-Modell, Chap.4/3). In agile PM the master works together with the team members (specialists) after having the blogs from product owner. For the organization there is no need for roles (and the high administration). All people work together if necessary. In anti-fragile PM everybody works on his problem in his way with the method, which he wants, and if he thinks that he needs help from a specialist, he is able to claim it. This is possible because of branding management. If you have an internal project or an external global project, it is easier to put together a team as it is within a network. In cooperation with partners from different companies, the influence of multicultural diversity will increase. The advantage is that the customer requirements in these countries are better understood through cooperation.

Table 2. Organizational elements in planed, agile and anti-fragile PM

Organizational elements:	PM → ↓	planed	agile	Anti-fragile
Room for Maneuverer		Not free	Responsible for team	Self-responsible
Collaboration		Distribution according to competence, working alone within group for cooperating enterprises	collaboration among employees routinely avoid problems	Collective collaboration
Control Support Information		Project goals (operational) MPM enterprise-goals	enterprise-goals	Corporate culture, corporate strategy
Organization unit		Fixed team	High Performance Team (never change a winning team)	Each Team-member
Learning organization		Learning if necessary for the projects	Learning every time, feedback after project, motivation,	Learning every time, also from mistakes, feedback during project, Burning
Phase concepts		Planed Phases with planed results	Operation phases – no separation in construction, control and documentation – all in one	Free handling in problem solving
Roles /committees		Multiple Roles, distinguished in project teams roles, project specific roles and organizational roles, MPM, PM	Owner (Blogs), master (operational), Team	Top management with problems, solver-group
Meeting points / steering board/		Milestones, planed timestamps, Steering board outside	Blogs with date, sprint 2-4 weeks, Team: every day	If necessary, IT supported, finished, problem solved
Administration		Very high, many documentation, project History	no documentation during development only results	For IT support only,

Organizational elements:	PM → ↓	planed	agile	Anti-fragile
Perspectives		Reliability, adherence to plans,	Fast and flexible, trust	Burning for the enterprise, By stress you become better, creative, innovative
Adoption of outdated concepts		Permanent learning	Team to High Reliability team	Back to Group, Free thinking and acting
Dealing with changes		Contractually regulated, plan change before implementation	Changes are accepted by the team at any time, (Blog change)	Changes are accepted by the team at any time, (Blog change)

In table 2, we demonstrate the essential organizational elements and their changes in different pm. From setting out fixed work schedules to communicating business goals to corporate strategy, the controlling information has evolved in connection with finding a new product or solving a problem. When dealing with changes, the need to make changes at any time, from the fragile inability to make an exact plan to the development of a product or service, has made this the immediate change self-reacting to changes. Thus, minimal damage and maximum profit for a company can be achieved in the simplest and fastest way possible.

Instruments for PM

In this chapter we discuss the different methods and the necessity of special IT Support. In planed PM the manager needs many methods to decide, to plan, to document and to control the project. For the different phases exist different instruments (see more in <http://www.infforum.de/>) Virtual Organizations are a set of organizational that rely on multiparty co-operative relationships between people across structural, temporal and geographic boundaries. Flexibility is brought about in part by reconfigurable networks of computer based communications that allow organizations to co-ordinate their activities and in part by a management philosophy based on collaboration and innovation. The required decentralized computer-assisted collaboration of time- or space-separated teams and groups is supported by groupware.

In table 3 we answer the initially question asked after possible supporting instruments for PM. Here we show, that the tendencies of only thinking about the problems as specialist of certain subjects is today not enough. Therefore, boundary conditions as enterprise strategy, possible measurements to act or to react on different conditions have to be taken into account from all team members in anti-fragile PM. In contrast to this fact, in agile PM, on operational level only the product owner has to know a great part of these conditions, the product owner all conditions, and all others a subpart of these. In planed PM there exist no call for this knowledge.

Table 3. Some Instruments, used in planed, agile and anti- fragile PM

Instruments ↓ P M →	planed	agile	Anti-fragile
Plan tool	Gantt chart, PERT chart, Microtool, project plan	Calendrer for blogs-time stamps, Excel,	Groups Work
Control	Developing Key figures, Reporting	Daily/ Sprint – Meetings	result
Needed control information	Explain the project objective	Explain the enterprise objectives	Explain the enterprise strategy, corporate culture, explain the problem
needed methods	Strategy – a knowledge for top management, BSC, phase concept, COCOMO-Model, Function point analyses, for more see INFFORUM	Quality management, Risk management, Strategy – a knowledge for product owner,	Brain storming methods, 5 Ps for strategy, Ansoff Matrix, Porter's Competitive strategies, Theory of Constraints
techniques	Fishbone technique,	Lano-Diagram, Classification and dismantle Marketing techniques	Fishbone technique, Lano-Diagram, Classification and dismantle, Scenario techniques
standards	UML, SysML IEEE1471	UML, SysML	UML, SysML
IT-Support	Tools for planning, information, coordination	Communication, Collaboration	Communication Cooperation
platform	Collaboration platform (p.e. Mikrotool)	Collaboration platform, (p.e. Mikrotool)	High dependence, therefore ensuring high availability

Conclusion: more persons have to know about the so long hidden information about the enterprise strategy, and they work today on the bundle of strategies for implementation of the wished enterprise strategy. Because of changing environment with many unknown conditions the theory of constraints is born. In this theory the security buffers for time, costs and worker are given – only one for each – but enough - for the whole project. Gone is thinking in 100% planning. With these buffers, it is possible to think about reactions rather than just drifting. Unforeseen events can be answered quickly. Goldratt (1997) uses a half-time estimate of the durations (i.e., the most frequent durations) as a simple approximation of the durations. The temporal buffers (e.g., difference between optimistic duration and pessimistic duration) are cumulated and appended to the end of the project as a shared buffer. The common buffer is not necessarily the sum of all individual buffers, but can be shortened according to statistical laws. By actively announcing the termination of a work package, it is attempted to line up consecutive processes as possible in the relay-run principle and to avoid idling. "And without the ballast of coordination with others, resolute decisions can quickly be made in a company such as in an emergency room of a hospital (see also Techt, 2017) act. The old slogan "What does not kill us, makes us stronger" is alive.

Discussion

We discuss now our findings above the aspect of cooperation. Under cooperation we understand an exchange of information over a synchronous channel between at least 2 persons or smart objects for decision making about the disposal of a resource. Thus, for example, in the case of a bottleneck, an order can be negotiated as to when and who may use the object in dispute in which chronological order. A good communication channel is therefore necessary to conduct the negotiation well. Conflicts should be avoided. Cooperation therefore focuses on the appreciation of the individual or the negotiating skills. This includes persuasiveness, creativity, good and clear language and the use of the right communication medium. If in a project each team member is responsible for one subpart, the person responsible for the entire project has to be able to coordinate well. "The lowest common denominator is always the individual employee, the individual person and how he confidently deals with his tasks as well as into the project Team is integrated ". (Quoted Bergauer, 2018).

Aarmor, Phillip G: "The Laws of Software Process" states in his book that we are re-engaged in a learning process in each project. The difficulty of this learning process is that we usually have to set up a plan for a project at the beginning. Our usual solution to compensate for "unknown unknowns" is to schedule buffers. We derive their size from the experience we have already gained in terms of requirements. Since the product to be developed in the software area is to be expandable and parts to be reusable, developers are forced to look to the future and take eventuality into account. The object-oriented approach was created specifically for reusability. But as completely new technologies or knowledge can make all the work so costly lapses, the question is when and what decision should be made in this case of software development in design of architecture. For this purpose, it must be read in (Techt, 2017) that as late as possible a decision should be taken, which then inevitably narrows the options.

On the question of whether the whole thing is financially worthwhile, studies have to be mentioned. Techt refers in his article (Techt, 2016) to a study by Dr. med. Alan Barnard, about multitasking in PM with approx. 500 participants from 20 sectors, according to which 20 percent capacity and 25 percent of sales are lost. According to Wolfram Müller (referred by Techt, 2016), the methodology of critical chain PM (CCPM) can also accelerate projects by around 20 percent or more. Combining Scrum with Critical Chain (= Reliable Scrum) this leads to Lorenz (Lorenz, 2014) to more success as the only use of agile methods. Following the fact that resources are usually not available indefinitely, projects therefore have to be successively bottlenecks. CCPM gives priority to project to which the division project progress on critical chain to use buffer is the lowest. According to (Lorenz, 2014), the use of CCPM in multi-project management can lead to an increase in adherence to deadlines of 95% and to a reduction of project durations by 25%.

The new success factors arise from the consideration "to get the best out of all situations which means that the enterprise is able to serve all customers on time and without quality compromises even in times of (significantly) increased demand". (Techt, 2017) While agile ways of working focus on adapting to new circumstances, antifragility focuses development by new circumstances. First approaches of agile features - as written above - were given in evolution model, incremental model, spiral model and prototyping. In agile PM Trust in the team becomes important here in the team to

achieve maximum performance. In the anti-fragile approach, trust is also demanded from the company to the employees in order to be able to drive innovation. In the agile approach, "the most efficient and effective way to communicate information to and within a development team is in a face-to-face conversation" (cited from agile manifesto). That's why the daily / weekly meetings - in eXtreme Programming (XP) minutes / hours - are very important. In this context, the Four V's, Volume, Variety, Variation and Visibility are also very important. as seen in (McDonald, 2008), which were dealt with in the context of the tasks. Thus, the table of most important criteria looks like this:

Table 4. Comparison between planed, agile and anti-fragile PM

Criteria ↓	PM →	planed	agile	Anti-fragile
Given Plan		CPM, Fixed project plan, fragile	Blogs, flexible, robust	CCPM (Buffer), LOG-Book, Do what the situation demands
Fast to market		Not relevant after planning	Fast to market	Innovation (earlier as others), multiple Options maintain
Responsibility		Each member himself for Adherence to the plan	Responsible for the result of the team	Self-responsible, high commitment

Critical Path Method (CPM) is referred to in (Rouse,) as a "A step-by-step PM technique. "However, since as many of the options as possible have to be retained in the development of a product or service, one must "deal more intensively with the question of the last possible time of a decision than deal with the decision itself. ... CCPM no longer presents resource scarcity as an exceptional situation, but considers it a normal case "(quoted by Gerrit Beine (2015)).

Summary

While agile methods of PM require the required skills of the team members in communication, the team members in the anti-fragile approach rely more on the cooperative style of working. New success factors are considered to be action on market. To do so much more self - responsibility from the team is demanded but also more trust into team members on the side of top management. While the agile PM can survive robust surprise, the anti-fragile PM learns from it and gets even better. For example, bottlenecks are optimally utilized. Priorities that everyone can see at any time "ensure that managers have to settle fewer conflicts and put out fires." (Techt, 2017) Employees may also exceed or fall short of schedules. This then serves as experiences that will be incorporated into the next estimates. Responsible supervisors must ensure multitasking among employees. (Lorenz, 2014). In the anti-fragile approach, the right corporate culture plays an important role.

When perturbation occurs, fragile and robust systems - supported by planned PM - are destroyed, resilient systems - supported by agile PM - recover, while anti-fragile systems benefit. In cases where market conditions do not anticipate changes in project

development time (e.g. through standardized arrangements), content can be planned and defined, and projects are characterized by a short development time or are developed for a closed market, then a planned approach such as waterfall can be successfully applied. But if customers want new materials or techniques during the project, only agile PM or anti-fragile approaches can provide the necessary additional values such as freedom of choice and ownership. If your team is not as self-dependent as it is needed for an anti-fragile approach, or if the company is not yet an agile system, then an anti-fragile approach is not possible. The challenges of PM are the differences in goals: PM is seen as mastering the complexity with collateral and standards compliance (like waterfall), or PM should serve customer satisfaction taking into account the risk minimization (agile) or the project should be profitable for that Companies, even if risks have to be taken into account in a dynamic market (anti-fragile). Action is better than to be frozen in fear.

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WHEN RISK MANAGEMENT IS NOT ENOUGH: PROJECT MANAGERS' EXPERIENCES WHEN CONFRONTED WITH THE UNEXPECTED

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Abstract. *Some organizations try to manage complexity by transferring it into defined, controllable structures and processes, aiming at delivering outcomes in a predictable and reliable manner. Others trust a high degree of freedom at the shop-floor and team level allowing for quicker decisions and self-determined choice to successfully respond to unexpected events. This paper explores the questions "What are organizational conditions and what course of actions allow project managers to handle unexpected turbulences satisfactory?" Empirical findings on both organizational cultures and structures, and a set of typical routines for managing unanticipated situations using eight case vignettes are presented. Results show that successful project-oriented organizations tend to relax structures and empower teams when confronted with sudden events in the detection phase. Once the decision on actions needed to address the turbulence is made, smart organizations swiftly rebound to formalized hierarchies and clear communication structures in the recovery phase, allowing for quick and coordinated action. Thus, combining centralization with decentralization along the timeline of resilient action is one of the cornerstones to smart project organizing.*

Keywords: *The unexpected; project resilience; organizational culture and structure; case vignettes.*

Introduction

Risk is calculable, and predictions can be expressed by a statistically or mathematically determined probability (Acebes, Pajares, Galán & López-Paredes, 2014). Uncertainty, on the other hand demarks events in the future that are unknown, and/or their consequences cannot be estimated. Uncertainty, when transferred into calculable risk, seems to be manageable in standardized and formal processes (Machina, 1987; Zhang, 2011). Traditional project risk management approaches are rational and sequential, following a control-and-order logic. Thus, some organizations increase direct control, reduce trust and transparency when faced with project turbulences (Loosemore, 1998; Söderholm, 2008). Only recently this control-oriented stage-by-stage approach has been challenged (Brady, Davies & Nightingale, 2012). De Meyer, Loch and Pich (2002, p.61) require project management 'to go beyond traditional risk management, adopting roles and techniques oriented less toward planning and more toward flexibility and learning.' Following this proposition, organizations react with elasticity, such as agile project work, ad hoc teams and expert pools, fluid and adaptive structures (Geraldi, Lee-Kelley & Kutsch, 2010).

Winch (2010, Winch & Maytorena, 2012) coined the spectrum of growing uncertainty by the labels of known knowns, known unknowns and unknown knowns. Ultimately,

unknown unknowns demark the passage from uncertainty to the unexpected. For surprising situations that long for a long-term reaction, organization will have enough time to search for additional information, calculate by advanced analysis methods, and plan in-depth and in advance (Duchek & Klaußner, 2013). Here, traditional risk management will be sufficient. However, issues become more complicated in case of urgency. When risk management is not enough, new procedures must be implemented to manage the unexpected.

In this paper, I explore the question “What organizational preconditions allow project managers to handle unexpected turbulences satisfactory?” I will present empirical findings on both organizational cultures and structures that support effective management of the unexpected and outline a set of routines for managing unanticipated situations utilizing eight case vignettes based on interviews with practitioners.

Handling the unexpected in project management

The unexpected is that event, that one does not expect – that sounds trivial. Inspired by social construction theory (Maturana, 1982; Foerster, 1984) I insist that the expected and hence the unexpected are not entities in themselves, but are “produced” by and from the perspective of an observer, either an organization, an employee or a team. The unexpected can only be understood in relation to an observer. Observations are not deliberate, however; they are structured. Within organizations strategy, organizational rules, culture and so forth define what can be expected and what is unlikely. The unexpected reflects “the actuality of projects as social processes requiring ongoing construction of the appearance of certainty and clarity in the midst of complex uncertainty and ambiguity” (Atkinson, Crawford & Ward, 2006, p.696).

Perminova, Gustafsson, and Wikström (2008, p.74) claim that the exposure to uncertainties requires an open approach less oriented towards planning: “Projects are better described as journeys of exploration in given direction, rather than strict plan-following endeavors”. Managing uncertainty in projects is based on experience: being explorative, associative, sensual and in intense relation to the project environment (Heidling, 2015). Atkinson, Crawford and Ward (2006) suggested that uncertainty management asks for trust building, sense making, organizational learning, and an appropriate organizational culture.

Saunders, Gale and Sherry (2016) and Saunders (2015) analyzed project management responses to project uncertainty taken from high-reliability practices. In their empirical study on civil nuclear and aerospace projects, they found out that project manager adopted high-reliability practices for managing uncertainty in projects, inter alia with regard to an open and no-blame learning culture, decentralized decision-making processes and mindfulness. However, some of the practices were fragile, with structural factors, such as complex ownership structures or short-term incentive mechanisms, threatening high-reliability project organizing.

Johansen, Halvorsen, Haddadic and Langlo (2014) developed a nine-step framework for identifying, analyzing and managing uncertainty. According to Johansen (2015), project team members should be entitled and even stimulated to express their concern in regular uncertainty analysis workshops. It is important that project owners become actively involved in managing uncertainty in projects with a „hands on“ rather than a

„hands in“ attitude. Learning and knowledge creation are seen as essential parts of uncertainty management, which need to be followed systematically in a supportive, dynamic reflective process.

Recent developments in the organization of work such as agile and lean project management, design thinking, holacracy or the open-source movement are proposing non-traditional ways of coordination to deal with uncertainty as a central feature for projects. These approaches tend to replace foresight and avoidance by consciously allowing for insecurity in favor of a look forward (Drury, Conboy & Power, 2012). Within these structures, accountability for the work is shared and knowledge is more important than authority. As all these forms are short cyclical and inspire participative and responsive structures (Bernstein, Bunch, Canner & Lee, 2016), this allows for a more flexible approach towards managing uncertainty. A no-blame culture and high transparency ensure permanent and joint learning.

Methodology and sample description

This paper presents results from an empirical study conducted in Austria in spring 2018. P-M-A¹ members and project managers found in the university database were invited to respond to an online-based screen-and-keyboard interview.² Despite the call for theoretical sampling in qualitative research (Yin, 2014; Strauss & Corbin, 1990), responses and thus cases are based on self-selection for practical reasons. Still, we ended up with a quite diverse sample, allowing discovering commonalities and differences, and generalization by type formation. Controlling for structural variables encourages the presumption that the vignettes show exemplary value.

The first part of the semi-structured online questionnaire centers on dealing with uncertainty in a distinctive project, asking for the project managers' experiences and actions in this situation. This part roots on a framework combining two dimensions of consideration: The social dimension comprises the project manager, the project team, and other stakeholders, the time-related dimension unfolds along the occurrence of the unexpected: before, during and after the event. Ultimately, we demanded respondents to assess, whether turbulences could be properly handled by actions taken. Results of the first part of the interviews are summarized as cases vignettes.

A second part concentrates on the embedding of the projects into the organization along the dimensions provided in literature. We expected results to refer to influences on the course and outcome of the project in the dimensions of project orientation, project environment, project sensitivity and mindfulness, project design, project team and project knowledge (Borgert, 2013; Saunders, 2015).

We asked the respondents to assess the organization's overall structural characteristics in the dimensions of (oriented to Bleicher, 1970):

- formalization grade (high – low)
- distribution of decision-making power (central – decentralized)
- decision-making process (individual – collegial)
- information relations (bilateral – multilateral)

¹ Project Management Austria (P-M-A) is the Austrian Member Association of the IPMA.

² Interview guide construction and data collection were conducted by Edgar Weiss, Iris-Schirl-Böck, and the author, all UAS BFI Vienna.

To determine organizational culture, we employed the two dimensions spanning Deal and Kennedy's (1982) typology: speed of feedback vs. readiness to take risks. Moreover, we asked the respondents whether the organization they work for defines itself as project-oriented organization. A final set of questions inquired on the organization's and the project manager's demographics (Table 1).

We ended up with eight usable vignettes of incidents and companies, all of them ranked as large enterprises (more than 250 employees). All of the respondents display long term and international experience as project managers; most of them having an additional function within their company besides managing projects.

Respondents of case 1 to 4 reported that the organization/project was able to handle the unexpected turbulences successfully, while case 5 to 8 were deemed to be failing to manage the incidents properly.

Table 1. Sample description (own source)

Characteristics	Case 1	Case 2	Case 3	Case 4
Industry	IT	Consulting	ICT	IT
Project-oriented org.	Yes	Yes	Yes	Yes
Experience as PM (years)	28	12	20	20
Additional functions	Cadre	Staff	Expert	None
Gender	Male	Male	Male	Male
Age group	40-49	40-49	50-59	50-59

Characteristics	Case 5	Case 6	Case 7	Case 8
Industry	Telco	Services	IT	Electronics
Project-oriented org.	No	No	No	Yes
Experience as PM (years)	15	20	15	10
Additional functions	Manager	Staff	Cadre	Expert
Gender	Male	Male	Female	Female
Age group	50-59	50-59	40-49	50-59

Findings

Those organizations that reported to handle turbulences more satisfactory are characterized by a higher formalization grade and more bilateral information relations; the decision-making power is more centralized and the process more individually organized. This is in line with the observation in the data that efficient, organized and centralized communications after decision-making prevails – but not in line with previous research. Even more so, contrary to literature no systematic relation between positive project orientation, awareness of the project environment, project sensitivity and mindfulness, project design, project team openness or shared project knowledge on the one hand and successful handling of the unexpected could be found.

The well-known matrix of culture types by Deal and Kennedy spans a 2x2 matrix between the dimensions of the degree of risk associated with a company's key activities and the speed at which companies learn whether their actions and strategies are successful. In this study, the typology of readiness to take risks and the speed of feedback allowed to identify clear-cut categories and to place the vignettes with the matrix (figure 1).

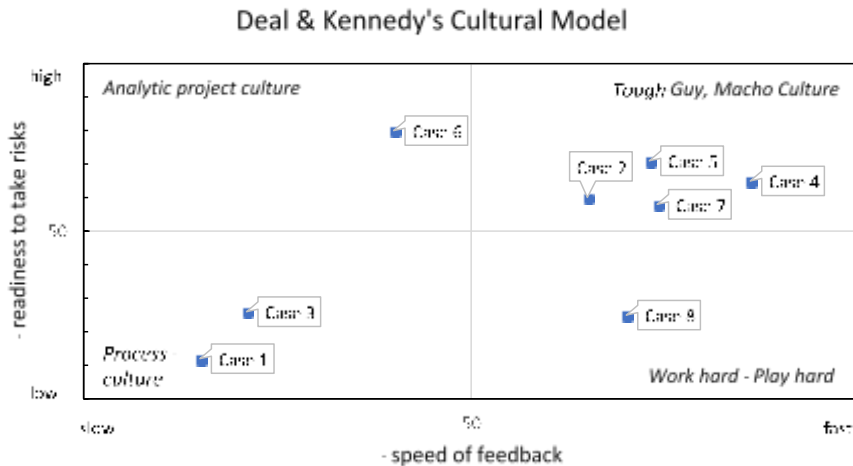


Figure 1. Position of cases within Deal and Kennedy's cultural model
(own illustration based on Deal & Kennedy, 1982)

Process cultures

Process cultures (bureaucracies) are characterized by low risk, i.e. errors hardly occur, and if so, they do not cost much. Rules are carefully followed in the absence of effective determination and controls for success. Two of the cases resemble process cultures.

Case 1 features a worldwide rollout of a new server infrastructure for a customer after outsourcing; the project is very complex, external, very large, and international. Turbulences started with new regulations within the own company, which had to be applied immediately to the current project – and this is a challenge especially for process cultures. The project manager got aware of problems when releases for much-needed hardware orders were kept back. Both the project manager and the project team faced and analyzed the situation. It was the project manager alone that made the ultimate decision to comply with new processes and to exert political influence on the necessary decision-makers in the root organization, but with justification to and information of the team. The decision was actively supported. The interview partner named keeping calm and communicating as key success factors. According to the project manager, the turbulence could be handled to the utmost satisfaction.

Case 3 is about computer hardware. The project is complex, internal, medium large, and national. Turbulences embarked, as the customer was suddenly no longer available because of reorganization. Thus, requirements were partially implemented. Actually, the project manager was formally informed by the parent organization that the project principal is no longer available. Losing clear-cut direction on „What and how do we continue?“ leaves process cultures in distress. It was the project manager who was affected in the first place, and he, together with the customer, analyzed the problem and decided for a project re-and de-scoping together with the new project client. With this decision actively supported by the team, the turbulence could be handled in a very good way. Named key success factors were a long-term PM experience and cooler head, rational thinking and social skills.

Tough-guy, macho cultures

Individualists who enjoy risk-taking and who get quick feedback on their decisions will dwell in tough-guy, macho cultures. This is an all-or-nothing culture where successful employees are the ones who enjoy excitement and work very hard to become stars.

Case 2, a consulting company, is a prototype of this culture. In a complex, external, very large, international consulting project for a large international energy company, the task was to implement energy efficiency measures. Strategic decision by the client to close nearly 1/3 of sites and to significantly renew and automate the infrastructure of the others ignited the turbulences. The energy efficiency project was cancelled, instead an automation and therefore personnel reduction project was implemented. The project manager identified the problems through repeated discussions with the customer representatives: Suddenly, talks centered around another program spread and which immediately attracted attention. While detected and analyzed by the project manager and the team, the ultimate decision was made by the project steering committee together with the customer, but with justification to and information of the team. First, the project has been postponed until the planning results of the automation project were clear, then, a reduction of scope in the energy efficiency project was communicated. Ultimately, the project was cancelled with the consulting company paid for the previous services. The key success factors named by the respondent very much questions the efficiency of the tough-guy culture: Significantly reducing risk appetite; writing is much more important than verbal agreements; proactively asking when decisions are delayed; discussing concrete solutions, not the problem; keeping cool. In line with the cultural features, the project was coined a full success from the viewpoint of the consulting company, despite it was cancelled.

Case 4 shows a quite regular start of a project in competitive settings: Implementation scope of the complex, external, medium large and national project was agreed with the customer only in the pre-phase, but the implementation time and the budget have already been fixed before. Turbulence commenced from the contract creation phase on, as product sheets of hardware and software were defined as part of the contract, but some of the functions of the software were not suitable. The identification of the technical troubles involved both the project manager and the team plus discussions with external specialists. These experts were also involved in analyzing the problem and making suggestions, while the decisions to search for alternative solutions, rescheduling and additional resources rested with the project manager and team experts together with the steering committee. Key success factors for handling the turbulences to the satisfaction of the project manager where flexibility in action, rapid integration of the management, and stability in project management and communication.

In Case 5, turbulences could not be dealt with to the project manager's satisfaction. The aim of the very complex, external, very large and international project was the modernization of a mobile network. Minor quality of construction companies and hardly defined processes caused problems for the project manager and the team. These were analyzed by the project manager, and the decision based on proposals from the team were measures for quality and process improvements. While the decision was actively supported by the team improvements were still low. Learnings were to keep calm, follow a structured approach, and take time to reflect and plan.

Case 7 also failed to solve the turbulences in a proper manner. The medium complex, external, medium large, national IT project had turbulence with a supplier. Identified by the project manager, she analyzed the issue together with team experts and decided after involvement of others before decision.

Analytic project culture

Bet-your-company cultures, as it was originally coined, are characterized by high risk and low or slow feedback. The result are activities that record and reduce risk. Because the need to make the right decision is high, the culture is long-term focused with a collective belief in the need to plan, prepare and perform due diligence at all stages of decision-making. I will thus rather call them analytical project cultures.

Case 6 is an IT project devoted to making improvements to the mainframe to ensure ongoing and future operations. This is an external, national project of medium complexity and size. Problems stem from lacking acceptance despite clarification with the technical decision-makers before the implementation start. This led to a long delay in the implementation phase and stakeholder dissatisfaction. It was the project manager to identify and analyses the trouble and to decide on solutions based on proposals from the team. Unable to handle unexpected issues and deviations from plans, as is common with analytic project cultures, the organization was ultimately not able to deal with the turbulence properly, despite the decision being actively supported by the team.

Work hard - Play hard

The work hard, play hard features low risk and rapid feedback. Employees are risk averse; however, the feedback on how well they are performing is almost immediate. Employees in this culture have to maintain high levels of energy and stay upbeat. Stress is coming from quantity of work rather than uncertainty.

Case 8 is less an example for work hard - play hard cultures but better understood as a project in a high competitive market: Here, stakeholders systematically and intentionally under-estimate project costs and are over-optimistic about project benefits and schedule in order to get the projects approved (Sanderson, 2012). The medium complex, external, medium large, international customer project was won with a high competitive offer. Compared to the original estimates, the project management effort was greatly reduced, the effort for customer workshops was far too low. Already in the first weeks, it became clear that the project was not feasible within budget and time. On the one hand, the customers insisted on adherence to the schedule, but on the other hand, they were not able to persuade their own employees to work efficiently. The project manager soon identified these issues and analyzed it together with external experts. The project sponsor and the project steering committee decided to re-calculate, and to order overtime and weekend work. Contradictory arrangements, detailed records, receivables and counterclaims followed, crisis meetings led to tight-knit controlling. Ultimately, the project was called to a halt. Contrary to all the other projects, communication even after the decision was very inefficient and very chaotic.

Discussion

In the case reports no systematic connections between successful handling of the unexpected and features normally ascribed to resilient organizations, i.e. orientation towards the environment, sensitivity and mindfulness, higher readiness to accept diversity and equality in the team, were found. Even more so, successful organizations are overall characterized by a higher formalization grade, decision-making is centralized and individualistic, and bilateral information relations prevail. In addition, not just the complex projects were most likely to fail, as predicted by literature (Sanderson, 2012; Saunders et al., 2015). To some extent, the missing nexus can be explained by the fact that all organizations studied ranked very high on the respective dimensions of resilience orientation mentioned above. Now, is literature wrong to suggest this correlation, or is my dataset weak? However, organizations that defined themselves as project-oriented are more apt to manage sudden incidents. We did not explicitly ask for structural or strategical characteristics of project-oriented organizations (PM methodology, PMO, PM standards a.s.o.), so the study might fail to see the role of structured and formal instruments of project management. Nevertheless, based on answers to more general questions all organizations seem to have the appropriate PM-institutions and instruments at their disposal.

Looking more closely to the vignettes, data suggests a more convincing answer. Project-oriented organizations are not more successful in handling sudden events because they show typical instruments and institutions of project-oriented organizations, but because they respond smarter by making a flexible use of these characteristics. I found that smart project managers used to integrate the team in both the detection and analysis phase and in the preparation of the decision. Moreover, turning to experts obviously did not improve results. Contrary to the rather flat and empowering features in the coping phase, communication after the decision how to proceed was very efficiently organized and centralized again. Obviously, organizations managed swiftly to adapt their style of management to the needs of the situation.

This behavior is in line with recent insights in research on organizational resilience (Barton & Sutcliffe, 2017). Välikangas (2010), Hamel and Välikangas (2003) define resilience as the ability of a system to resist major changes and thus endure perturbation without systemic change, while Ortiz-de-Mandojana and Bansal (2016) stress the organization's ability to sense and correct maladaptive tendencies and cope positively with unexpected situations. Summarizing, organizational resilience is the ability of the organization to rebound from adverse and unexpected situations towards the right path to success. When being confronted with the unexpected, resilient project managers, project teams and the organization align their actions along the timeline: (1) anticipation, (2) detection, (3) recovery and (4) adoption. I will concentrate on the second and third phase.

In the cases, I find proof for the hypothesis that the unexpected – or at least the surprising momentum of the unexpected – depends on the observer. The surprising occurs mainly in those areas, which run counter to the basic assumptions of the respective organizational culture. Expectations can develop into blind spots where unexpected events can develop and become unmanageable (Weick & Sutcliffe, 2007). For example, process cultures were challenged by new and quick to implement regulations, and loss of clear-cut direction. Tough-guy cultures took the risky road by ill-

defined project charters, and analytic project cultures had troubles to handle unexpected issues and deviations from plans.

In the phase of detection, individuals, the team and the organization focus on traces of the unexpected by the application of a wide range of tools, including weak signals. Questioning known routines is crucial in this phase, and this might explain why project managers in complex projects are better prepared to handle the unexpected. Put simply, they are readier to expect the unexpected, while in simpler contexts they might stick to their well-trained routines for too long. Barton, Sutcliffe, Vogus and DeWitt (2015) talk about a-normalizing, taking proactive steps to become attentive to deviations, to understand them better and more fully, and to be less attached to history.

Coping starts with accepting the unexpected. While not every unexpected event triggers a crisis, the potentially threatening unexpected that requires a short-term response breaks up the organization's normal operations. Especially for stable organizations and strong organizational cultures, accepting a serious problem or a potential crisis is difficult. Denying and repressing the need for change are common mechanisms. The final stage of the detection phase is sense making (Weick, 1988, 1993) and the search for targeted action. In this situations openness, team learning and knowledge sharing, helps the team to discuss and negotiate its way to a plan of action matching the specific project situation.

Once decided on necessary actions, quick response and unquestioned direction is needed again: Undisputed hierarchies and rules have a relieving effect for decision makers, both subordinates and supervisors: they need to take into account those facts only that are within their formally. To avoid information overload and allow for quick action, communication must be intensified and at the same time more restricted, specific and selective (Sutcliffe, & Vogus, 2003, Barton & Sutcliffe, 2010). Clear and bilateral communication structures and a shared language accomplish that. Smooth coordination, common orientations towards a new goal and a strong sense of mission instil both a basis to act on and stabilize the emotional situation

Obviously, in these phases different capabilities and mind-sets are necessary, both of the organization and the individuals involved (Duchek, 2014). Initially, empathy and attention for small deviations are needed. Later, clear and decisive actions and interactions connected to leadership should prevail (Barton et al., 2015). The subsequent learning process should again include the entire organization.

Summary and limitations

Successful project-oriented organizations tend to relax structures and empower teams when confronted with the sudden events in the detection phase. What is seen as an unexpected event depends on the organization's perception. Specific weaknesses in perception – organization-specific „blind spots“ – constitute the main gate for surprises. In this phase, integrating diverse viewpoints beyond well-trained and immediate answers seems to be vital. Outcome of this phase is a shared situation awareness of the project's state and joint sense making. Once the decision on actions needed to address the turbulence is made, smart organizations swiftly rebound to formalized hierarchies and clear communication structures, allowing for quick and coordinated action in the recovery phase.

To sum up, properly handling the unexpected depends on the concrete action, while general success factors are too simple and single-sided. Managing the unexpected demands, the combination of centralization in a culture of clear decision-making structures and responsibilities before and after the event, but decentralization with a high degree of flexibility and open communication within the event.

With this paper, I intend to contribute to the practice of project management, especially when handling unexpected events. However, more and broader empirical research is needed to analyze projects' processes of organizing and decision-making in the context of uncertainty. Self-selection of respondents might distort and bias results. Future research based on in-depth case studies and theory-driven samples may stress the effects of a larger project's complex organizational structure, with many different layers and autonomous entities involved on managing the unexpected. Another empirical research line may gather quantitative data to clarify antecedences, course and consequences of the process of anticipation, detection, recovery and adoption for projects and project-oriented organization. We did not explicitly ask for structural or strategical characteristics of project-oriented organizations, for instance methodology, existence and role of PMO, process and project management standards, though they might play a vital role when addressing the unexpected. Given the limits of this article and the concentration on another argumentative strand, we believe that these issues should be tackled in separate papers. Ultimately, more theoretical consideration is needed to combine research on project management and research on resilience in organizations.

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IMPLEMENTING PROJECT PORTFOLIO MANAGEMENT IN A COMMERCIAL BANK

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Abstract. *This paper aims to contribute to the general knowledge of Project Portfolio Management (PPM) by presenting a case study on the implementation of Project Portfolio Management in a Hungarian Commercial Bank. In the first part of the study, I briefly discuss the concept of PPM; then based on international surveys, I write about experiences gained in its operation. In the second part of the study, I describe the most important findings of an exploratory case-study based research regarding the practical implementation of the method in a Hungarian Bank. This case-study also builds on the results of previous surveys. According to these two main concepts are highlighted: the organizational implementation of the PPM and the PPM development in practice. The most important conclusions are the following: In the examined case it is the introduction of a reporting-operating Project Portfolio Management Office (PPMO). The general conclusion is every PPMO has to be tailored to the needs of the organization. In this process, the role of top management should be considered which has two dimensions. 1) The ideation process is top-down or bottom-up 2) the top management is part of the operative implementation of the ideas or it has only a supervisor role.*

Keywords: *project portfolio management; strategic management; project management; commercial bank; case study.*

Introduction

Project Portfolio Management is crucial in the situation where the organization has to face problems arising from the simultaneous implementation of multiple projects. While thinking of projects is becoming more and more common in many areas, it is also necessary to ask whether the many projects together are an optimal system in the given organization. Does this system adequately support competitiveness, optimum resource utilization, and organization goals? Top managers have already found this dilemma. Thus, Project Portfolio Management is increasingly being used to improve the operational efficiency of business and non-business organizations.

Although this dilemma and its reflecting concept (PPM) are well known and literature on advantages, problems and applications are abundant, in a country (Hungary) wide level, there is lack of deep scientific understanding of these issues. There are very few references for project portfolio management in the listed Hungarian scientific publications (MTMT-www.mtmt.hu). An MTMT search for the English words “project portfolio management” in the title of a study produced only 2 authors and only 4 hits: Ligetvári (2013, 2014) and Csendes (2017a, 2018).

As in Hungary, neither the topic nation-state research nor the industry-wide research has quasi no precedent, so the indirect purpose of this paper is to report on the

beginning of such a professional work. To do so, in the first part of the study, I shortly interpret the concept of PPM; then based on international surveys, I wrote about experiences gained in its operation. Then, in the second part of the study, I describe the most important findings of a case study concerning the implementation of project portfolio management in a Hungarian commercial bank.

The concept of Project Portfolio Management

PPM is naturally linked to project management (PM), but it would be a mistake to interpret it only as a further development and expansion of the latter, since its basic concept covers not only the work planning, organization, and monitoring tasks of the PM, but it is also applicable for the management at the highest level. In fact, we are talking about the task of implementing the strategy. (Rajegopal et al., 2007) Strategic management's basic idea can be easily paired with PPM, because simplistically: organization on the one hand „diagnoses” and, on the other hand, it acts. This duality appears in a variety of ways in classical strategic management literature - e.g. the concepts of strategy formation vs. strategy realization in Mintzberg et al., (1998). It is easy to understand that projects represent the change in the life of an organization, in fact ultimately embody "strategic" action. In addition, in the normative sense, future changes (sometimes in the form of a large number of projects) must be deliberately and effectively managed, in order to achieve organizational goal(s). Project portfolio management offers this option to top management.

PPM focuses on the "high level" value creation issue of strategic management (strategy / advantage / efficiency issues). According to this view, PPM is a tool of operationalizing objectives and goals that is why the functioning of the organization largely depends on it. In addition, if this is the tool of implementing the strategy, it is also an embodiment of elementary interests. It is not only the guarantee of future-oriented enterprise efficiency but also the weapon of achieving benefits (and even financially measurable rewards). It thus plays a central role in the realization of strategic and financial objectives. An investment in projects can naturally be interpreted as a purely financial investment (Zdanyte & Neverauskas, 2011) in many cases. Where the profit-goals are obvious, the measurement of benefits and yields are fundamental. The maximization of rewards is expected in most cases. However, achieving these goals is not a trivial task; it rather poses a serious management challenge. It is no wonder that in the case of corporate PPM solutions considerable attention is paid to the prior portfolio evaluation models or even to the coexistence of different aspects: e.g. strategic, financial, risk (Fekete, 2017), legal, etc. This provides a strong planning, monitoring and financial characteristics of the analyzed strategic-organizational issue.

In this mission, the organization faces many challenges. These challenges derive fundamentally from the nature of the project portfolio, as the portfolio is a collection of unique but competing projects (even programs), which fight for scarce resources. Management requirements of a project portfolio thus are different from the management requirements of individual giant projects (and programs). Here, the primary challenge is that the components of the portfolio (projects) fight for their existence and for the limited resources of the company. (Archer & Ghasemzadeh, 1999; Dye & Pennypacker, 1999; Chao & Kavadias, 2008) Operating in a dynamic environment is another critical challenge for organizations (Petit & Hobbs, 2010), in which the number, composition, and interdependence of the projects are constantly changing.

Thus PPM is not simply a tool for allocating resources; it is more a method of accepting projects in the portfolio, reviewing the progress of individual projects and constantly prioritizing all projects in the portfolio. All these activities are done in the sake of balance, synergies, and success, while the project portfolio appears to be the primary field of the company's strategy (Morris & Jamieson, 2005). PPM can thus be understood as a business process the main task of which is the management of complex processes interacting with each other, helping decision-makers (to evaluate, select, rank, etc.) who, together with other members of the organization, are interested in realizing benefits and getting or giving feedback. (Wideman, 2007)

The central role of PPM in the organizational context is well understood too. For instance, in the so-called top-down approach, it is easy to interpret PPM's important role as a competency to identify and manage the most beneficial projects. Figure 1 shows its central role, especially concerning the top-down approach.



Figure 1. Organizational context of portfolio management (Source: Project Management Institute, *The Standard for Portfolio Management*, 2006, p.7)

These processes are controlled by the Project Portfolio Management Office (PPMO). These offices differ greatly from each other in their tasks and responsibilities. The task of Project Portfolio Management Office (PPMO) is not only to deliver certain projects and programs (as PMO does) but also to optimize investments to achieve the strategic goals of the organization. Moreover, it has a closer relationship with the CEOs and project/program managers. The added values of these offices -compared to the PMOs- are represented by the positive effects of cross-functional synergy. As a result of this, its scope can be much wider and can appear on the whole company level. Based on the contribution to organizational success, we can distinguish several types: there are reporting, strategic, operational, and business process changing PPMOs; they all complement each other to meet the widest range of needs. While the reporting PPMO ensures that the right information is used, decision-makers will be provided with these, the operating PPMO helps to properly implement programs and projects. Strategic PPMO supports the organization in choosing the right programs and projects. The fourth type of PPMO helps in implementing organizational changes. (Rouwendaal et al., 2014) They all have coordinating, controlling, and supporting role but to different extents,

which help to increase resource allocation efficiency, the improvement of transparency, increased the credibility of information, and wider knowledge transfer and communication. (Unger et al., 2012) Beside PPMOs other organizational players have to be mentioned: as internal involved groups have the biggest impacts on the success of PPM - the functional leaders and the project managers. (Beringer et al., 2013) Furthermore, a prominent actor appears both in the practice and in the literature: the project portfolio manager. (Jonas, 2010)

Empirical researches

Today we can already easily find out about PPM experience. For this purpose, we have scientific publications as well as surveys of professional organizations/consultancy firms. These publications deal with many aspects of the portfolio management. For example, Meskendahl discusses the success of the project portfolio in several articles (Meskendahl, 2010; Meskendahl et al., 2011). Just as Müller et al. (2008) who states -on the basis of comprehensive statistical analysis- that successful organizations have organizational level experience in selecting and prioritizing projects aligning with its strategy.

Martinsuo (2013) in her writing analyses the results of new empirical researches on project portfolio management. According to the experience, she has already drawn attention to the limitations of the interpretation of PPM as a rational decision-making process. She highlights that the PPM process in practice, compared to the classical approach, is not a rational decision-making process supporting the company's strategic objectives, but rather a series of interactions between people and organizations. These interactions are highly personal and may affect the structure of the organizations concerned.

In addition to these scientific studies, specific data can be found in the surveys of major consulting firms and professional organizations (e.g. PMI, PriceWaterhouseCoopers-PWC, Gartner, UMT). With regard to the industry's prevalence of the method, from the PWC's 2012 survey, we know that among the organizations using PPM the highest use rates were detected in retail, insurance, automotive, banking and capital market, telecommunication, manufacturing, moreover energy- and defense-industry companies.

PPM solutions were introduced firstly in Hungary, like in abroad, for multinational corporations and large public utilities. Based on the market information, without the completeness, here are some well-known Hungarian examples from early introductions. From the automotive industry: Audi, Mercedes, evopro. From the telecommunications sector: Telekom, Telenor, Vodafone. From state-service-utilities-energetics: MVM, MNB, NAV, EON, MP, Lufthansa, MOL. From the insurers: NN, Generali. From the high tech and software industry: Ericsson, NavNGo. From the primary experience of early Hungarian PPM users, I will write about a corporation from the banking sector. One of the reasons is that, similarly to foreign experience (see in the PwC Survey), we can observe PPM in this sector as a priority area in Hungary. This is a result of the "more advanced" PPM culture in the Hungarian banking sector, which is already available on expert and managerial level; furthermore, some information and experiences are accessible too.

Before discussing the Hungarian case, we can conclude that regarding the international and national situation; the 2008 crisis has hit the banking sector very seriously. In

Hungary, banks also had additional problems that due to state regulation, the sector's players had to bear additional burdens (e.g. accountability and abolition of foreign currency crediting). This is connected to Bruck (2009)'s international experience, that PM culture is still healthy in the sector after the outbreak of the 2008 crisis and despite the problems. At this time, according to project, program and portfolio managers, the main changes and challenges include the development and continuous growth of information technology (IT), the strengthening of globalization and the strengthening competition in the financial sector. IT projects are growing and IT needs of projects are growing too. This general belief -based on also market information- has been continuously proven since the crisis.

Foreign banks' practice of introducing and developing the project, program and portfolio management methodology is best known from expert reports. Publications featured case studies deal with the subject with various focus areas and depths. For example, Nieto (2010)'s publication analyses the example of Fortis bank melting into BNP Paribas, or the work of Hoffmann & Rentrop (2012) also can be mentioned, which describes the development of a bank's project prioritization methodology. Of course, other unique case descriptions could be mentioned, but unfortunately, they are not a real benchmark for Hungarian banks. Due to its special situation, the use of one of the notable Hungarian-related (Central Bank of Hungary) case study (Pap, 2010) is limited for this purpose too - as the operation of a central bank differs significantly from that of a commercial bank.

We can find relevant information for a case study about a Hungarian bank in previous years' researches if we examine it from two main aspects: project organization and bank portfolio. Those empirical studies do not mention PPMO from the organizational perspective; they present only the role of PMOs. On the Hungarian sample outside of the banking industry, Szabó (2018) was studying the maturity of PMOs. There is a similar study (Pansini et al., 2014) on the Italian bank sector. The result of that study is that there is a general need for PMOs in the banking sector.

Hadjinicolaou & Dumrak (2017) was doing a research on well-known topics (PPM and Project success) by other authors (see above: Meskendahl, Müller) in several sectors (bank sector included). This study found a connection between PPM and having project management offices (PMO) to support both project and portfolio implementation. The research results revealed that the benefits of PPM application were not seen outstandingly, the research further examined the barriers to implementing an effective project portfolio management process in Australian organizations.

Yang et al. (2015) are presenting a unique case study in a case of a large Australian bank. They were studying the PPM capabilities of IS projects. They have identifies dynamic capabilities which are the following: 1) IT Resource Integration; 2) IT Resource Configuration; 3) Resource Acquisition and Elimination; 4) Constant Change Culture; 5) Business Objectives Driving Projects; 6) The Multiple and Dynamic Prioritization Criteria; 7) Demand Management; 8) The Customized Tools; 9) Intensity of Organizational Learning; 10) Training and Career Paths; 11) Dynamic Balancing of Risk and Reward; 12) Cancelling and Reconfiguring In-Flight Projects; 13) Sensing the Environment.

The research of Csendes (2018) is the most important in this topic, where I studied the introduction of 6 PPM system in the banking sector. Based on this, support of top management is essential for the introduction of PPM. The appearance of portfolio managers was preceded by the operation of the Project Management Office (PMO). The introduction of this method became necessary because of the increase in the number of IT projects. There was a clear consensus among banks regarding the response to the market challenges facing the domestic banking sector and the nature of the projects launched to exploit the opportunities. Projects, programs and other works can be linked to digitization and legal compliance. Each of the banks analyzed has already had a formalized project management methodology. However, regarding the application of the PPM methodology, it is very diverse in terms of both the PPM structure and the location in the organizational structure. In addition, it has experienced that it is a problematic area of application of the method: the project dependency management, the depth of resource planning, or the acceptance of PPM structure by (non-project) business areas.

Methodology

The case study in the followings shows the introduction of a PPM system in the case of a Hungarian bank. The timeframe of the case study is from the following years of the crisis until today. For this study, a qualitative method was chosen. Qualitative research is defined as an in-depth multifaceted investigation (Orum et al., 1991), providing knowledge from the participant's point of view to gain understanding and meaning of a specific and emerging phenomenon (Merriam, 1998), which also offers a variety of evidence (Miles & Huberman, 1994). I obtained primary data for this research through a series of semi-structured interviews with a project portfolio manager of a bank. These interviews had two topics: The first topic was the organizational solutions of PPM, while the second was the details of the development of practices in management. The project portfolio manager was selected from a previous research (Csendes, 2018). The person was chosen because he was an actor in a very interesting bank case. This case's deeper details are topics for the chapter below.

Case study

In the beginnings (2010-2013) there was only an IT Project office in the bank, under the supervision of Chief Informatics Officer (CIO). The role of the office was to secure the project delivery. In 2012 they created the first portfolio management organizational department – under the supervision of the Strategic Director – which was focusing on classical portfolio management. The two departments merged in 2013 under the Chief Operation Officer (COO) and it was fulfilling the role of both. It was supervised by the Strategic Director; however, the department was called project and portfolio management office. Finally, in 2016 with similar roles and name it became a part of COO's directorate.

During this developmental period (2012-2015) the top management's need and the practices of PPMOs were different. The top management's needs were clear. Defining the projects and operatively seen the deliverables. The most important was the successful deliverable of projects. Besides that, it was an important expectation towards the PPMO to present the risks of the deliverables and the holding's external project needs. In addition, it was highly important to increase the capacity of the department.

Meanwhile, the practice of the portfolio management was like, in every quarter they suggested “rebalancing” decisions, where most of the times the recommendation was to terminate whole projects. Project managers were hardly supported, some kind of “conflict-culture” was created within the organization. That time the focus was on the introduction of a portfolio management supporting tool. The portfolio level resource planning was high (without the IT department); however, there was a lack of “demand management” too. The relationship was damaged between IT and PPMO, the trust was missing from the relationship.

That was the root cause for the PPMO could not meet the expectations of the top management. Besides that, there were serious issues with frustration and fluctuation among portfolio and project managers.

In this environment in 2016, it became a top priority to make a project portfolio management practice which can help to meet the expectations of the top management. Because of this, the professionals at the bank introduced provisions in six fields:

Portfolio planning – the introduction of demand management: Introduction to the project initiation phase. The project office gets to know of the project idea from the beginning and giving proper methodological help for a successful preparation.

Introduction of the portfolio planning calendar: Regular, quarterly executed project portfolio prioritization and rebalancing has been included on the agenda of the decision-making board, enabling the continually changing project portfolio priorities to be continuously matched to business strategy directions.

Portfolio planning – execution of the yearly portfolio plan based on the business and IT strategy: In Q4 based on the updated business and IT strategy the bank’s next 3-year project portfolio was developed in a top-down way. Project dependencies and resource requirements were decided on a high level, and a high-level schedule for the project portfolio was implemented.

Introduction quarterly rolling IT release planning: Detailed project planning made possible to plan (the most important bottlenecks of projects) IT deliverables by using two-month release windows planning, also considering technical dependencies. All of this had happened with the involvement of relevant IT experts and suppliers. This led to proactive manageability on portfolio-level operation risks.

Improved project and portfolio control and reporting: An easy-to-understand and informative project portfolio report which contains the most important results, the portfolio-level risks, and their management approvals. The regular monthly report made it possible for the management to get an aggregated report with the most important details of the projects instead of ~100 pages reports of the single projects.

Implementation of provisions to increase the delivery capabilities of the organization: The project portfolio was divided into sub-portfolios considering both dependencies and project networks. All of the sub-portfolios were supervised by a sub-portfolio manager (called “program leader”). The sub-portfolio manager became responsible for the projects to be done on time on the expected quality, the preparation of the connected projects, and the mentoring and supervising of project managers within the sub-

portfolio. With this governance model, it was possible to implement the project portfolio management tasks, at the right place and make a delivery oriented organization.

Conclusions and limitations

When creating a portfolio management office, it is a fundamental dilemma: what kind of activity is necessary to create a given organizational unit. According to the literature, the goal of portfolio management is to create a portfolio where the strategic needs are prevailing over individual projects. The created portfolio should have the highest business value within the given financial and cost barriers.

In practice, the implementation of the project portfolio is defined by the top management's needs. There are two perspectives which can be identified: 1) the top-management is led by the "helicopter-perspective" the project ideas are generated bottom-up and there is a need for selection. Or the opposite 2) the top-management is conscious in the strategy creation and they make top-down project ideation, where they are part of the implementation.

In this case study, the second version of PPM environment was identified. The published implementation was an answer to these needs. So we can categorize the examined organization unit of the bank as a reporting-operating PPMO (Rouwendaal et al., 2014).

The experiences of creating best practices in management are in line with the results of Yank et al., (2015). It should be highlighted in the Hungarian case, the portfolio management was studied at the whole banking operations (which is dominated by IS projects), while the Australian case study was limited to IS project portfolio. The 13 capabilities identified by Yank are in line with the above case study - only with the 4) Constant Change Culture, 9) Intensity of Organizational Learning, 10) Training and Career Paths were not supported, due to lack of information in the Hungarian case.

From the case study that can be concluded, every PPMO has to be in line with the organization's needs. In the case of the studied bank, it meant that the PPMO has to be in line with the real needs of the top management. This means in this case, it had to support the delivery of projects and controlling of project operations. In this context the goal of portfolio management was to support the top management's decision with 1) high-quality planning 2) generating inputs (resource planning, release, capabilities etc.), which makes it possible to create realistic portfolio schedules. On the other hand, there was a need for a transparent reporting system.

Information provided in the above case study is not representing the experiences of other Hungarian commercial banks. On one hand, there is not enough information which makes it accountable in the case of other banks. In the other hand based on my previous researches (Csendes, 2017b, 2018) it can be concluded, that big Hungarian banks are started to introduce the PPM in different ways, development levels, and organizational solutions. Thus, general scientific consequences for the whole sector cannot be concluded based on this case study. However, the questions mentioned in it (organizational solutions, management practices, and general conclusions) are relevant in the case of any other domestic bank. Most of all, this case study can be interpreted as an interesting benchmark case.

Finally, based on theoretical and practical considerations of the paper, a number of further research topics can be identified. Among these, I would name one: complete conceptual clarification of PMOs and PPMOs. In this context, further research works need to categorize, and explore the denominations and activities of these organizational units.

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FROM ECONOMIC GROWTH TO ECONOMIC DEVELOPMENT: MANAGERIAL STRATEGIES FOR ROMANIAN LEADERS

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Abstract. *The economic theory on development and growth has continuously evolved, keeping the pace with the structural changes in economy. In time, it has thickened, new facets and angles having been added. Every school of thought produced their arguments and brought to the front the development factors deemed relevant at the time. The development of a nation cannot be achieved outside these schools of thought and lacking an approach that allows development factors to be identified that are relevant for the context and adapted to the respective nation specificity. However, Romania seems to follow sinuous paths in stimulating economy, sometimes very different and corresponding to various economics schools of thought and with no apparent correlation. Based on structured literature review and on analysis of different economic indicators that allow comparisons over time between European countries, this paper focuses on the identification of the real causes of Romania's economic development stagnation. It also emphasizes models that could be translated into the national practice, as well as failures of previous attempts in adopting specific models of development. The authors finally present a set of recommendations for national leaders on how to transform economic data-based decisions in a source of national competitive advantages, as a first step towards a real strategic management at national scale to achieve the goal of economic development.*

Keywords: *economic development; strategic management; leadership; economic vision.*

Introduction

Economic growth can be understood in different ways and is commonly defined as "sustained increase of a country's population and of the domestic product per capita" (Kusnetz, 1963, p.3), an exclusively quantitative concept. Therefore, economic growth is not synonym with economic development, which implies more dimensions, from wellbeing to social advances and a better quality of life. Apparently, in a paradoxical way, Romania is a country that scores economic growth, but remains rather vulnerable about development itself. The country was in 2017 the "tiger of Europe", scoring a 5.7% GDP raise, double that of the EU average (European Commission, 2017), without this

explicitly reflecting in welfare - almost 1/3 of the population states that its quality of life is worse than a year before (Starea Națiunii Barometer, 2018).

How could we explain such a paradox? Is it a stereotypical understanding of economic theories? Is it a matter of lack of vision and coherent strategy? What could decision makers do in the future to transform economic growth in economic development? We will approach all these aspects further.

Economic development: more than GDP

There is no politician in any government who would not publicly boast about raising figures that indicate economic growth in a certain time span. However, economic growth does not mean welfare or development. In time, a fully-fledged macroeconomic analysis apparatus has developed, various indicator alternatives being proposed: GDP, GNP (Gross National Product), national income. At present, GDP is, by far, the most frequently used of them in all official studies and reports that deal with the issue of economic growth and development. However, we cannot but note that, like any measuring instrument, the GDP is not exempt from issues that make its relevance when used in the topic of development questionable.

For instance, the GDP does not record intermediate goods, but only the final ones, which means that an intermediate good produced today will only be recorded in the GDP of the next one or two years, even if resources were used for its production in the present time. Also, the GDP does not record the total debt (public and private) accrued by a nation, meaning that its dynamics may originate to a high extent from an increase in the public debt that finally represents either higher taxes in the future or higher inflation by expansion, in the future, of the money supply (both diminishing future growth). Significant economic growth can be „borrowed” from the future via monetary mechanisms. The GDP does not record the underground economy („black market” exchanges), the informal economy (whatever is not formally recorded in accounting or statistics, barter trading or compensations) or financial asset investments (bank deposits, investments in bonds and shares, equity investments in funds, etc.). In such case, a strongly financialized economy can have significant welfare that is not reflected in the GDP.

Finally, the GDP does not consider the market value of the fixed assets (land, buildings, equipment, machinery, etc.) that contribute, directly or indirectly to the final goods production process (Georgescu, 2016; Bulin & Baltatescu, 2015; Fasolo et al., 2013) and systematically fails its social dimension and its relevance to the „social state”. The clearest proof of these limitations of the GDP consists in the subsequently proposed indicators, more relevant to the issue of economic growth in relation to the social state, i.e. the Human Development Index, the Gross National Happiness Index or the Social Progress Index (Mankiw, 2015).

From theory to reality

Over the time, most schools of economic thinking dealt with the issue of economic growth and development and each of the theories stated by them were put to work in strategies and policies which had inherent limitations coming out of the very stated concepts (see Figure 1), especially when decision makers do not understand and

operationalize them in a balanced strategic mix. We will present further some facts in the case of Romania correlated to literature review.

School of economic thought	Factors of economic development
Mercantilism	Money, exports, protectionism.
Physiocrats	Agriculture, population's dynamic. Limited role of the state.
Classic (liberal)	Labour productivity, capital, external trade and comparative advantages, market mechanisms.
Schumpeterian	Entrepreneurship, innovation, new products, new markets.
Keynesian	The aggregate demand influenced by monetary and fiscal stimuli, investments in production capacities, growing of the labour and capital productivity
Neoclassical	Interconnectivity of original productivity factors, markets' quality, intensity of competition, better labour force, better organization of production, scale economies.

Figure 1. Synthesis of main ideas on economic development
(Source: authors' analysis based on literature review)

Most of those who support ideas of development based on trade exchanges and state protectionism get, in fact, their inspiration in the mercantilist school of thought, who see welfare accumulation as the engine of economic growth of any nation, thus depending significantly on trade activity and on the support provided by the state. If we look to the case of Romania, we can see that the country has a real potential for exports, as their development in time proves it, but every increase of exports is very dependent on imports (Figure 2).

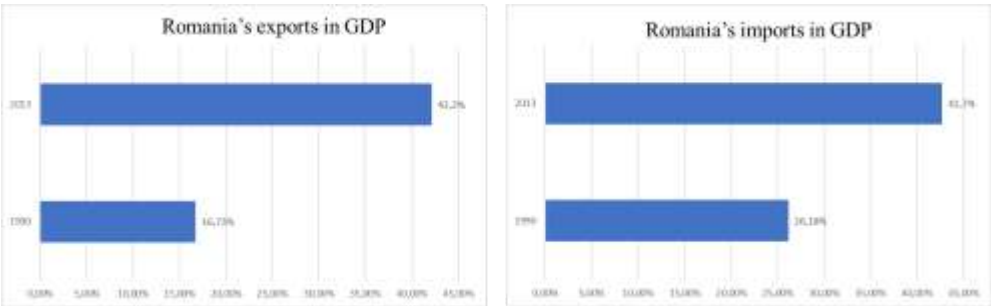


Figure 2. Romania's GDP dependence on exports and imports
(Source: Eurostat, 2018)

Countries having fertile and irrigable land can consider agriculture as a solution for development – an idea inspired from the older physiocrat school of thought, stating that a nation's economic growth and development mostly depend on agriculture. The main limitation of this outlook is the neglect of the other sectors of economy, like the industry and the services. Nevertheless, there are countries that could focus on agriculture, especially when having the resources. It is not, anymore, the case of Romania, once an agricultural country, where the importance of the sector in economy reduced in less than 30 years from more than 40% to less than 5%, without gaining in terms of other sectors that could produce multiplying added value, such as industry (Figure 3). We can observe an important reduction of the importance of vital economic sectors such as

agriculture or industry (without constructions) and an expansion of the trade sector, while stagnating education and health services and decreasing the gross added value in the GDP from 115,21% in 1990 to 87,7% in 2013 (Eurostat, 2018).

Sector	Year							
	% GDP							
	1980	1985	1990	1995	2000	2005	2010	2015
Agriculture	12.6%	14.1%	21.2%	18.5%	10.9%	8.9%	6.5%	4.3%
Industry	49.9%	46.0%	43.7%	29.9%	24.9%	25.0%	28.0%	23.3%
Constructions	7.3%	6.7%	5.4%	6.5%	5.1%	6.7%	9.4%	7.2%
Trade	6.7%	5.9%	6.2%	14.3%	18.4%	18.5%	13.7%	15.8%

Figure 3. The structural changes of the Romanian economy
(Source: Eurostat, 2018)

Economic development often is correlated with the need for increased productivity, an idea originating in the classical liberal school of thought. For the classics, a nation's welfare essentially depends on improving the result produced when using the original input (land, labor and capital) using higher productivity labor and increasing the capital involved in the economic processes (Smith, 1776). Romania's hourly employee productivity was in 2015 one of the lowest in the EU: index 59 vs 100 for EU28 (Eurostat, 2018).

Another school of thought with possible solutions to economic development is the Schumpeterian one. Schumpeter (1911) associated innovation capacity and technological changes within a nation with entrepreneurship and the spirit behind it. An entire school of economic thinking started from this approach, generated by an empirically proved reality: the SMEs are the largest job generator at a global level (70% of the total employed population globally), considered to be the intermediary link between growth and inclusion (Qiang & Andersen, 2016). The SMEs stimulate innovation (Almeida & Kogut, 1997), yet they have much lower resilience to sizable economic turbulences (Kerekes & Coste, 2014; Visinescu & Micuda, 2011), as it has been the case in Romania during the last decade. In Romania, the average net termination rate of the industrial companies was of -2.2% in the 2009 – 2015 period (about 1500 companies disappeared on average every year over what was newly created in the industrial sector). By comparison, in Poland the similar rate was 0.82% - about 2000 new companies annually created, while in Bulgaria the rate was 1.51% - about 500 new companies added annually to the industry (Eurostat, 2018)

Public spending, as the Keynesian (also the neo- and post) school of thought postulates, can stimulate economic growth. The Keynesian school of thought highlights two factors that can influence economic growth and development: the monetary factor (interest rate influenced by the monetary policy) and the fiscal factor (public investments). The main problem in the Keynesian approach relates to the possible inflation impact of the expansionary monetary policy and to the fact that lower consumption does not necessarily mean higher unemployment or lower investments, but it can produce ample modification in the production structure. Another critique of the Keynesian theories points to the fact that public investments are not always productive or valuable investments, being sometimes highly exposed to error. Such an example is the structure of public expenditure in Romania in 1995, compared to that of 2015 (Eurostat, 2017):

in 2015, the Romanian state spent less money on infrastructure or economic activities compared to 1995, but allocated more money to expenses of questionable knock on effect (recreational, culture and religion).

Finally, there is no economic development without economic growth, which needs capital to be sustained, and the capital can be obtained by saving. This is the outlook of the neoclassic school of thought that deems savings rate vital for the capital stock, and population dynamics important for economic growth, along with better-trained workforce, improved human resource skills and abilities, better-organized production, and scale economies achieved in the production chain/process (Solow, 1956). Romanian households' savings reached an historical maximum in 2017, of 15.98% in Q2 (INS, 2017). Nevertheless, more capital is needed to fuel the economic development. For instance, gross fixed capital formation in Romanian GDP is still low - 23.6% in 2013 vs. 19.79% in 1990 (Eurostat, 2018), making capital investments more than necessary.

Answering the limitations in the trends of thought mentioned above, the supporters of the endogenous theory of growth consider that there are state interventions that can favor long-term economic growth, with a direct impact on the rate of saving. In this outlook, additional factors associated to a nation's increased welfare are the quality and performance of the human capital, the intellectual property rights legal framework, the subsidizing of research – development activities by the state, as well as the state efforts to attract new technologies (Lucas, 1988). Another trend of thought explicitly stresses the direct role innovation, research and development and education activities have in development, and the way in which such lead to producing highly innovative goods and services that are subsequently sold in the global markets. Still, studies (Perilla, 2015; Capello & Lenzi, 2012) show that although there is a direct relationship between these aspects and economic growth, similar policies yield different results from country to country, as a function of the specific characteristics of every one of them.

Managerial implications: what should decision leaders do?

The economic theory on development and growth has continuously evolved, keeping the pace with the structural changes in economy. In time, it has thickened, new facets and angles having been added. Every school of thought produced their arguments and brought to the front the development factors deemed relevant at the time. The development of a nation cannot be achieved outside these schools of thought and lacking an approach that allows development factors to be identified that are relevant for the context and adapted to the respective nation specificity.

Decision makers of a country need two things to manage the economic development in a robust and resilient way: to understand the economic concepts that lie behind it and to correlate them more with data and less with stereotypes. There is no miracle solution for a country development, but there are ways to start and enhance it, as other examples have already proved it. Economy is after all making decisions that are constantly influenced by other decisions. Markets seek, principally, balance, but when it is not or cannot be achieved, the government intervention can improve the welfare of society (Krugman & Wells, 2014) – therefore, it is necessary to understand the factors leading to the lack of market equilibrium and implicitly to analyze possible state policies meeting such situations.

Unfortunately, Romania is a country with a very visible lack of strategic vision to guide its development. One of the aspects that prove this situation is the evolution of the economic growth itself during the last 30 years (Figure 4).

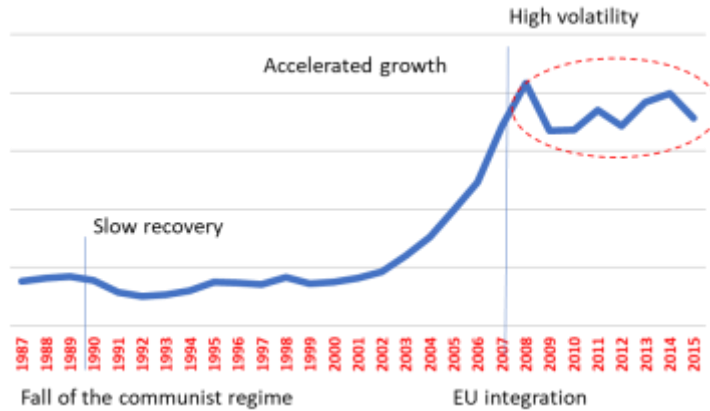


Figure 4. Romania's GDP evolution
(Source: Eurostat, 2018)

Not only that Romania's economic growth is very volatile, but it is also dependent on consumption, fueling other European economies in times of expansion and not necessary the internal production facilities. Moreover, the gaps between regions and between the rural and urban areas tend to grow, despite the cohesion policies that have been put into practice.

Among the concrete solutions that decision makers could consider accelerating the country's economic development, some seem more reasonable than others. Romania is a country where GDP has been constantly influenced by exports, both from agriculture and from industry. Nevertheless, it is the only country in the region, which experienced a profound deindustrialization situation in the 90s, as well as a very important reduction of its agricultural sector. Moreover, the structure of the industry changed from heavy industry in the 80s, to lohn textile industry in the 90s and to a more sophisticated lohn of assembling in the car industry at present. To enhance exports as a source of economic growth and afterwards of economic development, a country needs to find and enhance its own competitive advantages, from education, to research and innovation or natural resources exploitation. Strategic management postulates vision, strategy and coherence in planning and implementing operations as a mandatory condition for all development. It is not different in the case of a country and the same principle is to be applied also in the case of a potential exports-driven growth strategy. Less dependence on imports and more orientation towards local production could be robustly achieved not through protectionism, but through long-term policies that favor capital investments, as well as productivity, competitiveness, local entrepreneurship and new markets, others than the EU one.

One of the current weaknesses of Romanian economy remains the added value, in constant regression during the last three decennials. As a matter of fact, a successful exports-driven growth strategy can rely only on a high added value production, even if the beginning of the market penetration is oriented on cheap products, as it was the case of Japan in the 70s or of China in the early 2000s. From exporting cereals, for instance, Romania should consider exporting more local high value aliments. Such an approach is

possible if it is strategically assumed by the country's decision leaders and implemented coherently and constantly through well-oriented and efficient policies and regulations. To develop more complex production capacities, Romania desperately needs investments in infrastructure, in education and in research, all correlated to keep in the country as many as possible production stages.

Decision making should be data based. Too many times, perceptions seem to guide politicians when proposing so called development strategies, as we can see when there are debates about how competitive the IT&C sector is in Romania, for instance. The Romanian IT&C companies' turnover accounted only for 61.29% of the turnover of similar Hungarian firms in 2015 and only for 33.27% of that of the Polish companies with the same profile. Moreover, its value was roughly the same in 2008-2015, with only 11.5% increase in 2015 compared to 2008 and although it has a larger population, Romania had twice as many enterprises operating in high technology sectors than Hungary in 2014 (Eurostat, 2018).

Last but not least, decision making should carefully consider theories and not stereotypical understandings. For instance, growth through public debt is not per se malign for an economy, and it could look even benign in comparison with the public debt of other countries. Nevertheless, considering GDP boosting by more public debt should be carefully considered, especially if the borrowed money is not directed towards economic added value activities with a multiplying effect. Romania's public debt per capita was at a level of 3189 euro in 2016, a continuous ascending evolution from just 65 euro in 1995 (Eurostat, 2018). An increase of nearly 50 times of the public debt per capita in 21 years should maybe fuel more development than just GDP through infrastructure or education investments. Unfortunately, the state of the Romanian infrastructure is assessed by the European Commission, based on the World Economic Forum Global Competitiveness Report, with a score of 2.6 for the railway and 2.7 for the road for 2016-2017 - the last place in the EU, where 1 means very undeveloped and 7 extensive and efficient (European Commission, 2018).

Conclusions

The discussions about economic development can only be framed within the already developed and tested arguments that were brought forth by the economic school of thoughts. In this vein, the development of a nation can occur when the decision-making powers are aware of the crucial development factors that need to be identified and adapted to the specific needs of the nation. This is no easy task at hand, as there is no magic solution for a nation's development, but rather an assiduous work of comprehension and adaptability. In an increasingly changing economic environment, constantly influenced by the decisions and actions of a large variety of actors, the government intervention can improve the welfare of society. In the same time, the government is in charge of identifying the critical factors that cause the volatility of the markets and, implicitly, the government's responsibility is to provide possible state policies that meet such situations.

In this context, Romania is a nation that lacks a healthy planning and a long-term vision. Romania has come a long way, but its path is somewhat paradoxical when referring to its economic growth and respectively its development. The country has registered a significant increase in its GDP; however, the country's population does not perceive

any changes in the quality of life, quite the opposite. Trying to understand the root cause of this, other factors, which influence Romania's economic development stagnation, come to light. As such, we see the economic growth of the country dependent on consumption, but not on the internal production. Furthermore, we see a deindustrialized country that struggles to boost its GDP by augmenting its public debt, but not by focusing to invest in infrastructure, in education or research. This bleak picture, calls for action. Romania is in need of a long-term strategy and vision, and strong leaders that ground their thinking and decision making process on factual data, and not on assumptions or perceptions.

There are not always easy and clear-cut solutions when dealing with the issue of economic growth and development, and each school of thought comes with its strengths and shortcomings. Nevertheless, the approach of governments should be one of in depth comprehension and analysis combined in a balanced strategic mix adapted to the country's specific needs. From the role of innovation, education, infrastructure to the more complex production capacities, they all have a direct impact in the economic development of a nation in different degrees, depending on the specific characteristics of every one of them.

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TOWARDS SUSTAINABLE PUBLIC ORGANIZATIONS

STRATEGIC FOCUS FOR CHANGING PATH TO DIGITAL TRANSFORMATION IN ROMANIA – CASE STUDY GIS OPEN E-GOVERNANCE SYSTEM APPLICATIONS

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Abstract. *In a time of disruptive innovations, the public services cannot remain untouched. The old political slogan “do more for less” seems to be more real than ever. In this context, digital transformation becomes a change path with huge dynamics from the stage of Digitization, over the E-Government stage towards the Digital Government one. The organization of future will benefit from a DevOps flexibility and capability in a geo-informatics system (GIS) which will offer an environment open to innovation, open to new solutions by storing, processing and analyzing different kind of data, including the spatial data. Our main contribution, based on the new policies streams on the background of digital disruptive technologies is that Romania’s transformative process toward digital governance has to take in consideration the location intelligence and develop also the local e-governance using spatial data.*

Keywords: *Digital transformation; local e-governance; disruptive innovations; GIS; DevOps.*

Introduction

Diverse and disruptive economic, social and environmental challenges request innovative policies and strategies for action. Digital transformation becomes a changing path with vast dynamics from the Digitization stage, over the E-Government stage towards the Digital Government one (OECD, 2016b, p.57). The Digital Government is focused on openness, transparency, engagement with and trust in government based on new strategies to create public value (OECD, 2016b, p.57).

Software development allows the freedom to choose and the flexibility to implement the right tool for any organization, from the project management in Agile solutions (a specific software development methodology) to a broader spectrum, covering the entire organization, like in DevOps software development method (RedHat, 2018). The activities of modern organizations are based on communication, collaboration, continuous feedback, experimentation and integration, the result being a new work environment provided by the partnership between software developers and IT professionals.

Ubaldi (2013) defines the Open Government Data (OGD) as a philosophy - and increasingly set of policies - that promotes transparency, accountability and values creation by making government data available to all. Brokx (Geospatial World Magazine, 2018, President Imagem Benelux) points out that technologies, people and governments merge in the location intelligence: "location intelligence merges with multi-source data and with other IT systems in order to produce concise and streamlined solutions. It is no longer considered to be used only in geospatial domain; rather it is used as a building block to solutions". Both time and location are the ubiquitous characteristics of any data. All new technologies IoT, deep machine learning, robotics, and Artificial Intelligence depend on data. Alla (Geospatial World Magazine, 2018) estimates that geospatial is the future backbone of the "smart habitat". The Research Institute for Environmental Systems (ESRI, 2015) found that since 1980, even if the technologies and the formats have been changed over the years, the data categories have been and still are significant: administrative areas, cadaster, street networks, utility networks and environment. Crampton (2004, p.49) found that GIS is part of governmental rationality, while "the human distributions across a territory are particularly central to politics". Barr (2006) sees that e-government involves GIS because the relationship between the government and the citizen is frequently geographically based. Lieven (2017) points out that much of the success with GIS does not originate in technology implementation, but in the ability of building a location capability. In this line, Hernando & Olmedo (2015) present Pere IV as an old industrial axis in the city of Barcelona, transformed in a smart city using collaborative technologies – community governance.

In this context, we try to investigate the challenges and opportunities regarding Romania's transformative process towards digital governance taking into consideration the location intelligence and also developing the local e-governance using spatial data. We try to highlight the need to a digital transformative path for e-government local services and to assess the leap we can do to transform our public services using new technologies in order to provide better information, better solutions customized to the client at his location.

The dynamics of the Romanian e-government services

In 2016, OECD (2016a, p.18) concluded that Romania's performance is "more closely aligned to the European average in terms of digital government development", but "the tendency since 2010 has been negative, not because Romania has stopped progressing, but mostly because other countries progress at a faster pace and in a more sustainable way." (OECD, 2016a, p.19)

Didraga and Brandas (2015, p.74), Didranga (2015, p.28) conclude that e-government 2.0 projects in Romania need to increase their impact and efficiency. Filip and Stoica

(2008) signal the lack of computer and Internet usage abilities, fact confirmed by Stoica and Filip pointing out that “the public service interactions via Internet is negligible”. Gatman (2011) points out that e-Government success in Romania is conditioned by three equally important and complementary dimensions: financial, human resources and policy. Matei and Gaita (2015, p.983) found that the feature of the management process of public services in Romania is the functional hierarchical subordination. Matei and Iordache (2016) found it important to increase local autonomy, indicating that the e-Government at local level is not a priority yet. Vaduva (2016) considers that the success of the public administration reform in Romania is conditioned by the curbing of corruption and by the generation of economic prosperity. Vrabie emphasizes the paradox for Romania: pioneer initiator of e-service projects (Virtual Payment Office www.ghiseul.ro since 2006, e-voting method testing since 2003, e-Procurement system (www.elicitatie.ro) since 2002, e-guvernare.ro launched in 2003), but having a population not connected, mainly because of two barriers, workplace and organizational inflexibility along with digital divides and choices.

Connecting policies to reality and more precisely to spatial reality, in a research employing GIS analytics, Lincaru, Pîrciog, Grigorescu and Tudose (2018) show that “both Digital Agenda 2020 and the Administration strategy are strongly correlated together, but they are not harmonized with the high human capital policy, even if there are objectives strongly dependent on this category. The acquisition of digital skills for the tertiary employees in public administration is a priority.” Also, another result of this research shows that “in public administration the high human capital is clustered in a few innovative hubs, which in the absence of a functional and interconnected national administration IT system makes impossible the democratic governance act, especially in the context of regional decentralization.” Another interesting insight of this research is the solution proposed to develop “remote intelligent public services in a customized way, tailored for the local problems”. There is a visible spatial correlation between the Low-Low (LL) high human capital clusters and marginalized location as well as low or absent broadband infrastructure coverage.

In this context, the level of development for the local e-government reform and the digital transformation of the traditional public services are questionable and the building of a new paradigm of thinking is needed.

Building a new approach of the local e-government services

The need for spatial data and location

“E-government, as a new administration model, aims at increasing government performance and efficiency by using the latest technologies in the transaction of information, science and goods among government agencies, citizens and private sector.” (Geymen & Yomralioglu, 2008). To this definition we add the transaction level that can be: national, regional and local. The e-government services are based on the digitization of public services. In general, e-government applications use non-spatial data, while only a few applications using spatial data (web based GIS) are related to the Government agencies in Romania. GIS applications will become more and more developed in the future because agencies use more and more spatial data. According to the same above mentioned authors, there are two types of GIS applications for spatial data on which e-government applications using internet are based. The first type is

online and interactive maps using spatial query, address search, route analysis, buffering, and overlaying analysis. The second type of web based GIS application is transmitting the spatial documents of various agencies (cadastral administrations, local governments and forestry, mining, water managing agencies etc.) to their clients over the web.

As Barr (2002) said, when a citizen accesses government services via internet, it creates a separation between the place and the public service. In this view, we need tools to re-establish that connection. These involve frameworks to identify individuals and places. Such geographical referencing framework is GIS. In order to reduce inequalities and to offer democratic e-public services to all people, considering that social exclusion is both an individual and a geographical phenomenon, we highlight the geospatial dimension in the treatment of any kind of data. In general, deprived areas accumulate more economic and social problems which are a characteristic to certain groups of people and places. The process of creating the spatial data must be regulated in order to ensure consistency, non-duplication and timeliness. In fact, we can involve GIS in e-government services because the relationship between the government and the citizen is in many cases geographically based (as we mentioned above). Barr (2002) found that "geographical information is a vector of e-government information resources and its application contributes to integrating government information and to promoting public service."

Challenges to successful digital transformation of public services

In many countries, the initiatives of the local government are only in the initial stages of the development of e-government services and they face some challenges concerning their ability to provide high level of e-government services. In a study of Chen & Gant (2001), an inadequate IT infrastructure, the shortage of IT workers and the lack of financial resources are the main relevant barriers to e-government.

In fact, most of these challenges relate to human dimension and concerns about the privacy and security of personal data. The challenges for decision makers regarding the stages of the digitization projects relate to practical issues such as funding, design, development, testing, implementation and assessment. Another challenge is to accept that in practice the speed of advancement in technologies exceeds the speed with which the potential benefits can be obtained in the provision of public services (OECD, 2016b).

The same OECD study emphasizes that the new steady integration of new technologies (such as cloud computing, social media, mobile technology) into people's everyday lives, businesses and governments is challenging and gives rise to an ecosystem of public engagement and relationships that are beyond public, private and social spheres. The same conclusion is sustained by Garson (2006), who mentioned that through e-governance, government services are provided to citizens in a convenient, efficient and transparent manner, although there are three groups interested (government, citizens and businesses/interest groups) there do not have distinct boundaries.

The new digital environment offers opportunities to rethink and to reposition the relationships among stakeholders (citizens, business and nongovernmental organizations), counting on collaboration, reshaping political priorities, participating in the design of public services in order to deliver coherent and integrated solutions for

these complex challenges. The governance approaches are changed and it is necessary to shift from government-centered services, anticipating citizens and business needs (user or citizen-centered approaches) to the last stage in which citizens and businesses determine their own needs and address them in partnership with governments (people or citizen-driven approaches) (OECD, 2016b). In this context, the local dimension of digital government services is very relevant, as it is in the center of digital transformation.

Internalize the process for the digital transformation of public services

The actual e-government services are not able to satisfy at high quality and standards the needs of the State – administrative services or of the public – direct personal services (Eurostat) either. The Romanian e-government organization needs to be (re)constructed. For this purpose, the current Romanian public organization has to go through a process of digital transformation. E-government is not just about websites or email and SMS. It is about how business organizations change in relation to public services and vice versa. That means to develop two stages in transformation. The first stage means greater use by governments of digital technologies in order to improve data management, obtaining more efficiency and productivity of end-user delivery. Digitization of public services means new delivery methods to reduce costs, both for administrative service or directly, by standardization of personal services. Administrative services are those functions delivered to governments and Direct personal services are services delivered to collective or individual users addressing needs (to the public services) of well-being and of social and economic development. The final objective or stage of the digital transformation path is “Digital Government”, “enabling governments to create increased public value using more and more openness, transparency, engagement with and trust in government through the integration of digital technologies and user preferences in service design and delivery of direct personal services and in shaping public policy outcomes, while also achieving efficiency and productivity gains” (OECD, 2016b).

E-government delivery models can fall into the following categories: as Saugata and Masud (2007) said, “e-governance is the application of information and communication technology (ICT) for delivering government services, exchanging information, communication transactions, integration of various stand-alone systems and services among government-to-citizen (G2C), government-to-business (G2B), government-to-government (G2G), government-to-employees (G2E) as well as back office processes and interactions within the entire government framework.”

The disruptive technologies and local e-government services

Disruptive innovations are related to new business models that break traditional practices. Such models typically combine a disruptive idea with a technology that pushes the innovation forward to unexpected capabilities. Disruptive innovation offers a “proven path to accomplish this goal” and can be a good leader in the transformation process of public services (Deloitte, 2012).

But how can a traditional public service organization be penetrated by disruptive technologies? At first stage, we must develop a hypothesis by exploring the dominant clichés in the area in question and then inverting or denying them (Williams, 2011, p.17).

Disruptive innovations generated by digital technologies not only generate competitive advantages, but they create organizational capital, they create new business models (Anderson, 2014). In the second stage, we must protect the whole environment created from the regulatory and the ancient rules and procedures, if these new disruptive technologies begin to penetrate the organization, in order to protect them.

Now, a question occurs: how important is "location" for disruptive technologies? The location is analyzed by means of Geo Informatics System (GIS) - an informatics system delivering Demographic Analysis, Emergency Preparedness, Land Management and others. If "everything" and "everyone" is "somewhere", does GIS not become critical to the new business models? What if location stopped being an add-on, but rather became central to new paradigm of thinking?

In this context, we already have the components of a system and each of these components has high capabilities and flexibility and the next step is to (re)build the public organization, so that we can provide local e-government services at best quality and highest standards no matter where the location is.

The need to (re)build the local e-public organization - emergence of DevOps in GeoInformatics

In operational terms, Romania has to achieve the construction of the e-government network, launch e-government-oriented geographic information technology service and advance the construction of the e-government geographic information platform.

To transform the public organization means to rebuild its culture, so that this transformation should be sustainable. This change must be made by considering three components of the IT system: development, operations (DevOps) and GIS. The geographic information application significantly advances the technological progress of the government administration offices. According to Meng et al. (2014), "the informatics achievements can be submitted via unified geographic information platform in order to meet business management needs and with a view to forming a multi-sector and a multi-system collaborative service prospect."

The most important dimensions in this digital transformation are:

Philosophy: DevOps is a culture that unites all the layers of the IT organization, people, process, operations and technology. It shortened the version of the term development and operations. DevOps is not an IT solution. It is about a holistic approach of the technology and management and it means it is used as it develops. DevOps is appropriate and harmonizes with the whole concept of local e-government. Local e-governance is related more to the open source. Open-source code is meant to be a collaborative effort, where programmers can improve the original design and share the changes within the community. **Enterprise Culture:** DevOps encourages feedback from users and the products can be re-evaluated in real time

Management: Workflow optimization and automation take place to the highest possible extent by standardizing processes and documents. Communication and collaboration are a huge priority and the cross-communication, constant learning and improvement-centered approach as well. DevOps are related to open source that assures the flexibility

to implement the right tool for your organization. Also, Dev-Ops allows incremental iterative approach leading to efficiency. DevOps includes all the manners of better learning.

The effective cooperation among different in-house departments of the local administration, by integrating and interconnecting services and processes that take part in common transactions (Koussouris et al., 2007).

Funding: In the long run, DevOps helps organizations save money by using technology that is typically expensive. Another important aspect is the value of open-source information that is essentially free.

Resources: In the DevOps concept, the teams are not so distinct; the cross-communication is beyond the organizational structure. In DevOps they bring together the development engineers and the professionals in the organization. DevOps allows government to deliver cutting-edge platforms and services to the public faster than ever before (Redhat, 2018).

Building and configuring technology architecture: The applications using integrated platforms are capable of unlatching disruptive forces in the development of the business system and especially in the traditional manner for solving issues in these business models. Taking configured and built re-development as major developing mode can rapidly build diversified application systems in GIS field. (Meng et al., 2014). Another important resource is the cloud model (Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS) which offers its own specific features and functionalities and it is crucial for the organization to understand the differences. Cost reduction is one of the main reasons for moving to the cloud, but it can be achieved having the right plan.

Large cloud data centers are able to provide huge savings to companies; for instance, the cost of storage at a medium sized data center is \$2.20 per gigabyte (GB) per month (Pawlish & Varde, 2018).

Emergence of DevOps in GeoInformatics: A significant trend in the DevOps is the rise in modular approaches to system building. It is better today to work with small and agile teams to manage customized applications instead of monolithic and big applications where huge teams work. Pawlish & Varde (2018) emphasize as an important advantage that smaller teams can “develop the software and operate in the external environment simultaneously”.

New type of relationship between the public organizations: e-public services are forming architecture and it will be a need for sharing information across vertical and horizontal boundaries of government organizations and for a balance between centralized and decentralized information sharing (Yang, Pardo & Wu, 2014).

Public services, in general, are less open to changes, but the digitization stream, the magnitude and the penetration rate of the new technologies put pressure on the public services to accept the digital transformation and the others changes that are about to come.

Addressing challenges to providing local e-government services - e-government IT outsourcing

If DevOps requests a significant cultural shift, e-government IT outsourcing may be another way to help local governments overcome barriers such as shortage of skilled IT personnel, limited financial resources and poor IT infrastructure. At first, local governments must choose an e-government IT outsourcing model. According to Chen and Gant (2001), there are some conditions that favor the decision to use this service and are related to management support, promise of large efficiency gains, enough IT capability, less burdensome outsourcing rules and procedures and a variety of high quality and reliable outsourcing IT public services. These application services respond to the level of government involvement at local level. Small local governments of cities have a few employees working in their IT department. In this case, an outsourcing e-service provides a source of IT talent pool for the development and maintenance of high-performance e-government applications that can serve a lot of small local governments. These kinds of services have a lot of staff, pay competitive salaries and provide strong IT infrastructure needed to support e-government. The use of the outsourcing IT e-services is beneficial because they take advantage of the economies of scale.

Using this kind of e-government services could represent the first stage of the digital transformation, but that depends on the local government strategies and on the decisions of the local authorities.

The increasing role of social media

In the latest years, the increasing of social networks such as Facebook and Twitter proved that the citizens are now much more involved in decision-making processes. This kind of involvement can contribute to the development of the local e-government services. The social media analysis helps understanding e-government services in different development stages and in different locations. This kind of engagement by citizens improves the transparency and the trust in governments. By providing empirical evidence, Song and Lee (2015) demonstrate that social media is effective means for government to improve citizens' trust in government by enhancing their perceptions of government transparency.

Conclusions

In the digital agenda in Romania we can adopt a new stage of e-government development and draw up the most courageous policies and actions based on a new approach of the local e-government services that can help us overcome the actual state of things using some best practices in domain. In the digital transformation of Romanian local e-government organizations it is appropriate to adopt the Dev-Ops in a Geoinformatics system (GIS) approach, which allows incremental iterative approach leading to efficiency and provides flexibility of resources and local capabilities delivering high quality public services.

Another way to step forward is to adopt an E-government IT outsourcing model which helps local governments overcome barriers such as shortage of skilled IT staff, limited financial resources and poor IT infrastructure. This idea is sustained by Lincaru et al.

(2018) research proposing to develop “remote intelligent public services in a customized way, tailored for the local problems”.

At first stage in the digital transformation, using intelligent hypothesis and making from location a central public service approach connected to open source, we can transform the Romanian local e-governance into one that is efficient, transparent, trustful for clients and able to provide high quality public services.

Failures in implementing local e-government services occur, but they have nothing to do with the technology or with the applications of technological innovation themselves, rather the organizational and social aspects that are still missing in the design, implementation and adoption of those services. (Chen & Gant, 2001). In the context of new and penetrating technologies and of a diversity of public demands, it is a need for a culture of flexibility and a strong public organization management to deal with dynamics, with imbalances and with non-linear process, with initial resistance, with workplace and organizational inflexibility in order to be able to ensure the cross-communication and cooperation within an ecosystem of public engagement and relationships that are beyond public, private and social spheres. In this case, in Romanian public service organization this challenge will be a huge one.

As social media becomes ubiquitous, Romanian local public services can exploit the resources of social media by developing and monitoring the different stages of the local e-governments digital transformation and development strategy.

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GLOBAL URBANIZATION AND THE NEED OF SMART CITIES DEVELOPMENT

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Abstract. Nowadays, more than half of the world's population is living in cities, and by 2050 this percentage will rise up to 66%, according to the World Bank. These dynamics will bring important changes in the size and role of cities. The fast-growing urbanization will lead to an increased level of water, energy and fuel consumption with a significant impact on biodiversity. Cities are also important contributors to climate change but in the same time they are also vulnerable to it – the newspapers are often presenting articles regarding strong storms, heavy rains, extreme temperatures that affected life in cities around the Globe. This is an effect of urban development. However, the increased level of human concentration brings benefits too: an increased demand for cultural activities, education, and mobility, which can lead to an increased access to jobs, longer life expectation and so on. Cities – no matter how small or big are they, are very dynamic. They rely on people and resources. The article intends to present the cities needs to meet the economic and social aspirations of their inhabitants by presenting both the literature perspectives as well as few case studies we have found in Romania and in the world.

Keywords: smart city; IoT; technology.

Introduction

According to the United Nations and the World Bank global statistics, more than half of the urban population lives in cities with less than 500.000 inhabitants, and just one eighth lives in cities bigger than ten million inhabitants (London, Tokyo, Mumbai, Shanghai etc.). However, the highest growth rate is to be seen at cities with a population between 500.000 and 1.000.000 inhabitants – especially in Asia and Africa (United Nations, 2017; World Bank, 2018).

The fast-growing rate of urbanization and the unplanned expansion of cities today bring huge changes for the economies – at all levels: city, country or even region. If we are to speak only about the water consumption, fuel, and electrical power, we can imagine the high growing level of pollution – a phenomenon that strongly impacts the lives of citizens, climate, and environment. Even if only two percent from the Earth surface is covered by cities, they consume about 80% of the energy that is produced by the whole world and, even more, they produce 75% of carbon dioxide emissions (United Nations, 2017).

By that, we can easily say that even if cities are the most vulnerable entities to the climate changes for example, they are the most responsible for that too. Some of them are affected by the increased winds power, big storms etc. while others might be affected by extreme temperatures – above or below zero. All those elements do have the power to alter the quality of life of their citizens. In addition, many cities do face issues like

poverty, lack of housing – things that are easily associated with crimes. The pressure on the public safety system or on the health system is huge (World Bank, 2018).

Cities from the developing countries are facing the strongest challenges. Here, the statistics show a very fast growth rate of the urban population – 95% till 2050. Although those cities are poor, with insufficient resources and a low level of administrative capacities, their citizens will face very strong challenges. Almost one billion people live in slums – at the limit of subsistence, slums that are located inside the borders of big cities (UN-HABITAT, 2012).

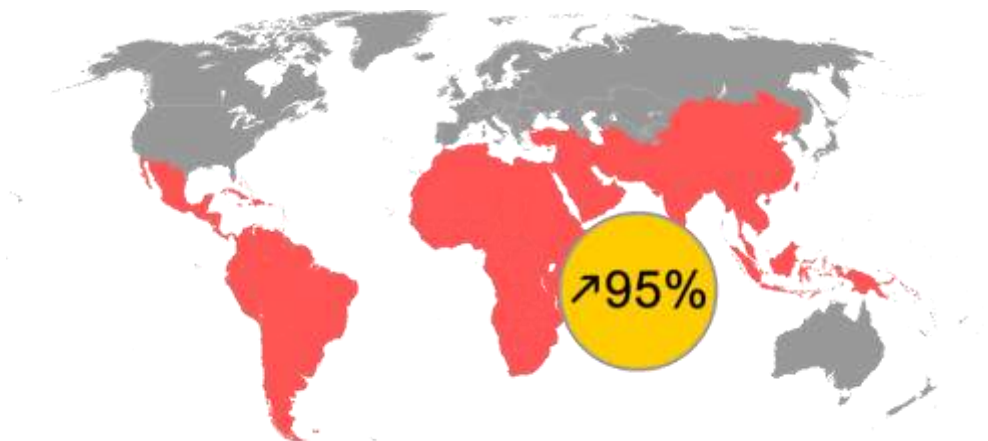


Figure 1. Most affected areas by the increased number of the inhabitants by 2050
(Source: The author after UN-HABITAT reports for 2012)

Although big cities are facing issues like those we already mentioned; there are few benefits as well. The pressure on the social services will force them to get improved, the number of hires will start to grow, and there will be an increased number of cultural and social activities. The same will be recorded regarding educational activities, mobility, public health and so on. In other words, we can speak about an increased life expectancy and a poverty reduction.

Cities are very dynamic entities that work mostly on the continuous flow of people, ideas, resources and, generally, their links with other entities from the surrounding environment. To prosper, cities should answer to the economic and social demands of their inhabitants. Cities should manage their impact on the environment to ensure a sustainable growth from which everybody to benefit.

Rio de Janeiro – an example of adapting technology to the needs of the inhabitants

Rio de Janeiro, the second city in size from Brazil, with a population bigger than seven million inhabitants, is a city full of life, but, as most of the world metropolis, it is facing major challenges in its development such as high number of criminal acts, old infrastructure, poor social services and so on. On top of that, being located on the Atlantic coast, quite often it is facing floods and landslides due to the high mountains of the surroundings. All those issues have the tendency to get even worse due to the climate changes. The slums from the suburbs are built on the mountain hills from the

surroundings and, by that, they are the most affected by those natural disasters (UNICEF, 2012) – heavy rains destroyed many times those highly populated areas making a lot of victims and demolishing a high number of houses.

To fight with those issues, and taking into consideration the fact that Rio was hosting two major sports events in the world - The 2014 World Football Championship and the 2016 Summer Olympics, the mayor of the city, Eduardo Paes, established a City Operations Center. It was built by IBM, and it started to run from 2010 – long before 2014 because such projects need time to produce effects. The Center is coordinating activities of over 300 agencies and city departments, plus those of the private companies – for transport, health, sanitation etc. integrating them into one single command and control system.

Surveillance cameras placed all over the city send info in video or photo format to the command center, images that are played back on hundreds of screens – from here the whole activity of the city might be seen. For analyzing traffic and avoid risks as traffic congestion or road incidents the center uses software applications designed especially for this purposes (the statistics made by it – with the support of big data collected over time, is the key of a fast and correct decision). Another software application, this time designed to analyze the climate changes and the sea level, is able to anticipate two days in advance the risks of flooding and areas where those risks might appear. This info helps the municipality to route police forces, ambulances and intervention teams, and by that being more close to the citizens and their needs. Of course, being known that prevention is more efficient then intervention, the authorities make use of technology to alert citizens in danger – closing the streets that are under risk or even by sending phone messages to citizens who, by the way, they have free access to the surveillance cameras in order to see and analyze by themselves the evolution of the variables that might put them in danger.

Those technologies are not the only one used by the city of Rio de Janeiro. In contrast with the huge investment made for the City Operations Center, young citizens are using the mobile technology in a very creative way. They attach smartphones to kites and then fly them over the slums and waste dumps in order to collect photos that are used to map those areas. By that, they manage to find out the areas that might be affected by landslides or electric poles that are at risk of collapsing and so on (UNICEF, 2014).

The characteristics of a smart city

The challenges that cities today are facing the future are completely new. This also provides a framework for collaboration and development among citizens and organizations to find solutions over the new technological opportunities. In smart cities, creativity, innovation, and entrepreneurship, together with smart technologies, are the ingredients for developing new solutions for their citizens.

As we saw already, there are two different important approaches to meet the smart cities concept: top-down and bottom-up. The top-down projects are usually big projects that imply huge investments - the City Operations Center in Rio de Janeiro for example. Bottom-up approaches, such as Rio's young people's initiative to use mobile phones attached to kites, are cheap solutions, at the citizen's fingertips that puts them both in the middle of the problem and the solution found.

Nevertheless, there are also situations in which smart solutions are not sustainable - when the development of technological solutions has been made for the sake of the technology itself. The city officials usually accept the technical challenges without really understanding what kind of problem they are addressing, having a rather superficial image about the concrete needs of the citizens. These solutions are, in most cases, the result of research by major IT companies that obviously want to sell their products. Due to the fierce competition on the market, it is quite difficult to find the relevance of a product in real life. There is often not enough time for the population or administrative environment to assimilate the solution found when it is tested during the pilot phase.

Other cities regard smart technologies as a universal panacea. They believe that the location of sensors all over the locality, electric cars, smart grids or the existence of an operations center will solve all the problems. Although they have not configured clearly the purpose of the smart technology, they choose to implement this type of solution simply because they are functional elsewhere. Prioritizing the actions of the public is a very important element in the sustainable approach to the development of a smart city. First of all, the problems of the community must be identified, and then it will be decided whether the solution really resides in smart technologies.

In developing smart city strategies, there is a need for vision - both in terms of planning and management - for smart cities to evolve sustainably and harmoniously. The Rockefeller Foundation, through its 100 Resilient Cities (100RC) program, devotes its efforts to help the world's cities become more resilient to the 21st century social and economic challenges. 100RC Experts describe resilience through its four dimensions (100 Resilient Cities, 2013):

- **Health and well-being** - this dimension takes into account all those who live and work in a city and not just its citizens;
- **Economy and society** - social and financial systems must allow the urban population to live peacefully and to act collectively;
- **Leadership and strategy** - these are the processes that promote effective leadership and inclusive decision-making for integrated planning with the involvement of all actors in the social, political and business environment;
- **Infrastructure and the environment** - this dimension concerns the resilience of a city through artificial and natural systems that provide critical services, enabling the flow of goods, services, and knowledge while protecting city assets.

If smart cities want to address the challenges they face, the most important step is to involve all actors (public administrations, private companies, universities, public service providers, non-governmental organizations and members of the local community) for discussions. Together, they need to explore the complexity of their problems and get involved in the decision-making and strategic planning process of the city they operate in. Only after these discussions, the councils will understand the problems of the city, allowing them to explore through the variety of solutions in the idea of identifying the best of them - which, indeed, could have an important technological component.

The city as a system of systems

In 1960, American mathematician Edward Norton Lorenz introduced, in the theory of chaos, a new theory called The Butterfly Effect. According to this theory, a small change in a system can cause great changes in its later state (Elaydi, 2007). For example, a town can reduce the number of polyclinics in an attempt to concentrate resources on hospitals, increasing their capacity. However, this decision may lead to an increase in the number of cars driving to and from the medical centers now placed at a bigger distance. The effect might be an increase in the number of traffic jams on the city's boulevards, which would lead to pollution that would eventually affect the health of the population in the city. Here is how a decision to raise citizens' quality standards and standards of living could, in fact, lead to long-term adverse effects.

Cities are very complex entities - they are often presented in literature, metaphorically, as living organisms (Magnaghi, 2000). They involve the existence of many interconnected systems, including energy supply system, drinking water, and sanitation, health, food, economic, transport, educational, cultural and much more. This network of systems, products, services, and people flows can be described as a system of systems.

Departments within the local government institutions often collaborate, in private, with service providers (whether private or public) when trying to solve the city's problems - local public transport service providers only collaborate with the transport management departments within the mayoralties, energy providers only with the specialized departments of the public administrations. In the same way, the drinking water distribution system is only connected to a similar department within a particular public institution and so on. In reality, however, the problems faced by these sectors are interconnected, interdependent and, as such, strategies need to be integrated. Only by that, it will be a certain benefit both for the systems themselves and for the recipients of the services they provide (e.g. citizens).

The systemic approach - an instrument in the management of complexity - is the one that can provide students with information on how to address new and complex situations usually placed in uncertain environments - situations that are difficult to understand and manage, being, obviously, difficult to solve with simple solutions (Checkland & Scholes, 1999; Checkland, 2000).

How does the systemic approach work? As we have already figured out, a system can be defined as a set of interconnected components, all serving a common purpose - in a more familiar approach, their efforts must be concentric.

Here is an example: Supposedly, a team of transport experts wants to remodel the transport system in a city - a system that developed unplanned and has been amorphous over the last hundred years. Inherited infrastructure is based on the traditional model of transporting people as being the primary objective of the transport system - which we all know today as being a wrong approach. In a smart city, the objective is citizen mobility - the ability to connect them, in an efficient and elegant manner, with their points of interest.

One way to explore the components and attributes in a system is to plot diagrams to symbolize their interaction or, for very complex systems, to make three-dimensional

models with mobile components (similar to a Lego game). This method helps to understand the complexity of a system, managing to portray it either symbolically - in the first case, or on a small scale - in the case of a 3D layout. More and more often, three-dimensional layouts are also made digital (eventually 3D printed), so it is possible to analyze each element and not just its major components. In making such diagrams or layouts it is advisable to involve all the actors involved by delegating experts to the respective research and development areas. Only in this way can the system be fully understood.



Figure 2. Model layout for a smart city
 (Source: Designed after <http://iotforum.advantech.com>, 2017)

Brasov – one of the best Romanian examples of Smart City

The city of Brasov, placed in the center of the country, is surrounded by mountains, is a very attractive touristic destination both for Romanians and foreigners. The metropolitan area of the city has, according to Romanian National Statistical Council (NSC) is about 400.000 inhabitants making Brasov the 7th most populous city in Romania.

In order to manage the touristic flow as well as its own population and industry, the municipality invested in different management systems that generally might be seen as a City Operations Center. Bellow, we will describe few of the subsystems that are integrated within:

“Integrated Technical Dispatch for the Municipality of Brasov – Geospatial Electronic Services” is built to help the citizens of Brasov to signal any urban problem that they may encounter:

- On one hand, there is a unique phone number. by which the citizens might get in contact with human operators in order to describe the problem that they might have encountered on the public domain (i.e. an infrastructure failure);
- On the other hand, citizens could place a pin on a map on the municipality Web portal, by themselves, to signal the problem that they might have been encounter.

Another component was developing an infrastructure platform for exchanging data among public utility companies. Implementing this had the following stages: Problem analyzing, Design, Developing, Configuration, Software integration, System testing, Implementation, Users training.

The Technical Dispatch is functioning as an informational and decisional hub made to collect information coming from different systems managed by Brasov city hall (e.g. video monitoring system, public lighting system, semaphore management system, GIS, e-documents management, ERP systems) and from those belonging to the public utilities companies, as well as to provide information to private and public institutions expected to deal with security issues (e.g. Police).

The Call Center component is actually an automatized phone system build for citizens unable to use the Web platform, to provide them with the information they need.

The Geoportal subsystem consists in an interactive map – made with an accuracy of ten centimeters, for citizens, to pin the urban problem they face as well as for displaying the problem status. It allows a proper information of citizens regarding the urban problems, as well as, it is allowing them to report any malfunction or service delivery delay.

Another factor we should not ignore is that the software provides a transparent communication channel environment throughout the Brasov citizens by showing them short notices about the repair/replacement or any other working activity needed for resolving the issue.

The Geospatial Electronic Services Delivery subsystem is bridging successfully utility companies with other partner institution, by allowing a fast endorsement for problem troubleshooting and intervention on the public domain. The requests are filled in online, and sent to all the actors involved, together with all the information needed for a prompt intervention (e.g. specific geographical position).

The Business Intelligence Reporting subsystem was developed in order to bring together, under the same screen, all the data from every partner, contractor, and sub-contractor who report to the city hall. All this information flow is possible by an easy to use Graphical User Interface who allows all the actors to input data easily and with accuracy.

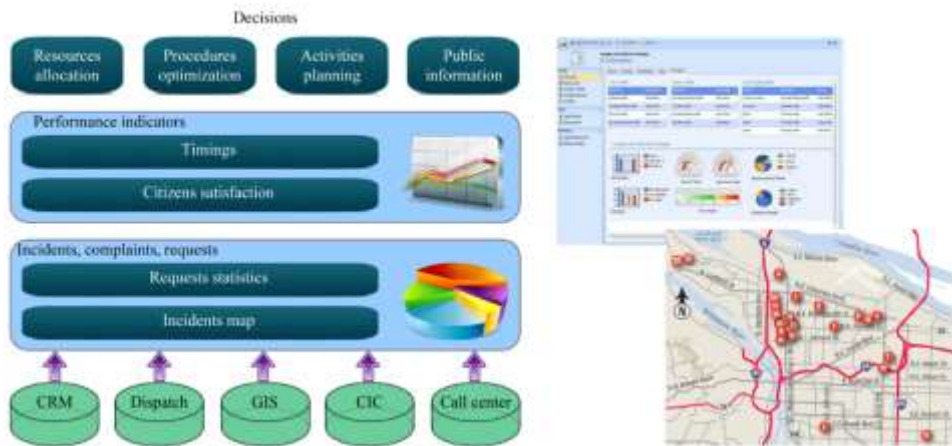


Figure 3. Business Intelligence Reporting subsystem
(Source: Brasov city hall)

Problems encountered by a smart city

Some cities have a pronounced touristic character, while others are just industrial cities. The first can attract tourists either because of the mountain landscapes, the beautiful seaside resorts or because of the historical importance they have. Industry can attract investors for easy-to-understand reasons. Each locality has its own specificity. Some are closer to become a smart city; while others have as priorities to meet the basic needs of their citizens. Copying a functional model elsewhere has been proven to have a great potential for turning into a failure (Winston, 2006; Haque, 2010).

The quality of life in Romanian cities generally does not stand at the level of Western European or North American cities. But not only there the cities are trying to become smart. Cities in medium or developing countries also look for solutions to grow smart. The results are not, of course, always what they want. They must analyze and evaluate past experiences to prevent failures and avoid mistakes already made. The experiences of India, Latin America or Africa, the problems encountered by them during the development process may sometimes be more useful to Romanian cities than the successes of Paris, London or New York.

Urban challenges such as poverty, sustainability, quality of life are typically framed in the SWAT analyzes, in the weaknesses chapter. In the case of a city, these weaknesses are social, cultural or diversity issues that, for various reasons, are very difficult to solve - if not impossible. As early as 1973, German Horst Rittel, a professor of urban planning at the University of California at Berkeley and the University of Stuttgart, said that the issues that cannot be even defined by the actors involved better should be left to solve by themselves (Rittel & Webber, 1973).

Let's take poverty for example. What would be the solution to this problem at the municipal level? It is closely related to other elements - education, food, economy and so on. In an attempt to eliminate a weak point, the solution to a particular problem often brings at the surface another, perhaps more complex, one - often there is no recipe for

removing a weak point. However, solutions can be found to help ease the suffering of the populations affected by the problem.

In addressing the challenges that a city encounters, it is often necessary to slowly change the structures of society, rather than implementing a momentary technological solution. Changing behavior (and/or mentality - as we often hear it being discussed), the way we live and work, are essential elements in the evolution of a city that wants to become smart. Technology can indeed play a particularly important role in facilitating these behavioral changes - for example, helping to reduce electricity consumption or changing inter and intra-urban transport methods, but it is not enough. As we have already said along this article, technology is not a universal panacea. It helps solve some problems but does not solve them all. For that reason, the society needs the involvement of its people!

We want to make it clear that cities can be associated with living scientific laboratories, with the participation of all citizens as specialists of the city's lifestyle. They are the only ones who have the ability to explore the problems they face and to find solutions - either with the use of smart technologies or new business models or even complete new public services. Often, following the collection of ideas from citizens, it is possible to develop completely new public policies; new solutions, that would have been impossible to identify from the council's level, can be found. According to the Stanford Summer Arts Institute, the Stanford Design Impact program, strategic thinking is a process that can help cities find viable solutions to solve their weaknesses with their own citizens (IRIS Design Lab, 2018).

Key elements for a smart city

As mentioned above, smart city projects involve the participation of experts from different backgrounds to work with residents in order to help them discover solutions to the issues that they, the inhabitants of that city, consider important.

There is no agreed definition of the smart city concept - although it is generally seen as a smart city a city that uses smart technologies along with data and information gathered/processed by digital equipment to address the challenges it faces.

The fact that cities often make the mistake of starting with technology investments rather than what is important to citizens is also already known (Cushman & Wakefield, 2015). To be successful, a smart project must start with a problem that is about to be solved. We need to focus on the following five elements considered most important in building a successful smart city project (Modi, 2014; Vrabie, 2017):

1. Citizens;
2. Technical infrastructure and data flow;
3. Entrepreneurship and innovation;
4. Strategy and leadership;
5. Education.

Each of the five elements listed above must take into account the following fundamental concepts of success:

1. Sustainability;

2. The use of open data applications - a factor that helps develop smart projects;
3. Protecting privacy and ethics - elements that citizens are increasingly concerned about.



Figure 4. Key elements for a smart city
 (Source: The author after Modi, 2014 and Vrabie, 2017)

Lessons learned

To be successful, Smart cities initiatives should consist in a partnership between the citizens – as the most important actor, business sector, and public authorities. Only by that, it will be possible to be built a solid environment in which information from the public side meets service delivery companies.

Each partner must be responsible for their role and by that to properly interact with the others. Education along with communication is the key ingredients.

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INTELLIGENT MOBILITY IN SHAPING URBAN SUSTAINABILITY

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Abstract. *The policy for sustainable development for years has been a challenge for local authorities, enterprises operating within agglomerations or urban residents, in the area of ever-higher environmental standards. This is mainly due to the fact that the ongoing process of urbanization of the world, although it is a symbol of social evolution, raises numerous challenges related to intensive energy consumption, overloaded transport networks, water and air pollution, waste and a drop in the quality of life. The implementation of new technologies is currently perceived as a key factor in reducing greenhouse gas emissions, pollution or improving the efficiency of cities. These technologies must be smart, slim, integrated, cost-effective. They should play an important role not only in the field of environmental sustainability but also with regard to the well-being of citizens and financial stability. One of the key areas shaping smart cities, where contemporary technologies should be implemented, is transport. The effective transport operates in well-developed areas. This is one of the aspects of the functioning of urban areas, which is also an element and condition for economic growth.*

Keywords: *intelligent mobility; sustainable development; smart city; management of intelligent assets.*

Introduction

One of the most important socio-economic processes in the modern world is progressive globalization. According to the UN forecasts, it is estimated that by 2050, 66% of the world's population will live in cities. The growing concentration of the population and the innumerable relations between various entities determine a high degree of difficulty in the functioning of urban areas. Therefore, the specificity of contemporary urban centers refers not only to their physical structure but also to virtual networks, connections, and relationships (UN, 2014).

With the progressing urbanization, globalization, technological progress and the growth of ecological awareness and the development of a knowledge-based economy, the search for concepts and models of effective functioning of cities has begun. One of their main assumptions is the achievement of environmentally and socially and economically rational relations between the functioning entities. One of such ideas is smart growth, which task is to minimize the costs and inconveniences resulting from the growth of cities. For some time, technologically advanced cities striving to save resources have been distinguished. Shaping a smart city is a long-term process and requires a well

thought-through way of functioning of its areas, among which are (Sikora-Fernandez, 2013, p. 85):

- 1.Economy (smart economy).
- 2.Transport and communication (smart mobility).
- 3.Environment (smart environment).
- 4.People (smart people),
- 5.Management/governance (smart governance).
- 6.Quality of life (smart living).

City centers recognized as smart cities must, therefore, have appropriate features, the importance of which depends on the direction of development in a given spatial area. Creating smart cities in the above spheres results directly from the postulates proposed by contemporary urban communities that deal with unfavorable phenomena on a daily basis. These are mainly road traffic, noise, security or weakening of social ties.

What is more, nowadays collaboration between self-government bodies and institutions as well as public utilities with internal and external entities, aimed to trigger required changes in attitudes and behaviors and decisions of various target groups, is a reflection of execution of marketing activities (operations, ventures, campaigns). Exchange of values between pairs of units or territorial groups means acquiring specific resources, winning the favor of people and/or approval of offered environmental assets (social, investment, tourist, economic etc.) in return for relatively equivalent assets delivered in a returnable way including material, financial, information and emotional assets. All these activities in self-government units lead to an intelligent way of thinking and create smart societies (Wereda at al., 2016, p.138).

One of the key areas shaping smart cities, where modern technologies should be implemented is transport. It is one of those aspects of the functioning of urban areas, which is also an element and condition for economic growth. Effective transport operates in well-developed areas, equipped with the necessary elements. The economy stimulated by transport generates ever greater needs resulting from the growing production capacities and greater consumption of the society. An efficient transport system often determines the attractiveness of countries, regions, and cities. However, its organization in urban space, where there is a high population density, is an extremely difficult task (Kummitha & Crutzen, 2017, p.48).

Transport problems of contemporary cities

In recent years the development of digital technology is fast becoming a pervasive feature across a wide variety of products. Equipped with the ability to sense, store and communicate information about themselves and their surroundings, these 'intelligent assets' are posed to unlock tremendous opportunities for businesses, public organizations, and individuals, especially for a standard way of living in a sustainable environment (Wereda & Kornec, 2016, pp.133-134).

The necessity of thorough transformations of city structures and public spaces is to a large extent the consequence of many destructive processes that began to appear with the increase in the number of cars. This is, inter alia, the disintegration of cities, i.e. the process of spatial disintegration, suburbanization - the city's development phase consisting in the depopulation of the center, the cost of suburban development, its result

is the development of the entire city transport network and infrastructure development in suburban areas, playing the role of urban dormitories. Along with the deteriorating quality of life resulting from the chaotic development of transport, there is a reorientation of local authorities' actions for sustainable and intelligent solutions not only in transport but the entire urban logistics (Malasek, 2016, p.878). This is one of the main challenges because, as estimated by the Ministry of Environmental Protection, 30% of the total pool of pollutants emitted into the environment comes from transport, especially from road transport, but in cities, the share of transport pollution is much higher, it can be approx. 70 % even up to 90%. In the light of such alarming data, it is necessary to count losses caused by transport, especially those losses that are not suffered by the interested parties, but the whole society (Pajak, 2018).

One of the main problems and still not solved is individual communication. As a means of transport, it facilitates relatively free movement, enabling efficient organization of family and professional life. Being, especially in Poland, a particularly valuable good, a determinant of social position and abundance, many people cannot imagine life without a car (Parysek, 2016, p.12). Entities participating in transport processes, through attitudes, choices, consumption patterns, affect the operation of the transport system. It would seem that the quantitative and qualitative development of road infrastructure is one of the solutions to this problem. However, as many researchers have noted, the concentration of activities related to the improvement of the offer for individual transport leads to a decrease in the attractiveness of public transport. The effect of this is undesirable and excessive demand for further infrastructure investments related to the operation of both individual car transport and public transport (Litman, 2018). This action leads to a vicious circle (Figure 1) including higher infrastructure maintenance costs, environmental degradation, and poor quality of life.

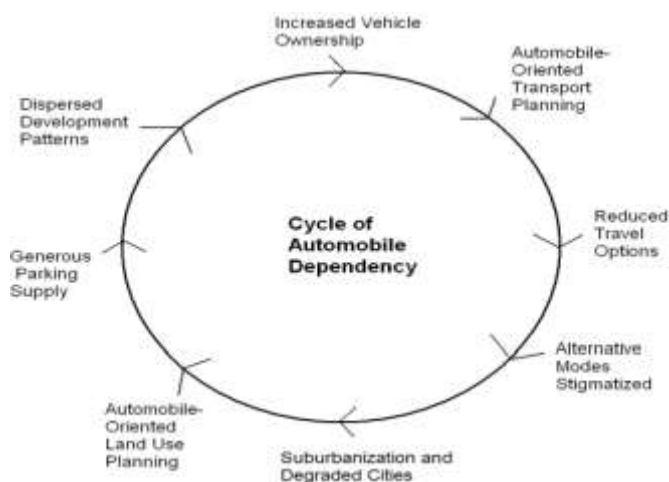


Figure 1. A vicious circle of increased dependence on a passenger car (Litman, 2018)

The car as an element of the spatial development of the city is at the same time the cause of the increase in the city's operating costs and problems faced by pedestrians and city authorities. The size of issues related to the nuisance resulting from the functioning of road transport in the urban space tends to take measures limiting its impact on the quality of life. These projects should be multi-span, focusing on simultaneous

implementation of many tasks to maximize the ability to achieve the assumed goal (Paundra et al., 2017, p.121).

In Poland, this problem is particularly visible. With the entry into the structures of the European Union, our country has become a beneficiary of many subsidies, within which transport infrastructure is being developed. Along with the development in Poland, there are also passenger cars. In 2015, the motorization rate in our country was much higher than in the entire European Union and amounted to 546 cars per 1000 people (in the EU 497 items per 1000 people). Among the largest cities in Poland (over 200,000 inhabitants), the largest indicator is observed in Warsaw, Katowice, Poznań, and Wrocław (Table 1) – data based on the Central Statistical Office in Poland.

Table 1. Motorization indicator in Polish cities with a size of over 200,000 residents in 2009-2016

CITY	YEARS								Growth dynamics
	2016	2015	2014	2013	2012	2011	2010	2009	2016-2009
Warsaw	681	645	620	598	580	565	548	535	21,4%
Krakow	585	557	534	521	503	486	467	463	20,8%
Lodz	525	502	483	466	448	434	408	389	25,9%
Wroclaw	632	300	575	558	540	525	498	487	22,9%
Poznan	660	625	601	578	554	538	514	515	21,9%
Gdansk	572	552	543	523	509	496	475	471	17,6%
Szczecin	508	487	466	449	434	421	400	398	21,6%
Bydgoszcz	549	529	510	500	486	473	462	462	15,8%
Lublin	506	483	463	447	425	410	387	379	25,0%
Katowice	668	632	599	571	540	516	491	484	27,5%
Bialystok	413	394	377	365	355	345	327	315	23,7%
Gdynia	567	542	521	503	484	471	449	441	22,2%
Czestochowa	519	496	489	467	453	442	420	406	21,7%
Radom	471	445	427	413	400	388	371	355	24,6%
Sosnowiec	526	509	495	483	468	453	435	412	21,6%
Torun	490	470	453	441	428	417	403	396	19,1%

The functioning of the car transport is the main reason for the increase in the costs of the operation of urban centers and the problems faced by pedestrians and authorities. The size of issues related to the nuisance resulting from the functioning of road transport in urban space is also conditioned by the quality of moving vehicles. Unfortunately, in Poland, more than half of the passenger cars are older than 15 years (Table 2) – data based on Central Statistical Office in Poland.

Table 2. Age structure of cars in Poland in 2014-2016

AGE OF CARS	YEARS		
	2016	2015	2014
1-3	6,1%	5,8%	5,8%
4-7	7,4%	8,1%	8,9%
8-11	13,3%	13,7%	13,7%
12-15	16,7%	17%	18,5%
16-20	22,9%	22,7%	21,8%

AGE OF CARS	YEARS		
	2016	2015	2014
21 and more	33,6%	32,7%	31,3%

Compared with the new generation cars, old vehicles are much louder, emit more amounts of fumes, and are less safe. The age of vehicles together with the growing motorization rate adversely affects the quality of life in cities. One of the fundamental inconveniences is continuous noise, which the main emitter is road transport, and in turn: air, industrial, neighboring, as well as the noise of mass events.

Data from 2017 from acoustic maps prepared as part of the third round of mapping show a significant exceeding of the permissible noise level in urban areas. The descriptive part of the map shows that in Krakow almost 10%, in Bialystok almost 12%, in Warsaw about 6%, and in Gdansk almost 2% of residents are exposed to excessive levels of road traffic noise (Acoustic Map of Warsaw, 2018; Acoustic Map of Krakow, 2018; Acoustic Map of Bialystok, 2018; Acoustic Map of Gdansk, 2018). However, these results do not reflect the fully analyzed problem. In 2015, research carried out at the request of the European Parliament indicated that dissatisfaction with noise levels is reported by more people than those exposed to above-standard noise (Figure 2).

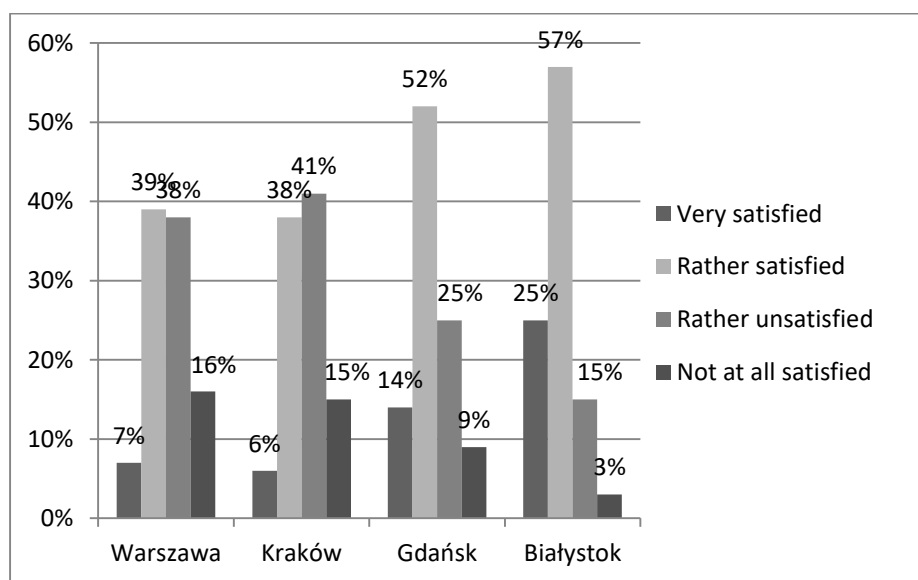


Figure. 2. Assessment of noise level in selected Polish cities in 2015 (Eurobarometer, 09.04.2018)

The highest percentage of people for whom noise level is a significant problem is in Krakow and Warsaw, where over 50% of residents are dissatisfied with the acoustic climate. In these cities, there is also the largest number of vehicles per 1000 inhabitants. In Bialystok and Gdansk, the level of dissatisfaction is much lower. Białystok is also the city in which the motorization index is the lowest for the group of cities over 200,000 residents.

Another important problem of private communication is air pollution. Cars, next to individually heated buildings, are the main emitter of substances for air shaping the level

of pollution. Among the cities studied, the most people dissatisfied with air quality are in Krakow and Warsaw (Figure 3).

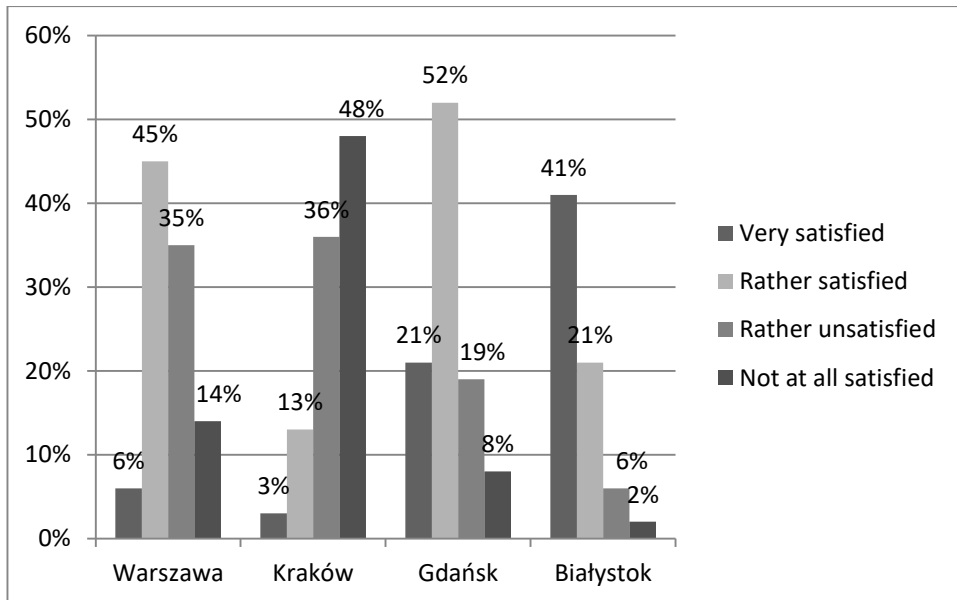


**Figure 3. Air quality assessment in selected Polish cities 2015
(Eurobarometer, 09.04.2018)**

It should be stressed that road transport in Warsaw is the dominant source of air pollution. The communal-living emitters are located on the outskirts, not like in Krakow - all over the city. The capital has a well-developed gas and heating network, to which the vast majority of infrastructure is connected. With this in mind, local air pollution in Warsaw is emitted in 60-80% by road communication (Urbanowicz, 2017).

The problems of noise and exhaust emissions are also conditioned by the volume of traffic, which is growing due to the increasing motorization rate. Traffic load of motor vehicles, of course, is not even for the whole network, it increases with the importance of roads in the functional system and in cities, causing traffic jams. Despite the fact that in recent years the congestion rate for Polish cities is constantly declining, they are still on the list of one of the most congested cities in Europe and in the world. According to the TomTom Traffic Index report from 2017, Lodz is in 5th place just behind Chongqing (China), and in front of such agglomerations as Istanbul, Los Angeles, and Moscow. Congestion on the streets of Lodz results in an increase of travel time by an average of 51%, and during the afternoon rush hours by up to 88% compared to a situation in which traffic jams are absent. In the world ranking in the first hundred, there are seven Polish cities: Lodz (5th), Lublin (34th), Krakow (48th), Warsaw (50th), Wroclaw (63th), Poznan (69th), Bydgoszcz (83rd place) (TomTom Traffic Index, 2018). Despite the fact that the level of congestion has been declining in recent years, it remains at a high level (Figure 4).

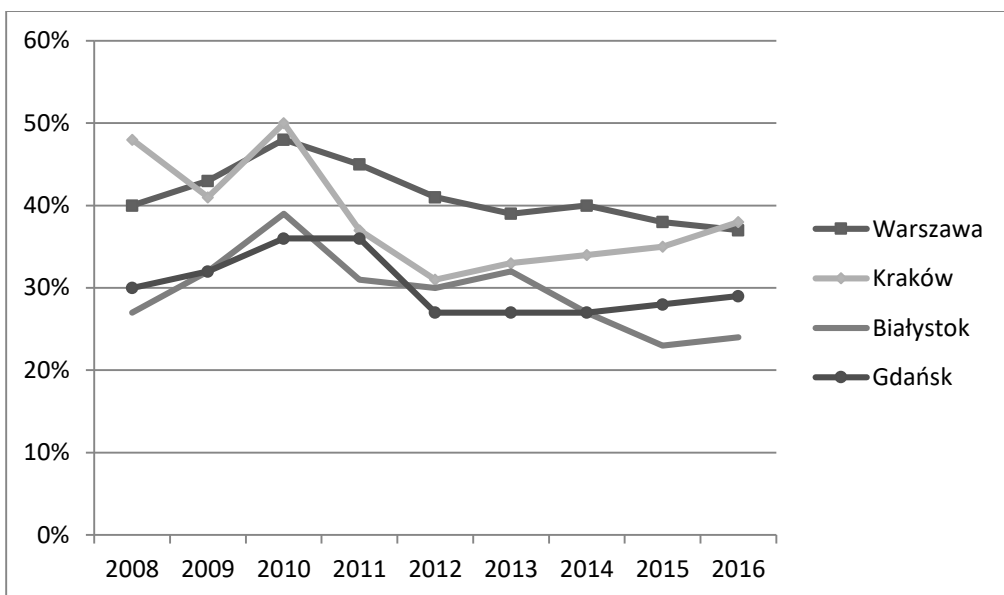


Figure 4. The level of congestion in selected Polish cities in years 2008-2016
(www.tomtom.comm, 09.04.2018)

The size of issues related to the nuisance resulting from the functioning of road transport in the urban space tends to take measures limiting its impact on the quality of life. These projects should be multi-span, focusing on the simultaneous implementation of many tasks to maximize the possibility of achieving the assumed goal.

Intelligent solutions in urban transport

Optimization of the transport system in urban space can bring improvement in the quality of life by minimizing external costs and impact on the natural environment as well as increasing road safety. The priorities of the EU transport policy in this respect relate primarily to (Jaroszyński & Chłód, 2015, p.166):

- rationalization of the use of individual vehicles;
- increasing the attractiveness of public transport;
- introduction of modern traffic control and traffic control systems;
- exchange of good practices in the aspect of using existing city infrastructure.

To increase the effectiveness of the proposed solutions, comprehensive models of cities have been developed for many years in which transport and mobility of people is one of the most important links. One such concepts is a smart city.

The smart city concept in the EU documents originally concerned only development in the field of energy and climate objectives (European Initiative on Smart Cities, 2018). Currently, attention is also focused on the use of digital technologies to increase efficiency and improve living conditions, save resources and social activation. The complex nature of this concept causes a heterogeneous understanding of the term.

Selected definitions presented in the literature are defined in table 3. Selected definitions of “smart city” from the literature are presented in table 3.

Table 3 Selected definitions of “smart city”

Source	Definition
Hall et al. (2000)	An urban center of the future, made safe, secure environmentally green, and efficient because all structures—whether for power, water, transportation, etc. are designed, constructed, and maintained making use of advanced, integrated materials, sensors, electronics, and networks which are interfaced with computerized systems comprised of databases, tracking, and decision-making algorithms.
Thite (2011)	Creative or smart city experiments [...] aimed at nurturing a creative economy through investment in the quality of life which in turn attracts knowledge workers to live and work in smart cities. The nexus of competitive advantage has [...] shifted to those regions that can generate, retain, and attract the best talent.
Caragliu, Del Bo & Nijkamp (2011)	A city that is smart when investments in human and social capital and traditional transport and modern ICT infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance.
Nam & Pardo (2011)	A smart city infuses information into its physical infrastructure to improve conveniences, facilitate mobility, add efficiencies, conserve energy, improve the quality of air and water, identify problems and fix them quickly, recover rapidly from disasters, collect data to make better decisions, deploy resources effectively, and share data to enable collaboration across entities and domains.
Lombardi et al. (2012)	The identified clusters are smart governance (related to participation); smart human capital (related to people); smart environment (related to national resources); smart living (related to the quality of life); and smart economy (related to competitiveness).
Bakici, Almirall & Wareham (2012)	Smart city as a high-tech intensive and advanced city that connects people, information and city elements using new technologies in order to create a sustainable, greener city, competitive and innovative commerce, and an increased life quality.
Townsend (2013)	[...] define smart cities as places where information technology is combined with infrastructure, architecture, everyday objects, and even our bodies to address social, economic, and environmental problems.
Scholl & Alawadhi (2015)	smart city (definition) is a programmatic term that summarizes the creation, integration, combination, development, and effective leverage of resources and assets towards innovation, attractiveness, competitiveness, sustainability, and livability of an urban space facilitated and accelerated by the ubiquitous use of advanced information and communication technologies with local governments playing key investigating roles in this process.
Lara et al. (2016)	A community that systematically promotes the overall well-being for all of its members, and flexible enough to proactively and sustainably become an increasingly better place to live, work and play.
Business Dictionary (2018)	A developed urban area that creates sustainable economic development and high quality of life by excelling in multiple key areas; economy, mobility, environment, people, living, and government. Excelling in these key areas can be done so through the strong human capital, social capital, and/or ICT infrastructure.

There are various approaches in the subject literature; various areas of application of modern methods of management and use of technology are exposed. On the one hand, smart city researchers focus on technical and environmental aspects of city management. They emphasize the use and importance of modern technologies in everyday urban life. In the same time cooperation with the business actors are valued (Pinzaru, Zbucnea, & Vitelar, 2018). As a result, innovative transport systems are created, logistics processes are optimized, green and efficient energy systems are created. The authors investigated this aspect of the functioning of cities based on the smart concept in modern technologies recognize the possibility of increasing the efficiency of services and improving the quality of life and reducing pressure on the environment. However, the elements defining the concept of the smart city only in a direct context with information and communication technologies are insufficient. Therefore, apart from the aspect of modern technologies, attention is paid to the role of human capital, education, and creativity in the development of smart cities. Participating management is very important in this respect (Ahvenniemi et al., 2017, p.236). As noted by Caragliu et al., a smart city is when investments in human capital, information, and communication technologies, transport, and infrastructure are carried out through wise and sustainable participative management of available natural resources (Caragliu, Del Bo & Nijkamp, 2011, p.66). Lombardi's social aspect of building smart cities also involves an adequate level of security and preservation of cultural identity. Lombardi describes these elements as "soft factors" for shaping smart cities (Lombardi et al., 2011, p.4). According to the Correia and Wüstel (2018) approach, a smart city is capable of combining physical capital with human capital and developing better services and infrastructure. It makes it possible to combine technologies, information and political ideas into an organized city and services improvement program.

One of the areas of building smart cities is transportation. Urban mobility plays a key role in this process. In particular, these undertakings should take into account the need to maintain appropriate proportions between the social, environmental and economic aspect, constituting the fundamental pillars of sustainable development, which are one of the conditions for shaping a smart city. It is, therefore, an essential element influencing the other areas of the smart city (Sciullo & Occelli, 2013, pp.293–309). The basic goals of smart mobility can be (Bencardino & Greco, 2014, p.47):

- pollution reduction;
- limitation of traffic;
- improvement of traffic safety;
- improving the average speed of vehicle movement;
- minimization of transport costs.

The condition of the transport system in Polish cities is diverse. It results from the differences in the size of cities, in the levels of motorization, in the quality of technical infrastructure, in the rules of organization of transport by public transport, or in the degree of preparation and implementation of transport development policies and programs. An important role in the functioning of the transport system in cities is played by collective communication (Ministerstwo Transportu, Budownictwa i Gospodarki Morskiej, 2013).

However, with the development of technologies and concepts of intelligent transport systems, they are increasingly implemented in Polish cities. As part of the intelligent transport system implemented in May 2015 covering the entire city of Białystok, traffic lights control was implemented at 120 intersections, the priority of passage for public

transport buses, variable message boards informing about traffic obstructions, detours and accidents. Thanks to the above elements, both car drivers and passengers of public transport can now move more efficiently around the city. The system constantly analyzes the traffic and adjusts the functioning of traffic lights on a regular basis. The information from the system is publicly available on a special website, which enables current tracking of traffic in the city and facilitates travel planning. The system collects the above information, determines the traffic forecasts, and on their basis and historical data, it optimizes the management of traffic lights on an ongoing basis. It is a highly innovative solution, assuming a priority for public transport. As part of the construction of an intelligent transport system in Białystok, at the intersections of over 120 CCTV monitoring cameras, the system operator can monitor the traffic situation on an ongoing basis and, if necessary, analyze events based on archived video images (Tomaszewska, 2015, p.326).

In Krakow, the system plays its role mainly in trams, buses, and trains. In fact, it looks like the means of urban transport reaching the intersection send a signal to the central computer, which in turn compares the time of the actual presence of the vehicle before the intersection with the time appearing on the timetable. If a given public transport means is delayed, the green light is extended or lights up faster to allow the vehicle to pass freely. In addition, there are passenger information systems, passenger services, monitoring systems, passenger counting systems, communication systems, etc. in the city. Passengers can use electronic boards at information stops, for example, they see how much time they will have to wait for the bus and what it is its delay. For ITS drivers it means the possibility of informing about currently jammed streets. Information is also sent to operators or security services. Thanks to this, for example, the operator knows about the breakdown of the vehicle before it reaches the stop.

Municipal vehicles are also equipped with central driver or driver modules, which include information for the driver about the level of energy consumption. At the same time, the appropriate application sends information to the operator, who can reward the driver of the vehicle for economical driving. In addition, ITS is constantly supported by the GPS system (Barwiński & Kotas, 2015, p.28).

The "ITS Poznan System" project implemented in the city of Poznan is located in the so-called "western area" of the city (Grunwald and partly Jeżyce districts). Its subject was the implementation of an integrated intelligent traffic management system in Poznan in the western area of the city. The intelligent transport system in Poznan currently covers 115 traffic lights and a public transport fleet of 540 tram and bus vehicles in total. In addition, system users have access to real data about traffic in the city obtained from measurement stations, thanks to which they can more effectively plan a journey through the city through collective transport. The profits resulting from the functioning of this system are primarily determined in the social and economic spheres. The biggest share in the benefits is to have savings due to reducing the costs of the travel time of users. Such profits are immeasurable and it is difficult to estimate their value in money, but the benefits and reimbursement of incurred investment outlays will certainly outweigh its costs (Gawelek, 2018).

The effect of the ITS system implementation is to shorten the timetable times of trams. On the tram from Junikowo loop through ul. Grunwaldzka to the Baltic Sea accelerated by 2 minutes - from 17 to 15 minutes. Also for 2 minutes the travel time from the

Górczyn loop to the West Railway Station has been shortened. In turn, from Rondo Rataje to ul. Półwiejska, at the rush hour, the tram passes by a minute faster, and after the peak - 2 minutes. In comparison to 2016, the punctuality of buses and trams also improved. In 2017, trams went on punctuality 88.79%, whereas in the year before this rate was 81.30%. A similar increase occurred in terms of bus punctuality - 78.23% in 2017 and from 71.60% in 2016. Public transport in Poznan is also more efficient due to changes in traffic organization. (Poznan: Tramwaje..., 2018).

At present, Warsaw has a fairly limited integrated traffic control system covering a small area of the city center. The city also gave up its resources in the past years with funds for its expansion. At the moment, the integrated traffic control system includes Aleje Jerozolimskie, Powiśle, and sections of Wisłostrada. The city prepared a project to extend the system by another 150 intersections, some of which - incidentally - do not meet the current legal requirements for the functioning of traffic lights. However, the idea of developing a traffic control system has not fallen and it is planned to develop it. The analysis is to take into account the latest trends and tendencies in this type of solutions in the world, as well as numerous investments already made in Warsaw. There are several partial or point investments implemented by ZDM, investments are also carried out by Warsaw Trams, which interfere with infrastructure very much, often building signaling from scratch.

Another example of the Polish agglomeration in which attempts are made to implement intelligent transport systems in the area of the Tri-City, where the Tristar system is developed. The benefits of its launch are primarily related to:

- improved capacity of communication arteries in the Tri-City,
- shortening travel times by individual and collective transport,
- reduction in the number of accidents (resulting, among others, from entries at a red traffic light),
- driver satisfaction (lower fuel consumption, time saved),
- satisfaction of residents (more efficient collective transport, the quick finding of a free parking space, reduction of air pollution).

According to data from Gdansk Municipal Investments and the Road and Green Board in Gdansk, buses, trolleybuses, and trams have accelerated by about 9%, but it is difficult to find confirmation of these results in an everyday travel. Even if we compare the upper limits of acceleration, it will turn out that the cars have gained twice as much as communication. The Tristar system allows recognizing public transport vehicles and even controlling compliance with the timetable. However, this did not cause a significant acceleration of buses, because even despite successful tests, priority is given only to delayed vehicles (Sielski, 2017).

An important issue in building intelligent mobility is the skillful shaping of residents' preferences and behavior. This applies not only to the transition from a personal car to public communication, but also solutions based on the principles of economy of sharing in urban transport, such as the use of vehicles (car-sharing) and space in cars (car-pooling). The proper availability of means of transport in these systems in time and space is essential in the dissemination of these issues (Qu, Yu & Yu, 2017, p.686). Recently, the car-sharing service is available in the largest Polish cities. The local and regional authorities of Warsaw and Wroclaw, having experience in the implementation of public bike rentals, analyzed the possibility of introducing urban car-sharing.

However, as it turns out, from the legal side it was a big challenge. At the same time, what turned out to be difficult for local government administration was relatively easy for a private entity. At the beginning of October 2016 in Krakow, traditional car rental - Express, launched a new brand - Traficar, offering the first regular car-sharing in Poland. Traficar originally offered 100 Opel Corsa vehicles available in Krakow (Połowianiuk, 2016). Currently, this service is offered by several entities in the largest cities of Poland, offering its clients more than 2,000 vehicles (Table 4).

Table 4. The size of the fleet of selected car-sharing services in Poland at the end of 2017

Lp.	Operator	Number of cars
1	Traficar	1100
2	4Mobility	330
3	Panek CS	300
4	Vozilla	200
5	Click2Go	100
6	Lubelski Samochód Miejski	25
7	Omni	10

Thanks to the high availability, network coverage, transparent and flexible prices, as well as the availability of cars of various classes, car-sharing fulfills many demands made so far only by private individual transport, thus making it an attractive alternative.

The use of contemporary technologies in the economic, social and environmental sphere can also effectively reduce transport needs using a passenger car. Communication and information technology can successfully replace everyday business trips, official matters (bank, administrative matters, etc.), stationary shopping or personal meetings. Bearing in mind the aspect of "indispensable mobility", local self-government should try to limit the need to use cars with such solutions as better communication, attractive public transport or modern land development (Malasek, 2016, p.878).

Conclusions

Cities, in which undesirable phenomena of high traffic, air pollution, high acoustic nuisance, degradation of the landscape and excessive, chaotic growth of agglomerations exist, are considered unfriendly not only for people but also for the functioning of business entities. Therefore, the management of the urban transport system in the area of people should be an integral part of the urban development policy. The task of local government authorities, in addition to creating economic conditions conducive to the innovation of enterprises, is also taking care of the city's development in the social and ecological sphere. At the same time, it should be emphasized that Poland is in such a moment of economic development that the quantitative and qualitative development of road infrastructure is necessary to create an efficient transport system. On the one hand, it allows for transit outside of urban centers, and on the other hand, it encourages the use of modern communication routes. That is why it is very important to develop intelligent public transport and a system of shared use of cars that efficiently meet the transport needs of residents of urban centers. It should be remembered that each city has its own specificity and the proposed solutions should also be adapted to the conditions prevailing in it. In the field of intelligent mobility, one should remember not only about the need to develop intelligent forms of transport, but also the needs of residents should be taken into account because huge investments in smart technologies

can be made, which will not bring tangible results. An intelligent city transport system is one that satisfies primarily local transportation needs in an economically, socially and ecologically effective way. Modern technologies can only be effective if their users can use them efficiently. Therefore, the priority in the aspect of building smart mobility should be system consultations with residents, in which technologies will play a supporting role.

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THE IMPORTANCE OF THE NEW PUBLIC MANAGEMENT FOR EFFICIENT PUBLIC ADMINISTRATION

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Abstract. *New public management is gaining momentum in the process of managing the public administration. European countries driven by the idea to increase the efficiency of the public administration impose strategies and a new approach to the process of public administration management. This means independence of the managerial function in the public sector, independent governance, quick response, responsiveness of the public administration and empowering responsibility of the administration. The favoring of the discretionary right inflicts the question of the responsibility of the public administration. This creates new models for monitoring the performance and assessment of the public administration that allows strengthening of the administration's responsibility in all categories of titles, including managerial workers. In the Republic of Macedonia, the new model for public management is difficult to be accepted, regardless of the fact that legislator made changes to the administrative laws in the approach of assessment and accountability of the administration. In the European countries, the new public management is more acceptable as an indication of the fact that in many European countries the central government conveys the function of managing the public administration as an independent function of the local governments. Moreover, the local authorities are free to create payment systems, regulate the assessment process and to motivate the administrative officials. Hence, the subject of this paper is to understand the role and significance of the new public management in the Republic of Macedonia, as well as to make a comparative analysis with the European countries. Hence, this research paper aims to impose an opinion on the significance of the new public management and whether it contributes to the efficiency of the work of the public administration. The research methodology is based on an analysis of research results and strategies adopted by the European countries. In addition, the paper analyzes the administrative laws and bylaws with an assessment of the new public management. The results of the research point to the conclusion that the new public management is not recognized in all European countries, and that the Republic of Macedonia, is not familiar with the new public management. However, basic legal solutions can be explored that leave the possibility for the application of the new managerial management. There is a necessity of comprehensive analysis of the work and development of the public sector in the Republic of Macedonia, the obligation for*

a serious approach of the law implementation and a reduction of the resistance to the changes by the employees in the public sector.

Keywords: *public management; public administration; efficiency; responsibility; results.*

Introduction

The concept of “new public management” has emerged as a solution to the slow and exhausting bureaucratic rules that have resulted in typical public administration inefficiency (Andrews & van de Walle, 2012; Christensen & Lægreid, 2001; Ferlie & Steane, 2002; Gruening, 2001; Pfiffner, 2004; Vienažindienė & Čiarnienė, 2007). The tension between accountability and efficiency has marked the contrast of the traditional public administration and the new public management. Thus, Max Weber's theories are directed towards accountability in the form of bureaucracy, by establishing strict hierarchical control from the top to the lower levels. Woodrow Wilson was directed to a policy dichotomy / civil servants to use effective techniques to make a policy choice. Frederic Taylor was directed to a strict control in the management process (Benz, Siedentopf & Sommermann, 2004, pp.443-454). Through traditional models of policy implementation, the state faced high costs, the inefficiency of administration and discontent among service users - the citizens. Consequently, substantial changing in managing public affairs has emerged as a needed new paradigm. The new approach in managing public affairs, emphasizing control function of the state authorities over the privately owned agents in performing duties of public interest, has the relaxed financial burden to the state. In addition, the “new public management”, abandoning the strict hierarchy in administering public affairs implies transfer of implementation competencies to decentralized administrative bodies and organizations. Thus, Robert Behingo defined public management as “a set of tactics and strategies aimed at improving the efficiency of the public sector” (Diefenbach, 2009).

Having in mind that traditional hierarchical setting and strict control by the top government levels have prevented the administrative entities closest to the end users to deliver their services fast enough, the new concept of public management, aiming public services performance and public satisfaction improvement, advocates for decentralized administration and delegation of administrative authority by contracting privately operated entities using approach of market-driven competition among them (Andrews et al., 2011; Andrews & van de Walle, 2012; Boyne, 2010; Cowell et al., 2012; Ormond & Löffler, 2006). Thus, permanent monitoring and performance evaluation of public services delivery by privately operated entities has become essential for the state authorities (Amirkhanyan, Kim & Lambright, 2008).

Regarding the public administration performance, the following questions are essential:

1. What should be done: who will control the policy implementation?
2. Who will be the immediate policies implemented?
3. How the administrative effectiveness and public satisfaction will be measured?

To face all these questions, it is necessary to establish a balance between accountability and efficiency. If the administrative accountability is in the focus, the evaluation will be related to the administrative procedures applied according to the strict criteria of hierarchical control. If the administrative efficiency is in the focus, strict hierarchical

control will be replaced by a delegation of authorities, emphasizing monitoring and evaluation of public services delivery by private agents. The concept of new public management is aimed to overcome the problems caused by strict hierarchical control typical for traditional public administration, turning instead to a delegation of competences, greater flexibility and room for discretionary decision-making by the immediate service providers.

Approach of the public management

New public management is a theoretical model related to the basic ethical principles of public access and accountability. In the developed democracies, gradual development of a quality administration prevailed. Having this as a starting point, this paper is analyzing new public management implementation and performance in the Republic of Macedonia as well as if the public administration reform meets its goals and principles.

Dait Valdo is a brilliant thinker on the “new public administration” in the postwar period. The basic principles of “New Public Administration” are participation, decentralization and “representative bureaucracy” (Wilson, 1887):

- Participation should provide changes and “disperse of power” within the organization.
- Decentralization is expected to increase citizen’s participation in the governing process.
- “Representative bureaucracy” should provide client-oriented public administration.

The “new public management” appeared in the 80s and 90s, in response to the inadequacy of previous administration models (Hughes, 2008, p. 58). The new public management in the Anglo-American systems emerged in the 20th century. The main reason was corruption in the public administration as a phenomenon on a large scale. England is a country that was in the forefront of the revolution of the new public management. Thus, the NPM in England was introduced in 1980 with Prime Minister Margaret Thatcher. Afterward, reforms have been established with John Major and Tony Blair. For example, in a period of only ten years since 1989, the UK completely restructured its civil service as part of the initiative of more than three-quarters of its civil servants” to exercise their function in new “executive agencies” as defined by the new concept (Protherough & Pick, 2002). Subsequently, the governments of New Zealand and Australia joined the movement for the NPM. Administrative reforms and new public management were placed on the agenda of the most of the OECD countries since 1995 (Kickert, 1997; Wood, 2004).

“New public management” might be considered as a sub-area of public administration. The “new public management” emphasizes the economy, effectiveness, and efficiency in governance and the delivery of quality public services. The purposes of the “new public management” are:

- to transfer the responsibilities to the operating managers in order to create greater managing flexibility and autonomy,
- to put more emphasis on risk management,
- to focus on measuring the effects.

According to the “new public management”, government involvement does not necessarily mean the provision of bureaucratic funds by the government. According to Hughes (2008), there is a trend of reducing the government's involvement through privatization. “New public management” is not a reform of traditional public administration, but a transformation of the public sector and how it is related to the government and to the society (Andrews, 2003; Christensen & Lægreid, 2001; Common, 1998; Doig, 1997; Mongkol, 2008; Vickers & Kouzmin, 2001).

Analysis of research results

Guided by the goal of the research to evaluate the role of the “new public management”, the paper refers to the analysis of laws and by-laws as well as results from scientific research projects. The analysis is based on the results obtained from an interview conducted over various categories of administrative officials in governmental bodies in the Republic of Macedonia.

The public administration faces similar challenges in all parts of the world due to the need to introduce innovations in operations and to improve its effectiveness and efficiency. Modernization of the administration not only requires changes in its strategy and structure but also requires changes in the administrative behavior. Thus, the NPM has been supported a variety of quality management systems (ISO 9000: 2000, the excellence model, European Foundation for Quality Management model) that offer support and guide public organizations to continually examine their relationships with clients and seek better solutions for work. CAF (Common Assessment Framework which means self-assessment model) is one of those tools that are increasingly used in terms of qualitative support in organizations and for building a solid foundation for one of the qualitative systems with full involvement of employees. It was developed in 1998 by the Public Service Innovation Group, an informal working group supported by the EU's General Directorate, which aims to promote the exchange of experiences and practices, as well as cooperation in order to find new innovative ways to modernize and deliver administrative and public services.

Reforms in the public administration in the Republic of Macedonia have enabled a new way of managing within the public sector. Reforms in the public administration in the Republic of Macedonia reflected the establishment of appropriate coordination and managing bodies. The new way of managing the public sector aimed at creating a responsible, effective, efficient and respondent public administration, it was implemented in the first Law on Civil Servants of the Republic of Macedonia as an independent country from 2000 (Law for civil servant "Official Gazette of the Republic of Macedonia" No. 59/2000) that stipulated establishment of Civil Servants Agency as a coordinative body that played a significant role in giving directions in the manner of managing the public administration. Also, the commitment to establish public institutions of a private nature to which the competences of public interest will be transferred is reflected in the adoption of the Law on Institutions. (Law on Institutions "Official Gazette of the Republic of Macedonia" no. May 7, 2005). This Law contains the models of privatization of the public sector and the manner of establishment of private-public partnerships, which served as the starting point for the establishment of the new public management in the Republic of Macedonia. So far, the transfer of public authority to entities in private ownership in the Republic of Macedonia is most visible in education, in the health sector, and in the social services. The state authorities

introduced NPM by the one-stop-shop system in communication with the citizens as clients, by introducing healthcare software system, etc., that indicates the commitment of the Republic of Macedonia to establish a new way of managing the public sector in the country. Another important legal act in the field of public sector management in the Republic of Macedonia is the Regulation on the establishment of organizational units for managing human resources in the public sector as well as for strategic management in the public sector (Decree on the Principles for Internal Organization of the Bodies of the State Administration, Art.8). The CAF system in the public sector in the Republic of Macedonia was used only as an experimental model based on certain projects by the OSCE, etc. In addition, the public administration reform pointed to the need for the establishment of the Ministry of Information Society and Administration (MISA). The Civil Servants Agency was the first state body to serve as the basis for establishing the NPM, with the new Law on Administrative Officers being renamed into the Agency for Administration. The new Laws on Administrative Officers (27/2014, 199/2014) and the Law on Public Sector Employees (27 / 2014, 199 / 2014) contain provisions that point to a more efficient application of the new public management. In the laws of the Republic of Macedonia of administrative nature, there are provisions that refer to the commitment of the state bodies for the application of NPM in the public sector. The Law on Administrative Officers contains provisions relating to the assessment of administrative officials, training, mentoring and measurement of achievements. The main emphasis has been placed on efficient and responsible administration. The provisions that refer to the NPM could be also found in the Law on General Administrative Procedure of the Republic of Macedonia (No. 124/2015), that contains the basic administrative principles. The Law on Administrative Procedure contains a number of provisions on discretionary decision-making by administrative officials, which refers both to the autonomy of the administrator in charge, and, at the same time, reinforce his/her responsibility.

In order to see how the legal provisions related to the NPA works in place, the paper refers to the analysis of an interview conducted with 21 respondents - employees in the state bodies in the Republic of Macedonia. Regarding the measuring of the quality and quantity of the work of the civil servants, all the interviewees answered that they do not have sets of indicators for measuring the quantity and quality of the work of the civil servants. As an exception, at the State Statistical Office, software for analyzing the utilization of working time has been introduced, in terms of utilization of the working time vs. working costs. Using this software, each employee records how much work he/she has done during the day and how much working hours he/she has spent. The establishment of quality criteria and indicators will also affect the overall perception of the capacities of the state administration, indicating how much they are trained and able to respond to the given obligations. Regarding the position of the Civil Servants Evaluation System and the Assessment Form, all respondents consider that the Civil Service Evaluation System is unrealistic, run by incompetent and subjective assessors. According to the respondents, these circumstances are due to the fact that no self-assessment has been introduced, no one is honest about him/herself and others, all of them don't share the same quality of knowledge and skills often not aware about that fact, so self-criticism does not exist at all. According to all respondents, the position of one-sided assessment leads to subjective assessment. Respondents believe that a full change of approach and assessment model should be considered. And, finally, it is not a realistic assessment of civil servants with different titles are to be valued and evaluated with the same assessment indicators.

Document Management System is a software that provides a scan of the work performance from the highest to the lowest hierarchical level. Such systems provide a scan of the capacity of administrative officials in bringing public services to citizens. The respondents answered that they did not have a document management system. Three respondents answered that they have established a similar system, which refers only to electronic archiving, which means scanning all incoming and outgoing documents and their electronic forwarding, but in addition to the electronic ones, the paper form of document flow is still used. All respondents expect the establishment of such systems in the coming period through the E-Government Strategy initiated by the Ministry of Information Society and Administration. In the framework of this activity, the Law on E-Management (No. 13/05, 14/07 55/07, 98/08) is legally backed up by some provisions that will facilitate the work of the civil servants enabling the exchange of data between the institutions.

Conclusion

From the above presented, it could be concluded that the NPM in the Republic of Macedonia is slowly implemented, which reflects the efficiency of the public administration. Therefore, there is a necessity to establish a system of measurement of administrative operations through software that will provide real indicators based on measurable indicators. This way of working is expected to motivate employees by rewarding those who achieve greater results than their colleagues. Training should be an indispensable part of the establishment of the NPM as a serious way of improving the knowledge of the administration. Given that the reform of the public administration goes in the direction of transferring competencies from the national to the local level, the doors of the public sector services are remaining open, that gradually keep open possibility of switching public services into private hands, in particular strengthening the control over the work of public institutions that have been given the authority to perform functions on behalf of the state. Thus, the amendment of the laws should be in the direction of the establishment of a quality management system (ISO standards or CAF system), a clear control mechanism through inspection bodies that will continuously monitor these institutions performance. There is a necessity to establish a one-stop-shop system between the public service providers and the state administration bodies as well as the public administration should be independent, serving to the citizens in an effective and efficient manner.

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UNDERSTANDING PUBLIC MANAGEMENT BETWEEN DISCONTINUITY AND CONTINUITY

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Abstract. *Democracy as efficient and effective system of governance for people should provide sustainable institutions that enable public administration and public management to meet the needs of citizens, businesses and civil society. Thereby, the dynamics of political systems in terms of instability and uncertainty concern the political address of governments and political majority. Following a strategy-structure paradigm, political systems drive the effective functioning of public management and public administration. Following a historical path and excursus, the aim of this study is to elucidate how political discontinuity and uncertainty are sources for sustainability driving public management to face and solve problems over time. Despite the increasing attention for public leadership in complex environment, research neglected the effects of policy and organizational changes on public management behaviors. Political system in Italy has known over the years frequent government turnovers, making the government average institutional life very short. Horovitz, Hoff and Milanovic (2009) define political instability as “a basic source of variation in institutions and practices (... whose) frequency and character depend on voter preferences, political institutions, and salient events and issues” (p. 107). Political instability depending on frequent government turnovers entails both a leadership change – which is based on a change in the institutional parties that constitute a majority coalition – and an ideology change – when the new majority coalition expresses a substantially new ideology. This paper elucidates a discussion on how change in the public administration environment could create a perceived uncertainty among top-managers whose assignment will end with the collapse of the government. This uncertainty affects their competencies (i.e. the motivation to lead), in terms of efforts they exert to perform their high level administrative leadership duties, and on planning activity, in terms of the goals’ difficulty related to their projects or executive programs.*

Keywords: *organizational behavior; discontinuity; uncertainty; political instability; sustainability.*

Introduction

The permanent cycle of reforms in European and US countries, inspired by the New Public Management doctrine (Lane, 2000), has refocused the interest of both practitioners and scholars on the role of leadership in making public organizations performative and efficient (Kuipers et al., 2014).

Leadership in public sector is fundamentally alike from leadership in private sector (Allison, 1986). Public leadership is characterized by the interactions of two types of leadership – political and administrative – that seek to deliver results through others and that play key roles in directing and leading the organization toward the achievement of its goals and objectives (Van Wart, 2013).

This study aims to contribute to the literature on public sector leadership, by focusing on the administrative leadership in the Italian context. Administrative leadership takes the form of a public manager in leading, managing and guiding public government focusing on the implementation of political programs (Van Wart, 2013). In our study, we propose an organizational behavioral perspective that could provide useful analysis tools to understand the behavior of public leaders working in changeable and uncertain contexts (like the Italian one, Ongaro, Ferré, Galli & Longo, 2013).

Three premises are needed in our paper. First, the introduction in Italy of the neo-spoils system, with the administrative reform in 2002, has changed the nature of the relationship between politicians and public managers through the expansion of ministerial discretion in designating top-level managers (Mele & Ongaro, 2014). According to this reform, politicians may choose to designate at the top of bureaucracy trustable and loyal managers in order to receive more professional support for their political programs. This impacts on public managers in two ways: by increasing their decision-making powers and their salaries; at the same time public manager experiences a condition of instability, higher degree of risk and a concrete possibility of being fired if things go wrong (Cassese, 2002). Today, the law of July 2002 no. 145 and the subsequent law no. 286 (conversion of Decree Law no. 262 of October 3rd 2006) regulate the spoils system in establishing the automatic assignment term for top and mid-level managers working for public administration over 90 days from the new government settlement.

Second, political system in Italy is characterized by a “stable instability” (Bull & Newell, 1993) because of the frequent government turnovers, which make the government average institutional life very short (Mele & Ongaro, 2014). Political instability depending on frequent government turnovers entails a leadership change, which is based on a change in the institutional parties that constitute a majority coalition, and an ideology change, when the new majority coalition expresses a substantially new ideology (Mele & Ongaro, 2014).

Third, democracies as efficient and effective form of government reconciling the chain of power connecting governing bodies and governors to people and citizens should automatically provide efficient and sustainable institutions leading public administration and public management to meet needs and requests of citizens and businesses. Thereby, the dynamics and functioning of democratic systems tend to rely on efficiency and fluid dynamics of political systems in terms of instability and

uncertainty concerning the political address and orientation of governments and political majority sustaining that cabinet and dialoguing with political opposition and minorities. Following a strategy-structure paradigm, political systems tend to drive and influence the effective functioning of public management and influence the effectiveness and efficiency of public administration. Following an historical path and excursus, the aim of this study is to elucidate how sustainability of public systems relies on the relationship between discontinuity and uncertainty as critical aspects and resource to drive public management to proceed facing difficulties and solving problems over time. Despite the increasing attention for public leadership in complex environment, research neglected the effects of policy and organizational changes on public management behaviors.

Starting from these premises, we draw from the literature on change uncertainty (Milliken, 1987; Bordia et al., 2004) and we aim to analyse how the perceived environmental uncertainty among public sector top-managers can influence their motivation to lead and their goal setting. Frequent government changes may create a perceived uncertainty among top-managers whose assignment will end with the collapse of the government. This uncertainty impacts on managers' motivation to lead, in terms of efforts they exert to perform their high level administrative leadership duties (Chan & Drasgow, 2001), and on goal setting, in terms of the goals' difficulty related to their projects or executive programs (Marilyn, Gist & Mitchell, 1992). Furthermore, the sense of stress and anxiety for what will be the consequences of change and how it will change their status may affect managers' perceived self-capability to perform the functions required to effectively perform their leadership role (Chan & Drasgow, 2001; Hendricks & Payne, 2007).

Finally, despite the increasing attention for public leadership in complex environment (see an example in Van der Voet, 2014), research neglected the effects of policy and organizational changes on public management behaviors (Arellano-Gault, Demortain, Rouillard & Thoenig, 2013) despite the key role of public management in exercising leadership and in planning strategic activities. Our study counts because it deepens the knowledge on the subject by identifying how political instability and organizational change show consequences on public management leadership behaviors.

Political instability and perception of uncertainty in public sector

Political system in Italy has known over the years frequent government turnovers, making the government average institutional life very short (Mele & Ongaro, 2014).

Since the 70s, Italy holds a considerable record: according to the Cross-National Time-Series Data Archive¹, Italy represents the country with the highest number of government crises (with a high rate of majority, prime minister or key ministers' turnover) in the world (an average of 1.2 per year). In this special ranking, Italy is located over above the other countries of the world, such as Lebanon, placed at the second position and which has experienced half of Italy's government crises, as well as Turkey, placed at the third position (Banks & Wilson, 2017).

¹ An archive that contains over 200 years' worth of annual global data (Banks and Wilson, 2017).

Horowitz, Hoff and Milanovic (2009) define political instability as “a basic source of variation in institutions and practices (... whose) frequency and character depend on voter preferences, political institutions, and salient events and issues” (p.107).

In the Public Management literature, many scholars have dealt with the issues of political instability, adopting different perspectives of analysis. Hurwitz (1973), for example, investigated the longest-lived governments trying to identify the conditions that can guarantee greater stability over time with reference, for example, to a legitimate legal system, to the absence of violence or socio-cultural heterogeneity. Furthermore, literature has shown that political instability generates significant organizational changes in the public sector with negative consequences for countries' economy in terms, for example, of financial development or inflation (Aisen & Veiga, 2013), thus political stability would represent a fundamental prerequisite for a more effective management of the administrative processes (Ongaro et al., 2013). In a recent article, Brady, Paparo and Rivers (2016) highlight the existence of a negative relationship between political instability and the economic performance of a country; similarly, Meyer-Sahling and Yesilkagit (2011) have shown that high political turnover hinders an effective implementation of administrative reforms. Conversely, a part of the literature focused on the positive effects of political discontinuity, considering more opportunities of meritocracy in the selection phases (Ferejohn, 1986), of skills and professionalism (Feiock & Strema, 1998) and of corruption and cronyism (de Mesquita, 2000).

Drawing on the literature on change uncertainty (Bordia et al., 2004a; Milliken, 1987) and change management in public sector (Kuipers et al., 2014), we propose an organizational behavioral perspective in analyzing public management working in changeable and uncertain contexts, like the Italian one (Ongaro et al., 2013). There is a growing literature on uncertainty during organizational change (Bordia et al., 2004a) and most common concepts focus on how managers perceive their organizational environments, recognizing that perceptual measures of external circumstances are considered more significant than objective indicators of those conditions.

Perceived uncertainty is defined as “an individual's perceived inability to predict something accurately” (Milliken, 1987, p.136) because of the lack of information (Berger & Calabrese, 1975). Individuals operating in an environment that is perceived to be complex and rapidly changing tend to experience a higher level of uncertainty due to the difficulty in carefully predicting the impact of their actions and decisions (Daft, 2001). Uncertainty is “one of the most commonly reported psychological states in the context of organizational change” (Bordia et al., 2004a, p.509) and this perception refers to internal and external factors to the organizations (Beckman, Haunschild & Phillips, 2004): internal factors are, for example, the ambiguity of roles and the lack of control and they refer to the organizational structure and the decisional processes (Bordia et al., 2004a); external factors instead refer to the dynamic, unstable, complex and heterogeneous environmental context for which the resulting effects for the organizations are less predictable but equally important.

Some scholars (e.g. McCabe, 1990) hypothesized that uncertainty is based on two dimensions, namely *complexity* and *stability*, while others (Boynton, Gales & Blackburn, 1993) focused on the *availability of needed information* and on the *predictability of future outcomes*. A relevant contribution in the literature on perceived uncertainty is provided by Milliken (1987), who identified three dimensions of perceived uncertainty and

different types of coping response associated to each dimension: *state uncertainty*, *effect uncertainty* and *response uncertainty*. *State uncertainty* concerns the perceiving that the organizational environment is unpredictable and this generates uncertainty among managers about the probability or the nature of changes in the environment. The second dimension, *effect uncertainty*, refers to the implications of a given change and, hence, the ability of individuals to predict the impact of environmental changes on their organization. Finally, *response uncertainty* refers to the potentially unlimited number of options and consequences associated to a given choice, so it is difficult to predict the cause–effect relationships for each decision in a context of change.

Literature on perceived uncertainty highlights significant relationships with behavioural variables. Perceived uncertainty is positively associated with stress (Schweiger & Denisi, 1991) and turnover intentions (Johnson, Bernhagen, Miller & Allen, 1996) and it is negatively associated with job satisfaction (Rafferty & Griffin, 2006), psychological wellbeing (Bordia et al., 2004) and trust in the organization (Schweiger & Denisi, 1991). Nevertheless, many of these studies analyse the impact of uncertainty on workers' behavior without considering top management positions (Arellano–Gault et al., 2013). Furthermore, in spite the long history of research on managerial perceptions of changing environments, there has been scant systematic investigation in the public sector (Andrews, 2008), where other conceptualizations and taxonomies on uncertainty are proposed.

A contribution in the literature on perceived uncertainty in the public sector is based on the study of Bordia et al. (2004a), who introduced the distinction between *strategic*, *structural* and *job-related* uncertainty in public administration. *Strategic uncertainty* refers to uncertainty regarding organization–level issues, such as the reasons for change, the future direction of the organization or its sustainability. For example, a public manager experiences strategic uncertainty when, in a context of changing government and policies (e.g., privatization, funding cuts), he experiences a lack of clear vision and this will provide uncertainty regarding the impact of change on administration's strategic direction. *Structural uncertainty* refers to changes in the administration's internal organizational structure. An example is the merging of two different offices that is likely to produce changes into internal hierarchies: this type of change generates uncertainty about the chain of command and the responsibilities of employees within the public offices. Finally, *job-related uncertainty* refers to job security, career opportunities, and changes in the role and tasks to be performed; an example is the introduction of new technologies or the downsizing of certain programs and activities.

In the Public Management literature, some studies have shown that political uncertainty and discontinuity have consequences on economic growth (Aisen & Veiga, 2013) or on financial development (Campos, Karanasos & Tan, 2012), while very few studies focus on how political instability influences public sector reforms and organizational changes. In this regard, studies on the implementation of reforms in the public sector hypothesize the importance of a relationship between politics and administrators, recognizing a role, for the former, in addressing/determining (and not just controlling) the behaviors of the second. These studies hypothesize a far more collaborative relationship between politics and administrators, which is alternative to the classic dichotomous model (Dunn & Legge, 2002), but they do not consider the effects that the political instability could have on the effectiveness of this relationship between the parties.

In wider terms, despite public administrations often challenge organizational changes associated to a great deal of uncertainty among employees (top managers included), there are still very few studies dealing with the determinants and consequences of this uncertainty on the performance of the public management. For example, Jung and Ritz (2014) have dealt with the effects of public reforms explaining that frequent reforms in public administrations generate the perception of instability among public employees, who are likely to experience a reduction in affective organizational commitment; in a study on the effects of the administrative reform in Korea, Song (2008) examined different kinds and dimensions of organizational uncertainty – structural and systematic, new administrative demand, job-related, and unpredictability in the decision-making process – and their interrelation in the case of a paradigm shift in the public sector.

The Italian setting

Italy over the years has been characterized by a “stable instability” (Bull & Newell, 1993) that fuelled a fiery debate on the inefficiency of public administration (Cerase, 1990).

Since 1946, that is the year of the first government of the Italian Republic, in Italy 64 governments followed with an average duration of 1.1 year and this statistic shows how this frantic succession has made Italian government power unstable. Compared to other countries, such as Germany², Italian political fragmentation makes very difficult to imagine a long-term political planning (Furlong, 1991). Another example is France, where the average duration of the 39 governments of the Fifth Republic (from 1958 to today) has been of 1.5 years.

The Italian governments of the last 20 years have been carried on by minimum winning coalitions “just as large as [their participants] believe will be winning and no larger” (Riker, 1962, pp.32–33). In fact, centre-right parties and centre-left parties have alternated, together with a small centre opposition representative, and this has generated negative consequences in reforms’ implementation and in administrations’ strategic planning.

Without doubt, the chronic political instability in Italy has generated continuous interruptions in the planning and in the implementation of government policies (Cassese, 2012) that have hindered all the initiative aimed at innovating the administrative machine. One of the causes must be identified in the short-term orientation that politicians and administrators have held over the years, focusing on objectives that were to be achieved before the transition to a subsequent government. This has obviously generated repercussions on reforms’ front, since many of those have been approved and implemented with difficulty, as well as the continuous turnover of the political leadership also due to the climate of mistrust and dissent against majority coalitions which, for the short duration governments, have never had time and opportunity to legitimize themselves in the eyes of public opinion.

Political instability, as well as affecting the stability of strategic reform strategies, also shows direct impacts on the stability of the roles of public managers. With the

² Since 1949, the foundation year of the Federal Republic of Germany, 29 governments followed with a government’ average duration of 2.9 years.

establishment in Italy of the majority electoral systems, it has been introduced in Italy the mechanism of the neo-spoils system, introducing the principle according to which politicians may choose to designate at the top of bureaucracy trustable and loyal managers in order to receive more professional and moral support for their political programs. The spoils system in Italy is governed by the Law of 15th July 2002 No. 145 and by the subsequent Law of 24th November 2006 No. 286 (conversion of Decree Law No. 262 of 3rd October 2006) and the ratio is in the need for trust and harmony between administration and politics as a necessary element for the good performance of public administrations. The common purpose, guaranteed by the fiduciary nature of the appointments, determines a greater cohesion and action synergy between politicians and managers. This impacts on public managers who experience a condition of greater uncertainty as they are pressed by two opposing needs: on one side, they have the task of translating the political address into measures and management actions and, at the same time, they are required to guarantee the impartiality of the administrative action (Cassese, 2002).

A behavioral perspective

Managers tend to experience organizational change differently compared to other categories of workers (Karp & Helgø, 2008), since they are often more directly involved in the decision-making processes and, in the case of public managers, they are aware of the decision-making guidelines of politicians. The perception of uncertainty, therefore, tends to be lower, as managers often act as an “active” part of the change process. However, sometimes political dynamics become very frenetic and almost irrational, up to the point that the reasons for change are not clear even to top managers, who experience a sense of uncertainty and instability with relevant consequences for their work. In these circumstances, public managers may experience a low level of organizational identification (Dutton, Dukerich & Harquail, 1994): since individuals act based on their sense of belonging to different social groups, it is likely that frequent governments’ changes do not allow a coincidence between the political values of managers and the values of the politicians.

Organizational identification provides for recognition of one’s own values in those of the organization and it can help to understand why some individuals commit themselves to carry out their activities more self-denial than others (Dukerich, Golden & Shortell, 2002). Managers who experience “temporary identities” (Ibarra, 1999) or an ambiguous organizational membership – as may be the case of Italian political and administrative system, continually “provisional” and unstable – are in fact less identified with the organization and, consequently, less motivated to carry out their tasks.

Probably, this uncertainty will determine a decrease in motivation to lead for public management (Weick & Sutcliffe, 2011). Motivation to lead (MTL) refers to the tendency to seek out leadership positions and to the effort managers exert in performing their leadership duties at a high level; it is a three-dimensional construct based on affective, social normative and non-calculative identities (Chan & Drasgow, 2001). MTL affects the individual’s participation in leadership roles and activities due to self-inclination and preference, perception of and conformation to social norms, and lack of calculativeness (non-calculative MTL) (Hong, Catano & Liao, 2011). Public top managers therefore may show a high level of dissatisfaction at work because they do not perceive the satisfaction and the pleasure deriving from being leaders, they are not

motivated to lead by social and normative reasons, such as a feeling of commitment to the group, and finally they are not encouraged to sacrifice themselves for uncertain and fickle objectives, as the MTL definition (Amit, Lisak, Popper & Gal, 2007).

Another important point is that, in a condition of high political turnover, managers may find it difficult to plan and set medium and long-term goals. Drawing on the goal setting theory (Latham & Locke, 1991), individuals' performance is the result of their will, so that an individual who has a clear idea of what he wants to do will have a better performance than those who have unclear goals and ideas. Some managers may feel disoriented in carrying out their duties: as governments alternate in a frenetic way, managers fail to plan long-term goals because there would be no possibility of reaching them. Since the context is perceived as insecure and unreliable, it certainly influences and affects employees' propensity to reach goals (Borgogni, Dello Russo, Petitta & Latham, 2009), since individuals want to grasp the relation between what they do and the desired outcome (Bandura, 1997).

Conclusions

In conclusion, starting from the consideration that the setting of uncertainty negatively affects self-regulatory mechanisms and performance (Arenas, Tabernero & Briones, 2006), it should be useful to verify if and how uncertainty impacts on professional identification, in terms of recognizing the own personal values in those of the administration, on MTL, in terms of efforts in performing high level administrative leadership duties, and on planning activity, in terms of the setting goals' difficulty. Strategic, structural and job-related uncertainty experienced by public managers in Italy could be the cause for the general inertia of the public sector (Cristofoli, Nasi, Turrini & Valotti, 2011).

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THE LEARNING ORGANIZATIONS IN PUBLIC SECTOR IN ROMANIA

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Abstract. *The Learning Organization is the organization that continuously learns and readapts. It is the place where employees constantly develop the capacity of generating the results they truly target, where new and bold thinking methods are encouraged, where collective aspirations are released and where people continuously discover how to learn together (Senge, 1990). This concept emerged in the corporations of the 1980s, but in the meantime it also became attractive for the public sector. This paper analyses the extent to which the concept of 'Learning Organization' exists in the public sector in Romania, the current learning capacity of the organizations in this sector and the impact of the concept at organizational level. As research instrument, the questionnaire designed by Bruce Britton (1998) 'The Learning NGO' was applied within six public organizations. The research questions addressed in this paper are: (1) What is the degree of use of the learning concept to support and facilitate the development of employees, organization itself, institutions and local community?; (2) What is the impact of the learning concept on the public organizations?*

Keywords: *learning organization; public sector; local public organizations; central public organization; Romania.*

Introduction

Public organizations in Romania have the desire to continuously improve and adapt to various internal and external challenges. Unfortunately, not all of them succeed. There is a low rate of services delivery and organizational improvement, especially in the public sector. A continuous improvement process is highly linked to a commitment to learning, but it seems that not all managers understood this reality. Problem solving, placing a public good or service, but also changing or innovating a process in public sector, need to be addressed immediately by a new approach.

In the absence of learning, the organizations – and the employees – simply repeat the old practices. Related to private organizations, the concept "learning organizations" has been mentioned for the first time in the late '80s. Managers from private sector have

recognized the link between learning and continuous improvement and have begun to refocus their companies around it. Scholars have jumped too on the bandwagon, beating the drum for “learning organizations” and “knowledge-creating companies” (Garvin, 1993, p. 78). The concept “learning organization” has spread towards the other sectors.

Theoretical background

Learning organization. Definitions, characteristics and functions

Definition of learning organization

Chetley and Vincent (2003) defined the development of a learning organization as an ongoing, systematic process requiring trust and a recognition of the subtlety and complexity of human relations and describe three stages in this process; firstly, individuals and teams are encouraged and supported to learn; secondly, these processes are socialized or institutionalized; and thirdly, learning is at the heart of an organization, meaning that learning is used to transform and develop the organization (Al-Nsour & Al-Weshah, 2011, p.14).

There are many definitions of the learning organization (see Table 1).

Table 1. Learning organizations definitions (The authors based on literature)

Authors	Definitions of learning organization
Senge, 1990	Learning organizations are places where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together.
Pedler et al., 1991	A learning organization is an organization that facilitates the learning of all of its members and continuously transforms itself in order to meet its strategic goals.
Garvin, 1993	A learning organization is an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights.
Marquardt, 1996	Learning organizations are companies that are continually transforming themselves to better manage knowledge, utilize technology, empower people, and expand learning to better adapt and succeed in the changing environment.
Marsick & Watkin, 1999	An organization that emphasizes three keys: system-level, continuous learning; created in order to create and manage knowledge outcomes; which lead to improvement in the organization's performance, and ultimately its value
Griego et al., 2000	An organization that constantly improves results based on increased performance made possible because it is growing more adroit.
Templeton et al., 2002	An organization in which employees are continually acquiring and sharing new knowledge and are willing to apply that knowledge in making decisions or performing their work
Armstrong & Foley, 2003	A learning organization has cultural facets (visions, values, assumptions and behaviors) that support a learning environment; processes that foster people's learning and development by identifying their learning needs and facilitating learning; and structural facets that enable learning activities to be supported and implemented in the workplace.

Table 1 illustrates the fact that there is no unique comprehensive definition of learning organization.

A learning organization may be described as an environment where organizational learning is structured so that teamwork, collaboration, creativity, and knowledge processes have a collective meaning and are valued (Confessore, 1997, p.5). It is important to mention that learning organizations are more than simply 'containers' for individuals who are learning, one indicator of a learning organization is that everyone, irrespective of their position, makes a valued contribution to the organization's learning (Britton, 1998, p.4). The concept of organizational learning itself requires an understanding of three important terms (Britton, 1998, p. 4):

- Information - is the simple fragmented raw material of facts, opinions and ideas of which knowledge is made;
- Knowledge - systematically organized information which, by the processes of analysis, comparison, testing and generalizing can be used to answer complex questions;
- Wisdom - this involves uniting the facts and insights of knowledge with the fruits of experience in a way which can usefully guide action.

Characteristics of learning organization

The literature has shown various characteristics of learning organization, but the authors of this paper consider that Pedler et al. (1991) have presented more comprehensive characteristics (Britton, 1998, p.2):

- A learning approach to strategy (encouraging flexibility by including strategic learning feedback loops);
- Participative policy making;
- Informing (using information technology to inform and empower people);
- Formative accounting and control (structuring financial systems to assist learning);
- Internal exchange (ensuring constructive, supportive relationships within the organization);
- Reward flexibility (using creativity in how people are rewarded for good performance);
- Enabling structures (avoiding multi-level hierarchies and encouraging flattened, collegiate-style structures);
- Boundary workers as environmental scanners (acknowledging the value of those who deal with the 'outside world' as sources of crucial information which can inform decision-making);
- Inter-organizational learning (identifying opportunities for networking, strategic partnerships, benchmarking and joint learning activities);
- Learning climate (facilitating experimentation and allowing mistakes providing they are used as learning opportunities);
- Self-development for all (resources and encouragement for self-development are made available for all members of the organization).

The nature of a learning organization becomes easily perceptible when compared with a traditional one. The differences between these two are presented in Table 2.

Table 2. Typical characteristics of traditional and learning organizations
(Skuncikiene, Balvociute & Balciunas, 2009, p.65)

Characteristics	Traditional organization	Learning organization
General values	Utility	Excellence and mastery Organizational renewal
Style of management	Control	Assistance Training
Strategy. Action plan	Top-down approach Road map	Everyone is consulted Learning plan
Structure	Hierarchy	Flat structure Dynamic networks
Characteristics of personal	People who know (experts) Knowledge is power	People who learn Mistakes are tolerated as inseparable part of learning
Exceptional skills of personnel	Applicable learning	Generative learning
Evaluation system	Financial performance measures	Financial and non-financial performance measures
Teams	Work groups in separate functional departments	Cross-functional teams

The structure of learning organizations illustrates that learning is a prominent feature at a number of different levels (Britton, 1998, p.3):

- individual learning;
- team or work group learning (sharing lessons between individuals working together);
- cross-functional learning (sharing lessons between departments and sections);
- operational organizational learning (focused on improving practice, increasing effectiveness and efficiency);
- strategic organizational learning (learning to deal with significant changes in the environment which affect the overall strategy of the organization).

Functions of a learning organization

Efficient learning implies the application of specific key-functions, in all (public, NGOs and private) organizations. These functions are (Britton, 2002, pp.14-29; Britton, 1998, pp.12-20) (see Figure 1):

- *Creating a learning culture.* A learning culture is an organizational environment which enables, encourages, values, rewards and uses the learning of its members both individually and collectively;
- *Gathering internal experience.* The organizations have two main knowledge sources: the internal experience and the lessons learned from other organizations. The learning organization exploits the internal experience and transforms it into practical and accessible lessons, especially not to repeat mistakes and to reappraise its success;
- *Accessing external learning.* The learning process within the learning organizations is based also on the lessons learned from other organizations. The learning organization is open towards partnerships, NGOs or public and private organizations to learn from their experiences, failures and success;

- *Communication systems.* The communication systems, both formal and informal, are very important as they offer the learning support for information communication, and these have to be developed.
- *Mechanisms for drawing conclusions.* Drawing conclusions is a process which needs to be seen as the responsibility of the whole organization and should, ideally, happen as near to the source of the experience as possible;
- *Developing an organizational memory.* A learning organization needs mechanisms which enable an individual's memory to be 'down-loaded' into a knowledge management system so that everyone can continue to access that person's knowledge long after the individual may have moved on from the organization;
- *Integrating learning into strategy and policy.* One way of building lessons learned into the fabric of an organization is to develop strategies and policies which embody the lessons it has learned. This provides the organization with a framework for decision-making and resource allocation which is grounded in the organization's own experience and what it has learned from other organizations;
- *Applying the learning.* The ultimate test of learning is the ability to apply what has been learned. Only when learning is applied in the work setting can we say that a continuous learning cycle has been created.

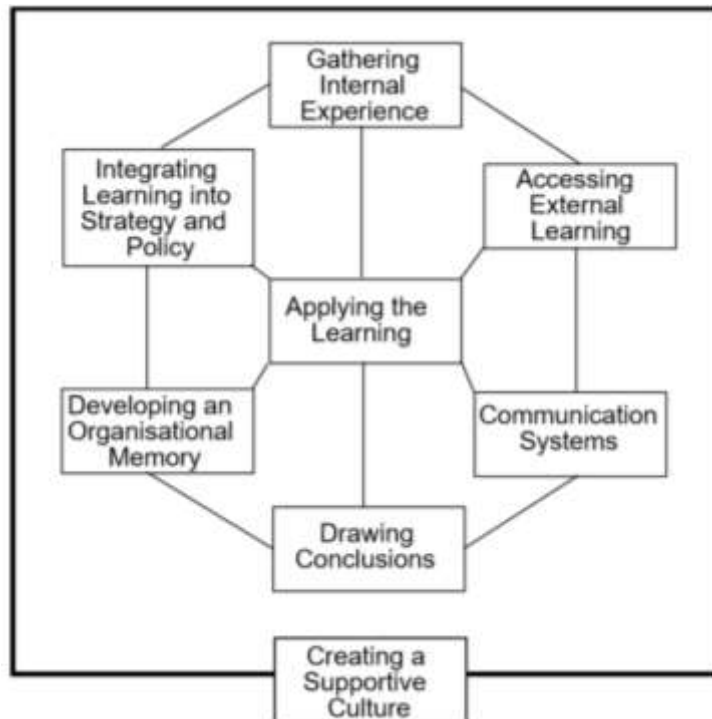


Figure 1. The eight key functions of a learning organization
(Britton, 2005, p.41)

All these functions are interconnected. Creating a supportive culture embraces the other seven because without a supportive organizational culture of learning, there is unlikely to be commitment to the other functions (Britton, 2005, p.41).

Learning organization in the public sector

Christiensen et al. (2007, p.4) considers that the main argument in supporting the conception that public and private organizations are fundamentally different in key aspects is the fact that public interests differ from private interests, since the public sector must consider a broader set of norms and values. Many considerations must be weighed against each other, and democratic considerations, constitutional values and public welfare are given much more weight in public organizations than in private organizations. Second, the leaders of public organizations are accountable to citizens and voters rather than to special groups. Third, public organizations require a greater emphasis on openness, transparency, equal treatment, impartiality and predictability.

The need for change comes usually from the external environment, especially in public organizations. The pressure for change is constant, and the response often triggers a more profound pressure for change. The primary objectives face the resistance of external factors, and thus new objectives are set; innovations created to solve a certain problem often lead to new problems (Blau & Scott, 1962, p.250).

The real and actual functioning conditions of public organizations determine the creation of behaviors oriented towards the organizational learning culture development, such as creativity, commitment, responsibility, openness towards changes and continuous learning. This is the condition to accomplish efficient innovative operations and to implement an efficient innovation.

The change has to come from the inside of the organization. In his theory-driven article, which scrutinizes the chaos and transformation theories in historical and complementary standpoints and analyzes their contributions social science and public management, Farazmand (2003, p.362 apud Maden, p.79) states that "organizations that learn, adjust, and adapt to external pressures causing systems breakdown and bifurcations can survive and evolve, and their evolution comes through internal learning and transformation". Therefore, public organizations should not only strive to keep up with the rapid change in environmental conditions but they should also learn something from change process and combine it with their own structure. In other words, public organizations should gradually transform themselves into learning organizations which are characterized by constant organization learning, flexibility and an adaptive stance (Maden, 2011, p.79).

Methodology

Research design. In order to achieve the objectives of this paper and to respond to the research questions, the questionnaire elaborated by Bruce Britton (1998) in his book 'The Learning NGO' has been applied to public organizations.

Defining the sample. The questionnaire has been applied in six public organizations, from both central (three organizations) and local (three organizations) from Bucharest and other cities. Twelve questionnaires were applied in Ministry of Health (departmental level), eight questionnaires were applied in Ministry of National Education (departmental level), eight questionnaires were applied in Prefecture of Bucharest (departmental level), twelve questionnaires were applied in Cosoba City Hall (commune located in Giurgiu county), thirteen questionnaires were applied in Târgoviște City Hall

(county seat of Dâmbovița county) and eight questionnaires were applied in Cornu City Hall (commune located in Prahova county). The respondents completed the questionnaire anonymously.

Data collection. The questionnaire is composed of 40 questions with the aim to identify the "learning profile" of the six public organizations in Romania, structured in the eight key functions presented below (see Tables 4 - 9).

Table 3 presents the correspondence between the functions and the number of question.

**Table 3. The correspondence function - no. of question
(the authors based on questionnaire)**

Function	No. of question in the questionnaire
Creating a Supportive Culture	1, 16, 17, 32, 33
Gathering Internal Experience	2, 15, 18, 31, 34
Accessing External Learning	3, 14, 19, 30, 35
Communication Systems	4, 13, 20, 29, 36
Mechanisms for drawing conclusions	5, 12, 21, 28, 37
Developing an organizational memory	6, 11, 22, 27, 38
Integrating Learning into strategy and policy	7, 10, 23, 26, 39
Applying the Learning	8, 9, 24, 25, 40

A plot organizational profile has been created through the questionnaire, which gives the 'learning profile' of the organization (see Figures 2 - 6). In regards to the eight applicable functions for learning organizations, the profile shows where the organizations strengths and weaknesses lie. Before distributing the questionnaire, the authors have verified the applicability of questions' wording within the organizations. The questionnaire has been adapted for the public sector, the size and the structure of the organization/department, without affecting the relevance for the organizational learning function. Also, the questionnaire identifies the respondent's job/position, sex and years of experience within the organization. The minimum requirement to complete the questionnaire was that the respondent must have worked for at least one year within the organization. The respondents were from both managerial and executive levels, both public servants and temporary staff.

The data collection was made online between January 20 - March 20, 2018 and all questionnaires have been validated.

Results

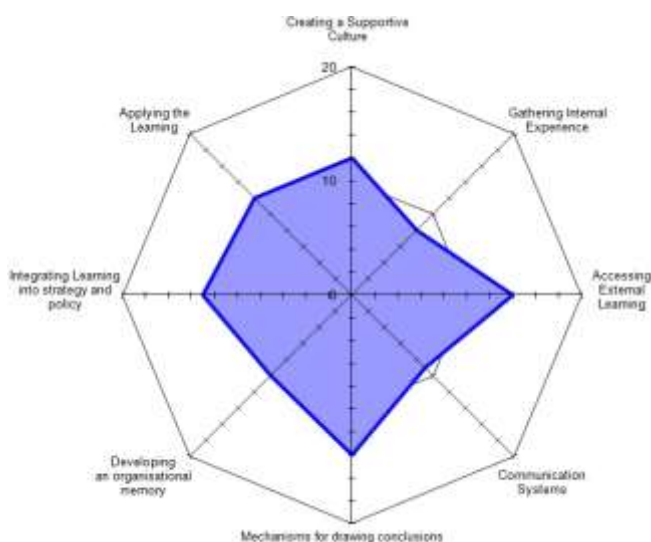
Analysis of the findings are presented below.

Table 4. Results for the Ministry of Health (departmental level)

Creating a Supportive Culture	Gathering Internal Experience	Accessing External Learning	Communication Systems	Mechanisms for drawing conclusions	Developing an organisational memory	Integrating Learning into strategy and policy	Applying the Learning
Question	Question	Question	Question	Question	Question	Question	Question
1 2	2 1	3 4	4 2	5 4	6 2	7 2	8 2
16 2	15 0	14 2	13 1	12 2	11 4	10 3	9 3
17 2	18 2	19 3	20 0	21 3	22 0	23 3	24 2
32 3	31 2	30 3	29 3	28 2	27 2	26 2	25 3
33 3	34 3	35 2	36 3	37 3	38 2	39 3	40 2
Total 12	Total 8	Total 14	Total 9	Total 14	Total 10	Total 13	Total 12
Av 2,4	Av 1,6	Av 2,8	Av 1,8	Av 2,8	Av 2	Av 2,6	Av 2,4
SD 0,548	SD 1,14	SD 0,837	SD 1,304	SD 0,837	SD 1,414	SD 0,548	SD 0,548

(Av = Average; SD = Standard Deviation)

Average Score	11,5
Average II	2,3

**Figure 2. Ministry of Health Learning Profile (departmental level)****Table 5. Results for Ministry of National Education (departmental level)**

Creating a Supportive Culture	Gathering Internal Experience	Accessing External Learning	Communication Systems	Mechanisms for drawing conclusions	Developing an organisational memory	Integrating Learning into strategy and policy	Applying the Learning
Question	Question	Question	Question	Question	Question	Question	Question
1 1	2 3	3 2	4 1	5 4	6 3	7 2	8 1
16 2	15 2	14 2	13 2	12 3	11 3	10 1	9 1
17 3	18 2	19 0	20 0	21 1	22 0	23 2	24 2
32 1	31 1	30 1	29 3	28 2	27 1	26 1	25 2
33 2	34 3	35 2	36 2	37 3	38 2	39 2	40 2
Total 9	Total 11	Total 7	Total 8	Total 13	Total 9	Total 8	Total 8
Av 1,8	Av 2,2	Av 1,4	Av 1,6	Av 2,6	Av 1,8	Av 1,6	Av 1,6
SD 0,837	SD 0,837	SD 0,894	SD 1,14	SD 1,14	SD 1,304	SD 0,548	SD 0,548

(Av = Average; SD = Standard Deviation)

Average Score	9,13
Average II	1,83

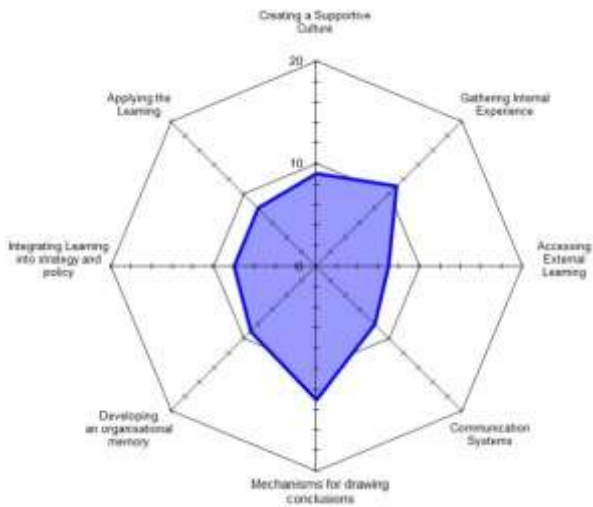


Figure 3. Ministry of National Education Learning Profile (departmental level)

Table 6. Results for Prefecture of Bucharest (departmental level)

Creating a Supportive Culture	Gathering Internal Experience	Accessing External Learning	Communication Systems	Mechanisms for drawing conclusions	Developing an organisational memory	Integrating Learning into strategy and policy	Applying the Learning
Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8
1	1	3	1	1	2	3	2
16	1	1	1	1	0	1	3
17	0	2	1	1	1	1	2
32	1	1	1	3	1	2	2
33	1	1	2	2	2	1	2
Total 4	Total 8	Total 8	Total 8	Total 7	Total 6	Total 8	Total 11
Av 0,8	Av 1,6	Av 1,6	Av 1,6	Av 1,4	Av 1,2	Av 1,6	Av 2,2
SD 0,447	SD 0,894	SD 0,894	SD 0,894	SD 0,548	SD 0,837	SD 0,894	SD 0,447

(Av = Average; SD = Standard Deviation)

Average Score	7,5
Average II	1,5

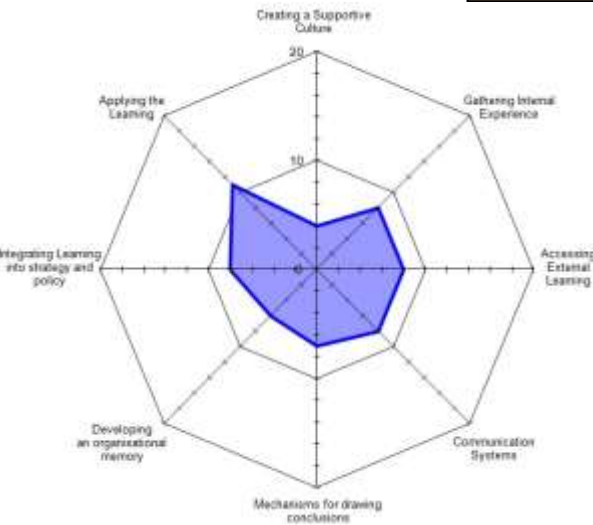


Figure 4. Prefecture of Bucharest Learning Profile (departmental level)

Table 7. Results for Cosoba City Hall

Creating a Supportive Culture	Gathering Internal Experience	Accessing External Learning	Communication Systems	Mechanisms for drawing conclusions	Developing an organisational memory	Integrating Learning into strategy and policy	Applying the Learning
Question	Question	Question	Question	Question	Question	Question	Question
1 3	2 1	3 3	4 3	5 4	6 4	7 3	8 3
16 3	15 2	14 3	13 3	12 3	11 3	10 3	9 3
17 3	18 3	19 3	20 3	21 3	22 3	23 3	24 3
32 1	31 3	30 3	29 3	28 2	27 2	26 3	25 3
33 1	34 3	35 3	36 3	37 3	38 3	39 3	40 3
Total 11	Total 12	Total 15	Total 15	Total 15	Total 15	Total 15	Total 15
Av 2,2	Av 2,4	Av 3	Av 3	Av 3	Av 3	Av 3	Av 3
SD 1,095	SD 0,894	SD 0	SD 0	SD 0,707	SD 0,707	SD 0	SD 0

(Av = Average; SD = Standard Deviation)

Average Score	14,1
Average II	2,83



Table 8. Results for Târgoviște City Hall

Creating a Supportive Culture		Gathering Internal Experience		Accessing External Learning		Communication Systems		Mechanisms for drawing conclusions		Developing an organisational memory		Integrating Learning into strategy and policy		Applying the Learning	
Question		Question		Question		Question		Question		Question		Question		Question	
1	3	2	4	3	3	4	4	5	3	6	3	7	4	8	4
16	3	15	4	14	3	13	3	12	3	11	4	10	3	9	4
17	4	18	3	19	4	20	3	21	3	22	4	23	4	24	4
32	4	31	4	30	3	29	4	28	3	27	3	26	4	25	4
33	4	34	3	35	4	36	4	37	4	38	4	39	4	40	4
Total	18	Total	18	Total	17	Total	18	Total	16	Total	18	Total	19	Total	20
Av	3,6	Av	3,6	Av	3,4	Av	3,6	Av	3,2	Av	3,6	Av	3,8	Av	4
SD	0,548	SD	0,548	SD	0,548	SD	0,548	SD	0,447	SD	0,548	SD	0,447	SD	0

(Av = Average; SD = Standard Deviation)

Average Score	18
Average II	3,6

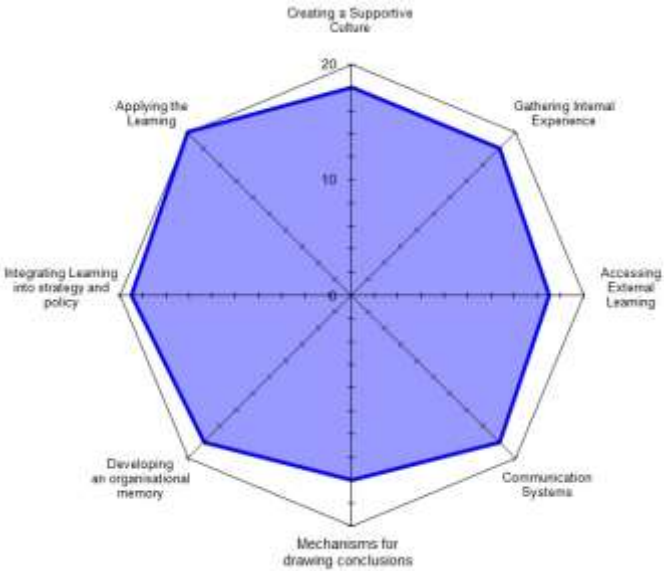


Figure 5. Târgoviște City Hall Learning Profile

Table 9. Results for Cornu City Hall

Creating a Supportive Culture	Gathering Internal Experience	Accessing External Learning	Communication Systems	Mechanisms for drawing conclusions	Developing an organisational memory	Integrating Learning into strategy and policy	Applying the Learning
Question	Question	Question	Question	Question	Question	Question	Question
1 3	2 3	3 3	4 4	5 4	6 3	7 2	8 4
16 2	15 4	14 2	13 2	12 3	11 2	10 4	9 3
17 2	18 3	19 1	20 2	21 4	22 2	23 3	24 2
32 3	31 3	30 1	29 4	28 4	27 4	26 2	25 3
33 2	34 3	35 3	36 3	37 3	38 4	39 3	40 2
Total 12	Total 16	Total 10	Total 15	Total 18	Total 15	Total 14	Total 14
Av 2,4	Av 3,2	Av 2	Av 3	Av 3,6	Av 3	Av 2,8	Av 2,8
SD 0,548	SD 0,447	SD 1	SD 1	SD 0,548	SD 1	SD 0,837	SD 0,837

(Av = Average; SD = Standard Deviation)

Average Score	14,3
Average II	2,85

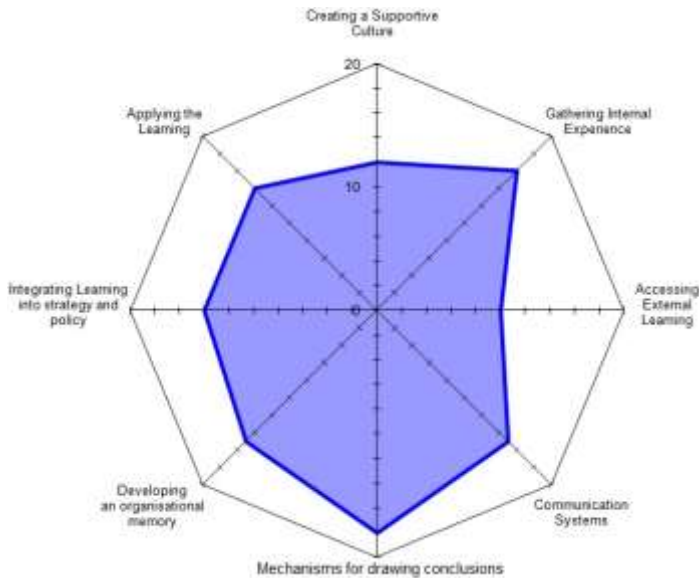


Figure 6. Cornu City Hall Learning Profile

The results illustrate the fact that the central public administration organizations cannot be considered learning organizations, compared to the local public administration organizations, where some functions can be identified (for example Târgoviște City Hall).

The awareness to apply the “learning organization” concept within the public sector is linked to the implementation of changes, innovations and reforms with the final aim to satisfy the needs of citizens.

The managers and employees of public organizations have to engage into the efforts of implementing the elements of learning organizations. On the contrary, the organization can find itself in the situation to no longer deliver the public service in accordance with the citizens’ needs, without the possibility to reinvent or to adapt to the current challenges. Also, they have to constantly develop new knowledge management abilities through a continuous learning process, to develop a learning culture, to manage the changes with a positive attitude and to have a clear vision of what it has to be achieved.

It is important that the employees agree with the managers on the learning organization strategy. In this manner, public sector organization could become learning organizations.

There are external and internal barriers in the transformation of public organizations into learning organizations as well:

- External barriers: low budget that sometimes does not allow business continuity, changing legislation quite often does not allow institutional development, involving politics in the organization's activities may lead to inconsistency of organizational objectives (especially the fact that political representatives are changed very often).
- Internal barriers: political management, bureaucracy (focusing on the system and respecting procedures), powerful hierarchical structures, authoritarian management, strict hierarchical control, monopoly in delivering the services and goods, reticence to train the employees, the personnel's resistance to change due to insecurity and fear of taking risks, lack of communication with managers, underdeveloped communication systems, all these obstruct the public organizations to become learning organizations.

Conclusions

The research has revealed good practices examples of learning organizations in public sector. Generally, one can observe a low degree of using the concept for supporting and facilitating the development of employees, organizational process, institutions and local communities.

The impact of learning concept on the public organizations, if these would change into learning organizations, could mean: increased adaptability – the organization could face more easily the challenges and unpredictability; increased efficiency and efficacy – the organization could make better use of its resources; increased personnel motivation – the employees could feel more valued and more influent; capacity to keep highly trained employees and their knowledge – better systems to reward the employees' contribution to the organizational development; increased capacity to initiate change – learning offers confidence and the necessary information to initiate projects and to take risks.

Learning organizations accomplish their mission through activities such as: systematic problem solving, practicing, learning from own experience, learning from the experience and good practices of other organizations, but also through accelerated information transfer within the organization.

Various public organizations from Romania develop these activities more or less, but not all of them succeed in changing into learning organization. This is mostly based on some rare situations and examples, not on the systems and processes to support these activities and to integrate them into a daily operational structure.

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MANAGING THE FINANCIAL RISK IN TWO ROMANIAN FACTORIES. CASE STUDY ON DACIA PITESTI AND ARO CÂMPULUNG

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Abstract: Identification, evaluation, analysis, and diagnosis of the financial risk management issues in a public organization is a troublesome step and at the same time a complex approach of the management process. The state-owned companies' organization structure has had various forms and levels of management and at the same time the specific administrative knowledge. For various reasons, objective or subjective, some managers being nominated in positions of management or execution caused a multitude of financial risks. From simple opportunity or threats to financial risk, there are many theoretical arguments through which the management in the public organization in our country can be explained, by always discovering specters of approach, complacent to one study or another. The article's goal is to underline the role of making a study of impact based on solutions given by theoretic concepts and terms from financial risk management field. We conceive this case study by using a comparison between an existing company and a former company, bankrupted, sale and ultimately closed, by applying to each of them the contemporary financial and business realities of Romania. In order to draw valuable conclusions in the field of financial risk management, the researchers underline some differences between our two examples chosen from the car industry. Likewise, we would like to present the manner in which a good style of managing of financial risk in an organization has transformed Dacia-Renault cars factory into one of the best-performing companies in Romania. The study aims to analyze the risks of the two major Romanian plants, what measures could be taken in the short, medium and long-term to minimize and/or limit their effects and to prevent bankruptcy, as unfortunately, did not happen with ARO. The applied methodology is that of analysis based on case studies, being a quantitative analysis. The research paper presents the results of this comparative case studies analysis, which attempts to highlight the main aspects of the ways in which the threats and risks were mitigated and depending on their relevance, the findings were transformed into graphs which will make it easier for readers to understand the research results. Then a synthesis of the conclusions and the results obtained from the research will be presented.

Keywords: financial risk; financial management; budget; financial plan; risk analysis.

Introduction

The automobile industry in Romania has had experienced a dramatic change in the cars' industry during the 20th century as the result of the introduction of automotive engineering technology in each country around the world. The comparative financial analysis suggests that adopting innovation in a changing industry is not a new phenomenon, and how companies can manage and make use of financial risk management. Moreover, the example of how the human resource could influence more than technology that leads to changes in this sector was almost inevitable, especially in ARO case. Case studies analyzed in the back to back system reveal that although both have benefited from the same market conditions, the same political conditions, both have been affected by the same factors, each of them has gone on another path. The dramatic changes affected different parts of the companies in different ways. If a company sees itself as a resilient company oriented to the future, the image itself could have been affected by the changes for short-term but it changed and adapted its every resource, human and material to rebuild the factory. The study results from the factors that underlie a change in the industry. Then we studied the phenomenon at the industrial level, and then see how a company in the car industry is affected by reacting and changing business environment. Finally, the change of industry was reconsidered at the organizational level. The paper shows how a successful automobile factory could be affected by the consolidation of democracy in our country, how was changed the industry above all the implications. The purpose of this article was rather to study how a company is reacting to, or possibly drives, a change of industry and the strategic considerations that are associated with it.

Theoretical framework based on literature review

In this section, we explain all the appropriate theory that is used in the literature to analyze empirical data collected from the public information about ARO and Dacia. We define the important concepts for using them in the case study, the criteria that have affected the Romanian automotive industry in more than 30 years and what it takes to a company to be able to deal with the new problems that occurred in the post-communist era. The characteristics of the organizations in a crisis of identity are reflected in financial situation (the balance sheet, assets, profitability or cash flow) and financial risks (credits, residual value, foreign exchange, commodity prices, energy prices, interest rates). In Romania, in the communist ages, the financial risk or the management risk was almost non-existent for the industry, capital markets, or life in general. As such, the risk was more associated with socio-human sciences. In the XXth century, "the risk has been associated with the natural sciences, not with the financial and insurance theories, in the 2000's the concept of risk gained importance among the decision-factors in the business world. The crisis, starting with the second half of 2008, covered almost the entire planet, due to the contamination effect." (Treapăt, 2011, pp.9-13). Although not aware, it seemed that the high management from the automobile industry was at risk "in danger of loss" (Murphy, 2008, p.39). They did not understand that the unique way to survive in the international field of cars market was to adapt all the factories and to learn faster if possible to protect against malevolent acts against their organizations. It was impetuous necessary to develop a security risk assessment and management process. It seemed that they did not know "how to perform a complete risk assessment that assists the project owner and manager in deciding why to either accept the calculated risk or reduce the risk to a more acceptable level" (Biringer,

Matalucci & O'Connor, 2007, p.XXI). The risk management is usually taken into consideration in nowadays life in the hard times of a crisis or after the balances are noted with losses. "The losses emphasize that the systems were inadequate so that the risky positions being taken were simply not known. It is also important for the managers to continually think outside the box about what could go wrong so that as many potential adverse events as possible are identified" (Hull, 2015, p.673). Then, in the 90's, the Romanian industry had been faced with problems linked to the capitalist competitive market in all possible directions. In those years, "the perception of an increased risk, the lack of trust and the fear of exposing themselves to dangerous situations or malicious strangers seem to be the most important barriers" appearing in every business, regardless the age, sex or experience (Vătămănescu & Pînzaru, 2018, p.10).

Considering the above, it can be said that the risks to which the Romanian factories were subjected had to be quickly transformed into opportunities but not all managers knew or wanted it. It should be taken into account that the limits of risk assumption could be a lesson learned from the losses. "Ideally, overall risk limits should be set at board level and be converted to limits applicable to the individuals responsible for managing particular risks" (Hull, 2015, pp.644-645). Management risk requires a comprehensive and interdisciplinary approach to deal with the external and domestic threats. A lot of mistakes should be avoiding, like focusing on narrow and most popular measures and using poor communicating among workers and managers, assuming that the risk management must always be expensive and complicated as founded Wereda et al. (2016, pp.88-89). The necessary steps to avoid mistakes would be connected to the following tryptic: business performance, value protection, and value creation. (E&Y Industries Insights, pp.2-6).

The methodology of research

The research method used in this paper is based on case study because it is the most appropriate method when we want a thorough and in-depth investigation of a phenomenon, which consists of analyzing the financial risk of two state companies, one successful, and one bankrupt. The more appropriate the research method is to counter face-to-face with two case studies, as we look at the different ways in which two companies evolved over time, where risk management was completely different. In the current study, we face two very different cases from the point of view of financial risk management, but very similar to the organizational form, because both companies were established by the state, so they were at the beginning public companies. They have worked for many years in the centralized economy, but their fate was different from the privatization methods applied to each. Any other research method would have been chosen, it would not have been able to cover all aspects of reality as analysis based on case studies. The reader will identify a qualitative research, whose conclusions will be capitalized on comparing important indicators expressed by graphic methods, letting them be easier to understand. Flyvbjerg (2011, pp.301-316) identifies that the most important is how you choose your study unit (in our case the two companies), which must lead to intensive research, rich in detail, complete and not neglect the reality of the company studied with the external environment. The advantages researcher considered when chose the case study as the research tool were that the case study uses as subsequent research tools, as document analysis, participative and nonpartisan analysis, opinion poll and the reality-proven experiment. In the case of our research, we decided to use as much as possible the tool

that Yin (2008, pp.79-85) presents in his paper "Case Study Research: Design and Method", namely the exploratory, descriptive and explanatory case study. In this situation, field research, collecting data from various sources, can be made before defining research assumptions. Finally, in capitalizing the conclusions we will identify the cause-effect elements and explain the causal links that were identified in our study. Multiple case studies give us much more convincing conclusions because we have the benefit of comparing cases in addition to individual conclusions. Based on the methodological basis described earlier, this section presents the empirical data we have gained from our case study companies.

In the current case study, we have two examples as a research base. One example is Dacia, being a good example of adapting the factory to the new capitalist environment. The other one is ARO, nowadays, the car factory is closed for many years. This happens even that ARO was in the 70's and 80's more successful than Dacia. The fact that both car factories were selling many export cars creates a good and equal starting point for our study. How each of the subjects analyzed after the state privatization evolved depending on the financial risk management measures applied by the new shareholders in each case.

The analyzing criteria for two kinds of organizations are highlighted in our case study. To make the case study possible to compare the two factories, the paper takes into consideration the old corporate governance rules for ARO. The board of directors was not organized for efficiency and effectiveness for the free market. The company was viewed as a strong hierarchy, with centralized imposed hierarchical decision rights and structure. Their administrative structure was not based on business function with functional leaders and global functional management groups. During the communist ages, the corporate culture was ruled by fear of failure and perception of others decision makers from the center. To the contrary, the situation at Dacia is different from that at ARO. They are part of Renault holding, organized for learning innovation and customer impact. This company focuses on process to build capabilities and stronger ecosystem (Wereda et al., 2016, pp. 22-23). The company is viewed as an agile network. Collaboration and knowledge sharing fuel the team leaders. The structure is based on work and projects, with teams focused on products, customers, and services. The old and new rules made the difference between the nowadays Dacia - Renault and the bankrupted ARO. In the crisis times, the organizations that develop their businesses are resilient organizations because adapting the risks and threats and transforming in an opportunity is an organization that looks to the future, it is not stuck in time. Based on our research, we found that one of the most important factors for transformation of Dacia in a successful international brand were the leadership in the company, the inter-institutional communication and the implementation of the risk management system.

The main research hypothesis that we propose is that the success of a company (be it state or private) grows directly proportional to the quality of financial management of the company's assets. A very good financial risk management can make a difference between success and bankruptcy.

Beyond the description of the methodology used and the reasons why we consider this research tool to be the most appropriate to the surveyed situation, it remains to establish as the main objective of this research the identification of some lessons that company's managers must learn from now on. The actions taken in the case of Dacia

must be emphasized and remembered because they have led to the mitigation of risks and the mistakes made by inappropriate actions or even by inaction in the case of ARO.

Research results

ARO Case Study

We used as sources of information to carry out the research, first, the accounting statements of the two companies, ARO and Dacia, filed with the Ministry of Finance and which are public information. These financial and accounting studies have been analyzed, processed and restructured in order to be better understood, to highlight some indicators more clearly. What follows is a capitalization of research, a synthesis of how the two companies have evolved.

In 1957, the ARO production started with a model called IMS-57 (IMS-State Metallurgical Enterprise), but the production was stopped in 1975, after 80,000 assembled copies, according to Dnistran (2015, pp.1-3). Until the early 1980s, ARO was a world success, ranked fourth in the world after the number of field cars sold and outlets (after Jeep, Land Rover and Toyota), the end of the decade brought a moment of the epiphany: ARO factory had to be upgraded if export competitiveness was to be maintained.

We chose to analyze the ARO's registered indicators during the most sensitive period of the factory, 2000-2004, years in which ARO was sold by the state in a questionable way to a phantom company that did not continue the company's successful business, but sold the piece of the company's assets and fired the employees. The huge volume of debts exceeds the value of current assets in the years 2000 – 2004. Between 2001 and 2003, the current debts exceeded the total assets. In this period, the company's own capital registered negative values, as can be seen in the following figure. The situation at ARO, during these years, was bad. It was no possibility to pay the debts to third parties, both during the course of its activity and its liquidation.

Because of poor indicators, as can be seen in Fig. 1 above, ARO is no longer receiving loans from banks, but other tick-borrowers borrow on its behalf and buy cars at lower prices than those dictated by the market, which they then sell up to four times more expensive. The debts of the company were growing exponentially year by year, reaching a peak in 2003.

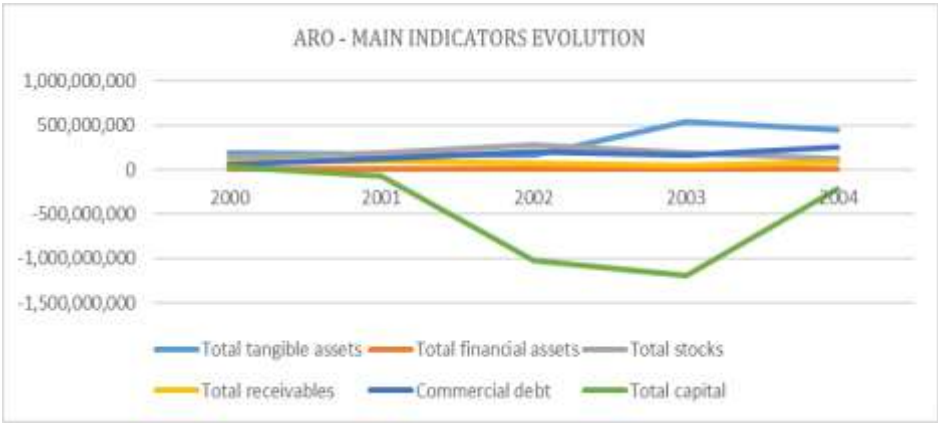


Figure 1. ARO Main Indicators Evolution

At the end of 2004, corporal assets have a downward trend due to their alienation, as well as to the disposal of fixed assets. The shares held by ARO in other companies represented the financial assets of the company. The receivables of the company and the cash reserves of the company reach a minimum of - 682,232 thousand lei. The equity of the company recorded annual negative values. Year1995 was the last year with a significant profit. Until 2004, the company recorded losses at an exponential rate.



Figure 2. ARO-Evolution of Equity

At the end of 2003, the debts of the company are growing from year by year, reaching the pick, 194,361 thousand RON. The huge volume of debts made it exceed the total value of the net current assets in the years 2000 - 2004, more in the years 2001-2003 the current debts exceed the total assets. The total cumulative loss between 1997 and 2004 was 207,684 thousand RON. From the above figure, it is clear that ARO has a big problem with the sources of financing, the value of Equity being negative.

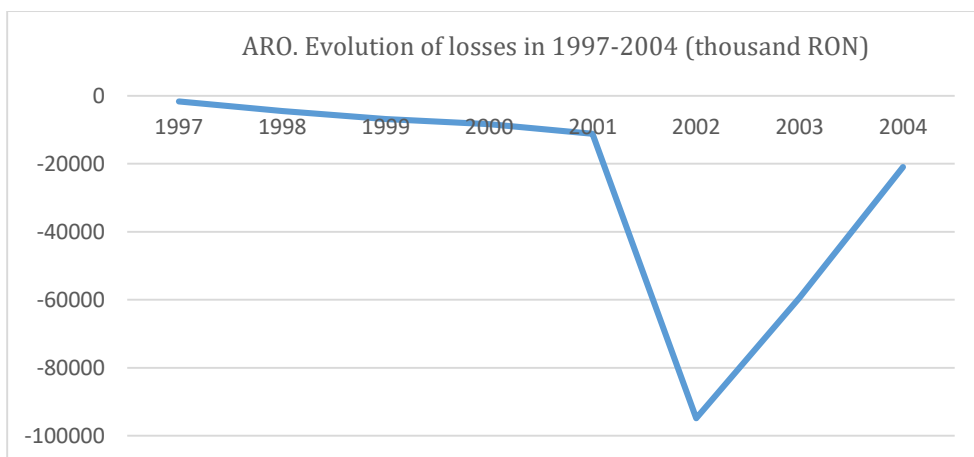


Figure 3. ARO-Evolution of Losses

From Figure 3 above we can understand how hard ARO has been in terms of P / L financial results. The Company recorded losses during the period 1997-2004, a maximum of these operating losses representing the year 2002 (of 95,588 thousand RON), the main cause of these losses being the limited volume of activity and fixed cost (electricity, natural gas, the expenditure of labor, damping, etc.). The most significant operating expenses are expenditures on raw materials and consumables, personnel expenses, expenses on external services, and in particular, costs related to the passing on costs of interest and penalties claimed by state bodies for non-payment of their obligations. The loss of RON 20,000,000 at the end of 2004 further aggravated the situation of the state, which had great difficulties in privatizing ARO, pushing the company into the arms of a dishonest entrepreneur from the US.

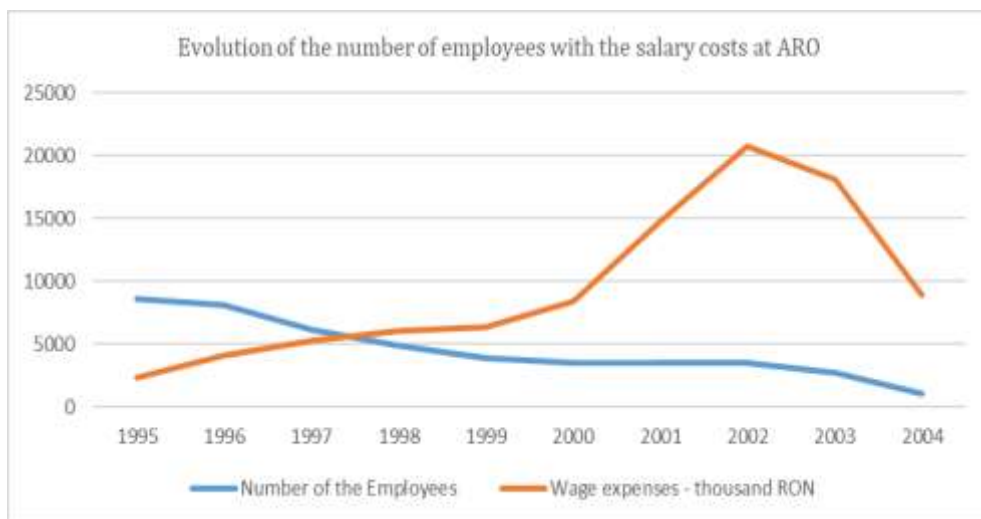


Figure 4. ARO - Evolution of Employees number vs. Salary Cost

Figure 4 shows us the evidence of an unsatisfactory cost management, because while many employees were fired, unperformed management increased the cost of wages, paying large amounts inefficiently to people in at least dubious relationships with the factory. While in 1995 staff costs represented 25% of the 2004 production, it was 53% of the products sold. (values in thousands RON). This has led to a critical situation since in 2004 the labor cost reached 52.6% of the value of the production (see Fig. 5).

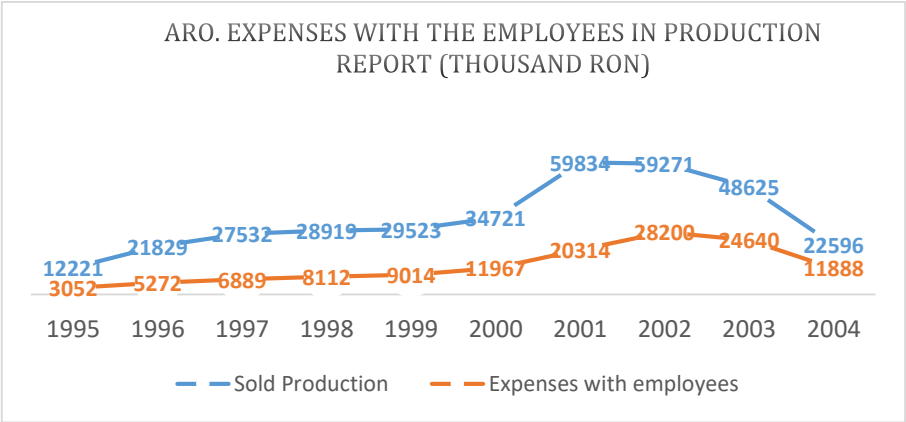


Figure 5. ARO-Evolution of Production vs. Salary Cost

DACIA Case Study

Dacia began his story in 1966, with the construction of the Mioveni Automobile Plant and in 1968, it was started to build a first national car, Dacia, based on an agreement between Renault and the Romanian state as cited from Dnistran (2015). Nowadays Dacia is one of the five brands in Renault holding, exporting cars to all continents of the world. The research sources behind our analyses of Dacia were mainly the annual financial statements and the annual report of the Board of Directors (2012-2016) quoted on the company's official website (www.daciagroup.com, 2016). To these sources, we added information that was taken from the financial accounting reports of the analyzed years, respectively 2012-2016.

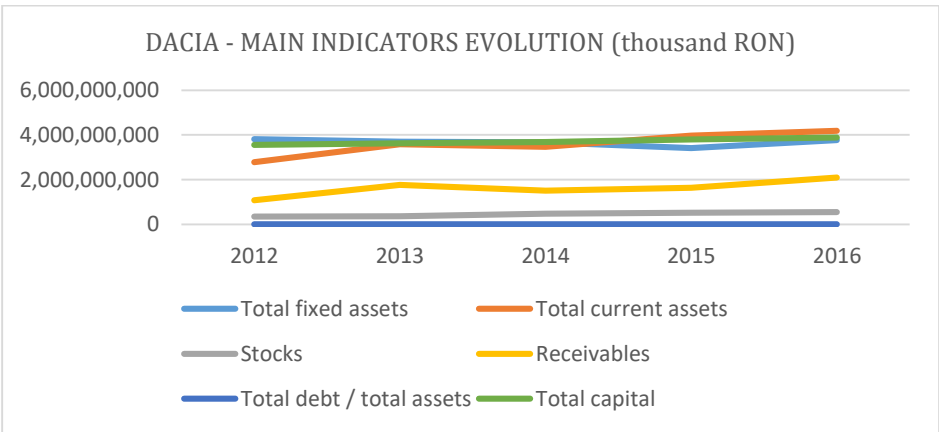


Figure 6. Dacia-Main Indicators Evolution

All the indicators we have calculated in the case study look great, they illustrate good financial management, which could have happened because the factory was managed well in all respects with an outstanding operational and commercial risk management.

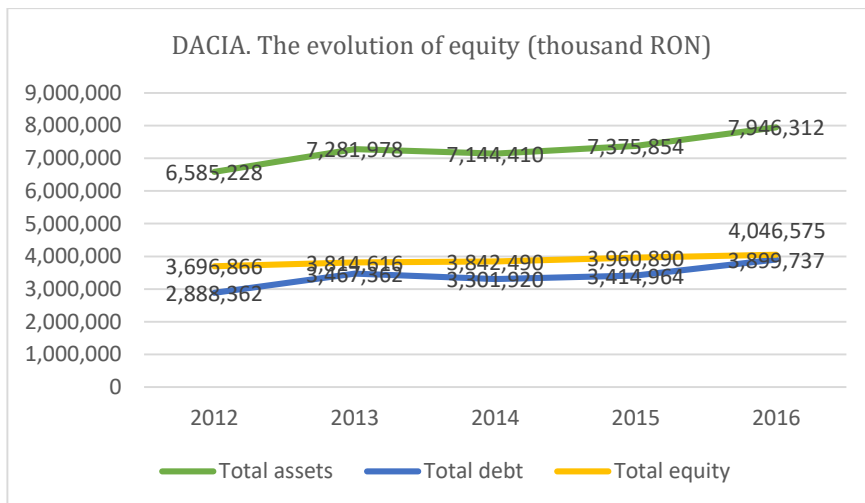


Figure 7. Dacia-Evolution on Equity

The total Assets of Dacia have evolved very well, increasing year by year, steadily, at a rate that has grown by 21% over 4 years we analyzed. In the following figure no 8, the substantial difference between Total Assets and Fixed Assets of RON 41,811,462 shows us without a doubt that current circulating assets have a high value, indicating an excellent return on capital and shows an annual growth trend

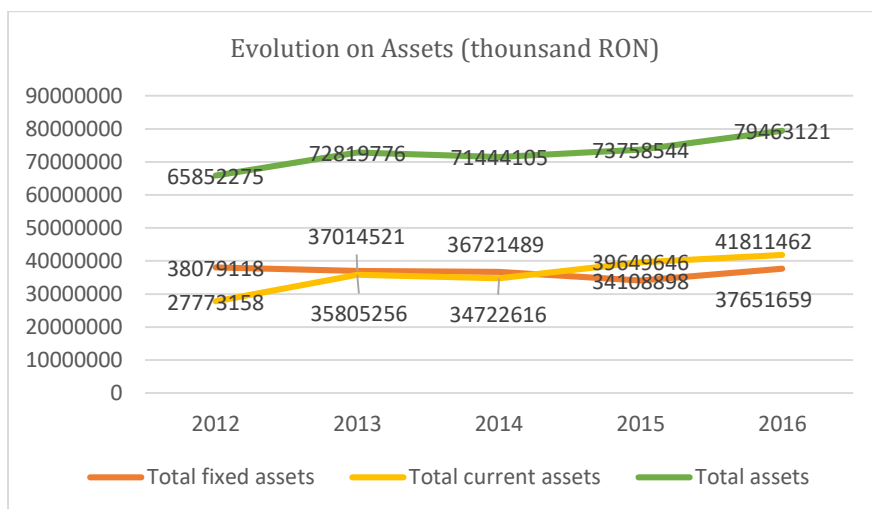


Figure 8. Dacia-Evolution on Assets

Operating expenses also had a growing trend, but they were lower than revenues, so the company earned operating profit in the period 2013-2016, the trend was positive from 429 million lei in 2013 to 532 million lei in 2016.

The evolution of turnover was slightly increasing, so in 2014 the turnover was RON 18,833 million, 2.34% higher than the one realized in 2013 when it was RON 18,402 million. In 2016 the turnover was RON 20,765 million, 8.4% higher than 2015 when it was RON 19,165 million. The Income from operations had a turnover-like evolution.



Figure 9. Dacia-Evolution on Revenues and Expenditures

Net profit increased from RON 3,370 million in 2013 to RON 4,560 million in 2016. The company had a favorable evolution that led to the continuous development and growth of the enterprise. Evolution of the number of staff was from 14,114 employees in 2013 to 14,001 employees 2016, so, the number of employees was constant during the analyzed period with a very small fluctuation, normal, but not upward, although production has diversified and steadily increased. This evolution has also allowed steady increases in labor productivity, once again highlighting sound financial management. The year 2016 reveals a tremendous increase over the past years in operating income, but proportionally and in fiscal value, which represents payments made to the state's fiscal budget, as we have seen from the AVAS Activity Report (2016), a government agency that deals with the use of state assets.

Conclusions and discussions

In the present chapter, we aim to verify whether the research done based on the two studies as a pair case (ARO and Dacia) gives us sufficient scientific and empirical arguments to conclude with a high probability that the research hypothesis is confirmed. We started with the main idea that we have checked, namely that a company's chances of success grow when an efficient management runs it. A very good financial risk management can make a difference between success and bankruptcy. Clearly, the research method used, namely the case study based on two companies that were created by the state many years ago, functioned in the centralized state economy in a similar way, provided scientific evidence and arguments that confirmed the research hypothesis.

We used in the case study research tools subordinated to the chosen method, derived from it, namely direct analysis of sources of information, analysis of financial and accounting databases, interpretation and processing of financial and accounting reports by graphic means, etc. All these research methods and investigative tools have led to clear conclusions as in the ARO case. The financial disaster occurred due to the lack of interest of the shareholder (the state), who appointed an incompetent manager's positions without real management skills. They did not put the company's interest first, did not worry about the correct and effective financial risk management and pushed ARO into bankruptcy. That, after they sold the factory negligently to a ghost company that decimated it in pieces for its own sake.

Through an identical but mirrored analysis, Dacia presents itself as a successful car factory, whose production indicators, accounting, operational, and efficiency and effectiveness indicators show year after year more and more.

Bocşaru (2016) argues that the growth of turnover in 2016 was driven by import and export markets. "As far as export is concerned, we have had a very good performance on the European market, but also on the markets in Africa and Asia, which makes exports this year to be about 90% of the turnover." Since 2000, the investments made by Renault Romania Group amount to 2.5 billion euros, being investments in new products (vehicles, engines, gearboxes, mechanical components) and investments in increasing the competitiveness of the processes production (social conditions, capacity increases, automation processes, quality and cost reduction). We obviously believe that the hypothesis built at the beginning of this research is confirmed, and success is due to good decisions to properly manage financial risk.

We can conclude that not many organizations spend time and money with cutting-edge technology, innovative, to meet their profit and the performance needs. Usually, every company uses the best measures available more than a couple of procedures for their business: e.g. financial reporting. Thus, the proactive metrics management solution could meet easily their indicators of the performances' criteria or from the different sources in the same company (Kernzer, 2017, p.332). Nevertheless, in the case of Dacia, it results from the analysis that the extraordinary results, a turnover of 3% of GDP and the number one company in terms of export, was achieved through real work, competent management, and moral basis.

If we allow ourselves to look retrospectively, the risk profile of ARO and Dacia companies was almost at the same level at the beginning of the 90's. There the corporate risk management had been conceptually different from the function of "trading/risk-taking" because the "corporate risk management does not focus on sporadic and opportunistic hedging based on an idea that the manager has at a particular moment... this activity must have a separate income statement, have objectives, be monitored and so on - in other words, be a classic trading/risk-taking activity" (Garcia, 2017, p.8). Cars manufactories are usually exposed to various kinds of risk, not only to the market risk, the exchange rates, the inflation and fluctuation of national currency (RON) in comparison with US dollars and Euro, the derivation to hedge-currency, interest rate or change in commodity prices risk – by forwards.

Looking back, we think that there was not only ignorance of the management, but it was greed and bad intention. We conclude that lessons to be learned by anyone

reading this research are that financial risk management in state-owned companies remains a thorny issue, and it has not been fully addressed today either. The authors of the paper acknowledge the limits of this research, namely that the case study has encountered difficulties due to the fact that ARO is bankrupt and the existing database is limited. On the other hand, it is difficult to extrapolate the findings of a two-nation research into a national economy, but in future work, we propose to do other case studies from various industries.

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THE CHALLENGES OF PERFORMANCE ASSESSMENT IN ROMANIAN STATE-OWNED ENTERPRISES

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Abstract. *The process of setting proper key performance indicators to managers of state-owned enterprises is a critical issue in developing the premises for increasing the efficiency of the public sector activity, as well as the management's accountability. Managerial strategies and the impact of the decision on business achievements are actively debated in nowadays literature. The necessity of law amendments is of constructive interest for several perspectives, such as improving the global regulatory framework and, at the national level, for state control bodies recommendations. The Performance Measurement Mechanism presents a dual approach and a two-way challenge. On the one hand, quantifying performance implies establishing measurable managerial obligations in order to achieve business profitability and strengthen the process of economic and efficient use of resources. From a managerial perspective, fulfilling the imposed criteria may present a motivational challenge, because the level of accomplishments directly determines the level of remuneration. The "final beneficiary" who may actually acknowledge the fulfillment of goals and the quality of the services provided by SOEs are in fact the ordinary people who experience and appreciate, ultimately, the effect of the managerial strategies and the outcome of the managerial act. In this context, the method of setting key performance indicators is of paramount importance. Our paper proposes a performance quantification model in the Romanian SOE field, which allows a fast and intuitive identification of a minimum set of performance criteria, adaptable to the specifics of the enterprises' activities. Through a methodological approach to regulations, considering a representative pool of Romanian SOEs. We believe that the precursors of a balanced configuration of the basic key performance indicators in SOEs sector can be set. The study is significantly important from the perspective of the calculated results, which sets the premises of developing future analyzes. The proposed model strives to become a valuable reference in formulating key performance indicators in the Romanian SOEs.*

Keywords: *governance monitoring; key performance indicators; cluster analysis; SOEs.*

Introduction

Transparency and accountability are prime topics directly related to the managerial decision-making process. The quality and values of long-term strategies are highlights and precursors of sustainability and business development potential. In such a context, the managerial responsibility is being analyzed through diverse and continuously expanding concerns, along with the need to implement performance measurement techniques able to bring comparison grounds in a rapidly expanding economic society.

The powerful link between law and useful monitoring models that can "breathe life into the duty of care" inspired Dent, in 1981, to encourage the "revolution in corporate governance" and to draw concern to the effects of managerial passivity on company

goals. Although courts of law are empowered to enforce certain legal standards to board members or management factors when flaws in duty are being denounced, Dent draws attention to the importance of consciousness in hierarchical monitoring. His study reveals that neither the market, nor the law has the adequate means to enforce monitoring, but the function of board monitoring models (Dent, 1981).

Furthermore, the nexus between corporate governance and financial performance has been documented (Westphal, 2002; Leblanc & Gillies, 2003). The linkage between these two concepts gains special significance when it comes to public sector entities since state-owned enterprises (SOE) gain more and more attention. The contribution of SOE in the gross domestic profit of every country is significant (Bruton et al., 2015; Bernier, 2015), hence the debates on the decision-making process and corporate efficiency need to be thoroughly analyzed (Clatworthy, 2000).

Under the OECD's recommendations, the European countries contributed to the implementation of world practice standards that allow harmonization of public management assessment. The ultimate aim of the "governance revolution" was to initiate a comprehensive legislative reform process to harmonize internal regulations within European countries, with special regards to the public sector. (OECD, 2004)

Literature focusses on further expanding the contribution to a better understanding of the governance mechanism (Kettl, 2000), by addressing studies to internal audit processes and role (Ferry et al., 2017), control systems, external auditing and auditing committees (Deloitte, 2013). Almquist et al. observe various studies conducted in corporate governance and accountability assessment and signal the need to further investigate the relationship between various elements of the public governance sector. (Almquist et al. 2013)

Based on these assumptions, the current study explores the possibility of creating a primary set of performance assessment model for the public sector, by combining law specific requirements with methods of setting key performance indicators and benchmark indicators. The study is conducted on Romanian SOEs, based on the public information available on the site of the Romanian Agency for Fiscal Administration.

Reflections on performance assessment models

In time, monitoring models have been analyzed and developed from various perspectives. The assessment objectives directly influenced the techniques and measures of models, together with the concern for the development of performance governance frameworks in organizations. Thus, the monitoring model specifics are accustomed to the sector where the company activates, the organizational structure and shareholders' interests, the typology of provided services or activities, the economic context and controllability. Starting from the requirements and projected outcomes of monitoring models design, the usefulness of framework assessments has been long debated. Various studies reveal that sometimes managerial assessment models can prove to be useless or untrustworthy if listlessness or secondary interests of managers come to pass (Dent, 1981; Butcher, 2000).

The "traditional model" of corporate governance assessment is based on the principle that the affairs of an entity are managed by the board of directors, not by the executive

officers/directors (Eisenberg, 1976). The former concept has evolved in time, thus being generally accepted that business is managed “under the supervision of” board managers. Several studies concentrated on the importance of proper settlement of managerial duties and competence in setting independent assessment models: primarily, the law is the starting point to regulating conflicts of interest and may clearly settle statements of duties (Sugarman, 1999).

The perspective of stricter regulations may enhance and better settle the issue of directors’ duties (Butcher, 2000; Elson, 2004; Slorach, 2004). A figurative statement clearly attacking the lack of active implication or passivity of managers was made by Irving Olds, the Chairman of US Steel: “Directors are like parsley on fish – decorative but useless”. The critics were made in a period when controversies arose with respect to the issuing of a Canadian report on corporate governance, that drew controversial responses for the lack of proper attention to real governance problems and for the politicization of corporate managers (Leblanc & Gillies, 2003).

The “modern” mechanism of governance assessment proposes a series of techniques meant to allow the harmonization of company outcomes in order to contribute to a better understanding of standardized solutions to better achievement of economic goals.

In the public sector, the performance assessment techniques consist of budgeting, balanced scorecard, controlling, strategic planning and monitoring (SWOT analysis) or other. Literature show there is a strong belief that key performance indicators (KPI) are critical for improving the effectiveness of governance systems and are a mean that actively contributes to achieving company targets.

The quality of an appropriate group of key indicators is testified by their ability to adapt to business specifics and to correctly appreciate the value of the managerial act. At the same time, previous studies demonstrate the contribution of the qualitative preliminary analysis of the optimal methodology to set key performance indicators and benchmark indicators to a good design of the obtained results. One of the most important factors that influence performance is the human resources and their understanding of the role and effects of a professional management. (Grigorescu, 2008; Grigorescu & Bob, 2010)

Are monitoring models necessary and useful?

The question on necessity and usefulness of managerial assessment seems to have a straightforward affirmative answer. Nevertheless, the current Romanian context, the political influence on public governance constantly debated in media and the day-to-day reality in public services seem to suggest the to further reflections before giving a straight answer to such question.

The current study highlights the raising awareness of the Romanian public opinion on the role of performance assessment in the public sector. At the same time, we carefully analyze the evolution of the legal framework in Romania regarding the state-owned enterprises, the strategies and the objectives projected for corporate governance in the public sector, the general economic context, as well as the stratified approach of the economic branch of the selected SOEs pool. The findings are interpreted and reunited in order to set the basis and explore the possibilities of formulating the key performance

indicators in an efficient and structured way. We actively aim at meeting the general requirements of transparency, SMART analysis, alignment to business objectives and operations and to address a dedicated section to the enterprises' specifics.

The principles and benefits of a quality management system are anchored in the competitive evolution of financial and non-financial results reported by the Romanian pool of SOEs. In order to comply with OECD regulations, Romania struggled to implement, at least on a formal basis, the legal framework for managerial assessment in public entities. The formal approach on managerial measurement standards was long criticized, even by the state control institutions, that reported little improvement in public sector and highlighted the insufficient political support, lack of transparency in public governance or vision opaqueness in evaluating the force of managerial assessment (European Commission, 2018; Ministry of Romania Public Finance, 2014).

In Romania, the legislation regarding the need to implement corporate governance in public entities has developed over time in the sense of harmonization with the requirements of the European Union. Thus, since the Emergency Ordinance no. 109/2011 on corporate governance in public enterprises, the public interest for the importance of participative governance began to increase. Furthermore, the regulations extended the requirements on management monitoring procedures, by setting milestones regarding the assessment process. A first step in this direction was to settle mandatory procedures in order to formally address the independence of managerial appointments. Also, in order to set the grounds for managerial monitoring, regulations regarding key performance indicators were implemented on a two-basis perspective: on the one hand, the key performance regulations were set with the purpose to increase the achievement of corporate goals and, on the other hand, KPY was supposed to become a motivational remuneration objective for the appointed managers.

The following table synthesizes the main regulations regarding governance measuring framework in Romania:

Table 1 Regulatory framework regarding corporate governance in Romania
(author's compilation from Romanian legal regulations)

Main governance regulatory requirements	Regulations on benchmark and key performance indicators
- the general framework and selection conditions for the members of the management of public entities were settled - publishing governance reports became compulsory - the appointment of managers in public entities may be possible only on the mandate contracts basis - obligations regarding advertising of the identity and professional training of management	Emergency Ordinance no. 109/2011 on corporate governance in public entities
- settling selection criteria, conditions for shortlisting for up to 5 candidates for each post, ranking, final appointment procedures - establishing the financial and non-financial key performance indicators and the variable component of the remuneration of the board of	Decision no. 722/2016 regarding the methodology and norms for Ordinance no. 109/2011

Main governance regulatory requirements	Regulations on benchmark and key performance indicators
directors or, as the case may be, the benchmark indicators of directors	
• reporting obligations regarding the state of implementation of corporate governance standards • defining areas of interest and reporting deadlines • in order to ensure monitoring of corporate governance, managerial requirements were established regarding broadcasting information on how to proceed with the selection of directors, the approval of management plan, advertising annual reports to ensure transparency, auditing financial statements, performance indicators and about the variable component of remuneration	Decision no. 2874/2016, repealed by Decision no. 1952/2018 for monitoring Ordinance no. 109/2011

The concept of corporate governance in the Romanian public sector extended the duties of shareholders. The new regulations brought transparency and hierarchical reporting obligations for managers and set the grounds for governance accountability. Key performance indicators seem to become an active ingredient to assess governance efficiency, although the consequences of flaws in duty are not very clearly determined. According to current regulations, key performance indicators have also a motivational purpose and should be settled within the mandate contracts of board directors in order to determinate the variable component of managerial remuneration. Nevertheless, if such a variable component is not defined within the managerial along with the appointed key performance indicators, the law seems to not propose a sanction or monitoring procedure.

Although complex and highly promising in appearance, the corporate governance regulations brought little visible improvement in public services and governance policies. Media also contributed to the monitoring process, by loudly debating various situations of illegal human resources procedures in public entities or faulty managerial appointments. Gradually, the public opinion became aware of the efficiency requirements and transparency principles of corporate governance. Still, the positiveness of such awareness confronts itself with “but”. The population becomes aware, but the lack of regulations regarding the faulty implementation of corporate governance standards still raise an obstacle in achieving a value-based culture in public services or public resources allocation.

The author considers that the primary need for a better improvement of governance monitoring and managerial assessment derives precisely from the real need to acknowledge the importance of legitimate regulations in public sector and of a proper undertake of consequences in faulty managerial duties.

Rudimentary monitoring models, nonrealistic analysis of corporate activities or context, political or personal interests, scarce details regarding managerial duties or lack of maturity in risk analysis are issues that require thorough solutions. The proper vision to provide a satisfactory response to such problems is the trigger to formulating

effective monitoring models that can bring added value to corporate operations and thus to reside in service improvement and economic progress.

Developments in public measurement models

The main goal of measuring the performance of public enterprise management is to increase efficiency in public service, to develop new strategies in the better procurement and allocation of public resources and strengthen the participative governance. Measuring performance can also bring a breakthrough in better organizational structuring, client satisfaction categorized as people's satisfaction when it comes to publicly owned companies and, furthermore, a better way of life.

The process of setting performance indicators is closely correlated with the public entity's mission, its objectives and the actions proposed by management while considering the available resources.

According to current regulations, the classification of performance indicators is done in two broad groups:

- benchmark indicators that are established in relation to the activity of the public enterprise. These indicators allow the company's results to be measured against the targets and make it possible to compare the enterprise's indicators with those of other similar companies.
- key performance indicators that are set for managers and according to which the variable remuneration component is allocated. Key performance indicators also consist of financial and non-financial indicators (which are operational and corporate governance).

On a graphical basis, the first steps in developing a monitoring model in public entities are to set the key performance indicators and the benchmark indicators, as in Figure no.1.

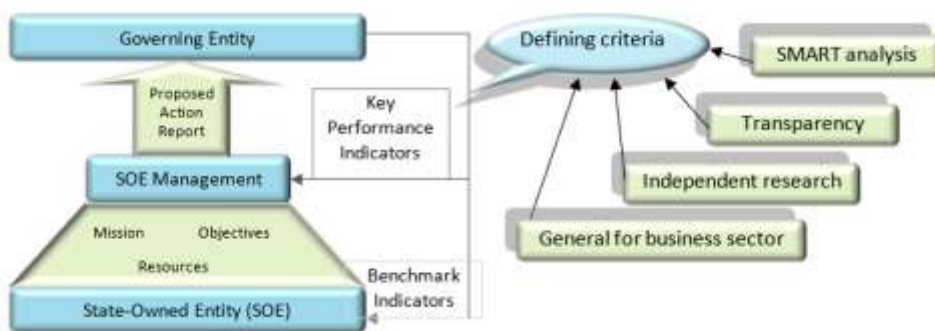


Figure 1. The process of managerial assessment

From the above figure, we can observe that performance indicators are set on a hierarchical basis, downwards. The defining criteria for setting proper performance indicators should consider the corporate mission, governance objectives and resources of the public institution following a rigorous analysis of the action plan or management of the subordinate institution's management. Among the key criteria underlying the

establishment of a set of effective indicators are the premises of transparency and the acknowledgment of independent research. Proper transparency procedures give access to information to every interested party and create possibilities for every individual to conduct monitoring procedures on specific data.

According to Romanian regulations on free access to information of public interest, public entities have the obligation to submit an annual activity report from which interested parties may find out information on performance indicators and their degree of achievement. Advertising the performance report is a legal obligation for managers derived from the principle of decisional transparency. Advertising the performance report is mandatory, also by publishing it on the public institution's website.

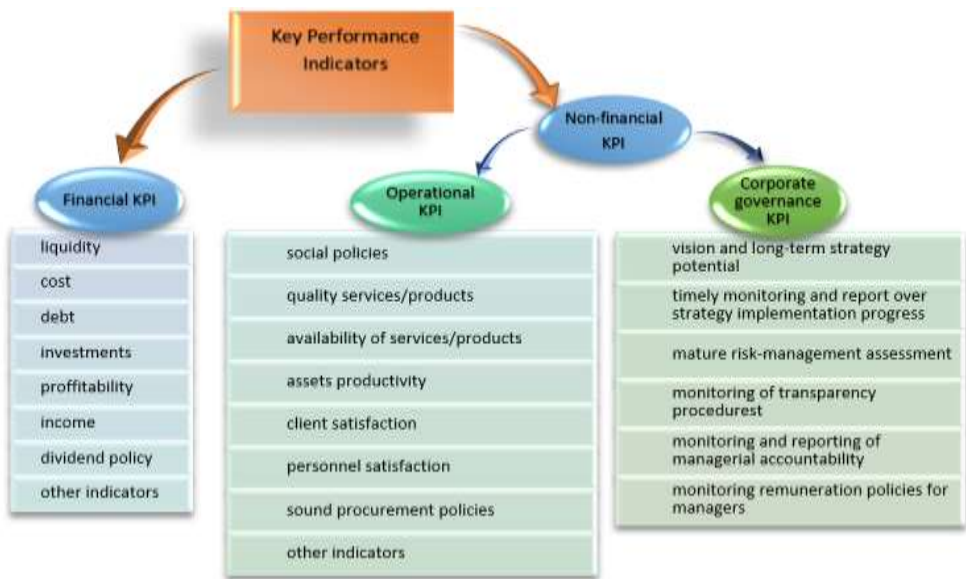


Figure 2. Typology of KPI (Source: Government Decision no.722/28.09.2016)

The process of selection of key performance indicators allows the governing entity (or the higher hierarchical institution) to choose from a high number of indicators. The regulations advice on selecting a set of specific KPI from each category of financial, non-financial and governance corporate KPI (Government decision no.722/2016). Nevertheless, the Romanian National Agency for Fiscal Administration (hereby called the Romanian IRS), the institution empowered with the centralization of KPI data, shows that not every reporting public entity has been appointed with KPI from each category: certain entities have not been appointed with corporate governance KPI, because such indicators may already be perceived as requirements according to law. (ANAF, 2016)

Establishing indicators is a dual challenge. A set of effective selected indicators can actively contribute to the efficiency of the subordinate entity's activity and, at the same time, it is supposed to be an important motivation tool for its management.

The main focus of the current study was to analyze whether the so far used KPIs in Romanian SOEs may be linked by relevance into incentives to validate the principle of continuous activity or into typologies that may be attributed to certain domains of

activity. The premises of the study were that financial KPIs may represent reliable indicators to predict or assess the managerial accountability concerning business development.

Previous studies demonstrated that using Clustering techniques, relevant observation may be obtained regarding the relationships between KPIs (Guo et.al., 2016), with specific attention to corporate governance KPI (Kocmanova and Simberova, 2012). In Romanian literature quantitative studies on corporate governance, KPI needs to be further developed in order to provide typologies and reliable monitoring models useful in the SOEs sector.

Methodology of research

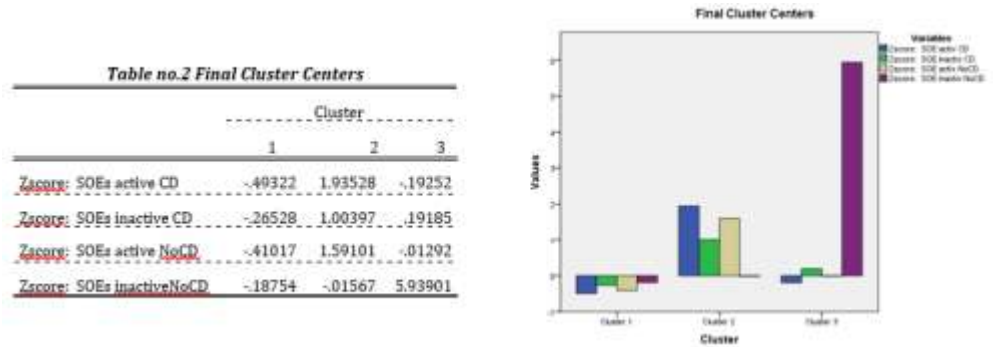
We used all the available Romanian IRS economic reported indicators, providing 1065 local state-owned enterprises in 2013, increasing to 1381 in 2016. Based on the analyzed indicators, the methodological approach of the current study was developed in two main stages. In the first stage, we tried to find out if the reported key indicators centralized by the Romanian IRS can be categorized into significant typologies depending on the active or inactive status of the reporting SOEs. According to Romanian IRS, the reported indicators can be categorized into indicators reported by active SOEs and inactive SOEs, with or with no comparable data recorded in their financial statements during the analyzed period of time. The Non-Hierarchical Cluster Analysis was used with SPSS software. The in-active firms were considered to be the SOEs with obsolete financial difficulties, as the SOEs in insolvency procedure or that was declared bankrupt. During the next stage of research, we also tried to analyze if certain KPIs can be identified to be most likely to be utilized depending on the domain in which active companies activate, based on all the available information collected from the 1186 active SOEs in 2016 (out of a total population of 1381 across all local SOEs). The available data were compiled into representative KPIs for assessing business profitability. The Hierarchical Cluster Analysis was used in this stage.

Discussions and results

In order to achieve a robust analysis of the selected data, this study focused on identifying similarities between reported KPIs in order to observe patterns or typologies that may become specific to active or in-active firms. The economic indicators were observed in order to assess how groups of KPIs may be related to each other on premises of activity continuation. A K-Means Cluster Analysis was performed. The variables used in the analysis were the active companies with comparative data within their reported financial statements (coded SOEs active CD), the inactive companies with comparable data in their financial statements (coded SOEs inactive CD), the active companies with no comparable data (compared to previous reporting periods) in their financial statements (coded SOEs active NoCD) and inactive companies with no comparable data in their financial statements (coded SOEs active NoCD). The companies with no available data were removed from the study. The research aimed to obtain a three-cluster standardized result.

The observed indicators for active companies differed substantially in comparison to those reported by inactive companies, both for categories of companies with comparable or non-comparable data in reported financial statements (for example,

active companies reported positive earnings before taxes, while inactive companies reported negative earnings before taxes). Thus, for a reliable result of the analysis, the data was standardized by calculating Z-scores for the considered variables.



On a standardized scale, the SPSS calculated data as per Table 2. The results show that cluster one has lower results (also negative on a standardized scale) for active entities with comparable data than clusters two and three. Similarly, cluster 1 has lower negative results on a standardized scale for inactive entities with comparable data than clusters two and three. From the calculated Cluster centers, it can be observed that cluster three for inactive entities with no comparable data in their financial statements has the highest number of results for the same category than the other two clusters. The K-Means Cluster Analysis conducted to mixed results of calculated standardized Zscore. As per figure 3, the third cluster does not seem to gather relevant results with regards to similarities between the Zscores calculated for KPIs attributed to this cluster. The obtained results were not conclusive as to allow a standardized statistical result able to present incentives on a typology of KPI in active or inactive SOEs, considering reported KPIs compiled from their financial statements.

The second stage of the research compiled the financial indicators reported by SOEs in 2016 and calculated corporate governance financial KPIs, used according to Romanian law during the process of settling the variable component on remuneration for SOE board of directors. The compiled profitability KPIs that could be determined in this stage, based on available data (ANAF, 2017) are:

Table 3. Financial KPIs for profitability assessment (author’s compilation)

Financial KPI – profitability assessment	Calculating formula
Earnings before interest and taxes marginal (EBIT marginal)	EBIT / Turnover
Earnings before interest and taxes and amortization marginal (EBITDA marginal)	EBITDA / Turnover
EBITDA per equity	EBITDA / Equity
Rate of return on capital	Earnings before interest (EBT) / Equity
Gross result in total sales	EBT / Turnover

The study considered the compiled data as variables obtained in different domains of activity and analyzed them using Hierarchical Cluster Analysis. The previous statistical check was not considered in this stage, with the intent of observing similarities between

the calculated variables that would allow highlighting a typology of indicators which would be more suitable to use in certain business domains (Andel & Hebak, 1987).

The limitation of the study consists primarily of the limited data available regarding public sector KPIs. Although the current regulations settle compulsory requirements on the transparency of KPIs, remuneration and performance reporting, the current practice in Romanian SOEs shows that compliance in this sector is scarce and, in most cases, basically formal.

The cluster analysis relied on centroid linkage method in order to be able to obtain clusters of different dimensions that may offer incentives on KPI appropriateness in relation to different business domains. Previous studies reveal that underlying models regarding KPIs in the public sector have been developed over time, but still, the policies of governance require flexibility and thorough local economic assessment in order to become effective. (Shen et al., 2015)

The calculated data are hereby presented in figures 4 and 5.

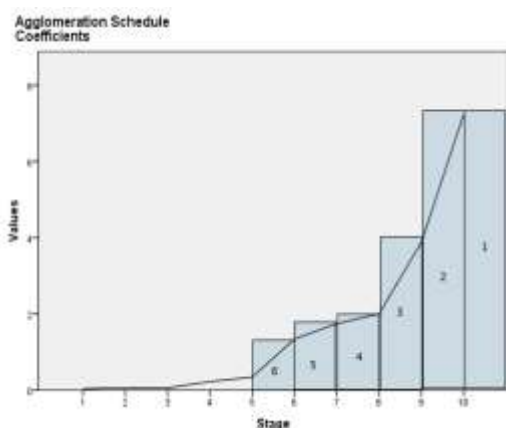


Figure 4. Agglomeration Schedule Coefficients

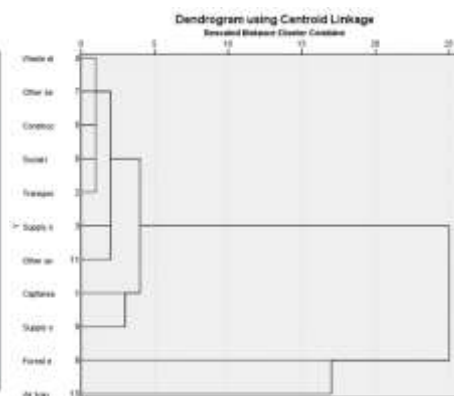


Figure 5. Dendrogram using Centroid Linkage

The calculated coefficients during hierarchical clustering model showed that the general assessment of KPI in relation to all business domains may not result in reliable profitability KPIs clustering. In Figure no.4, the Agglomeration Schedule Coefficients statistically compute how much new data is provided by each additional cluster.

In order to verify if the computed information is trustworthy, the graphical representation of coefficients was furthermore processed in order to provide a bigger picture of the highlighted clusters. For a better use of such purpose, squares have been added to the linear representation of coefficient obtained with SPSS program. The designed squares show that a two-cluster division of KPIs may provide more data than a three-cluster model, but for such information to be of better interest, than a five-cluster model may be more appropriate. The pattern observed in figure no.4 is also supported by the dendrogram in Figure 5. The visual interpretation of hierarchical clustering suggests that a reliable link between profitability KPIs and business domains may not be generalized. The measuring model for choosing appropriate KPIs in SOEs seems to be more effective when the appointment of profitability KPIs is sustained by a

comprehensive analysis of the SOEs' business context, on environmental risk, regulations, client satisfaction, business risk, and market conditions.

Conclusions

The current study shows interesting outcomes related to the design of corporate governance assessment models in Romanian SOEs. The value of the findings resides in the fact that real compliance with corporate governance regulations in setting key indicators may actively contribute to public services improvement and effective procurement and use of public resources. The obtained results, together with the current governance practice seem to suggest several possible scenarios:

- the procedures for setting KPIs should have an important impact on managerial remuneration together with corporate development prospects. In reality, the law does not sufficiently discern between the purpose of compensation and any injunction for disregard of settlement for variable remuneration in mandate contracts. In other words, according to Romanian IRS reports, although there have been observed various situations in which the KPIs have not been achieved or when variable remuneration has not been decided (ANAF, 2017), the measures undertaken by authorities in order to correct such situations are not very clearly disseminated.
- The measuring models should contain KPIs in all required fields: financial and non-financial. Also, for the non-financial KPI projection, both operative and corporate governance KPIs should be considered. Day-to-day reality reveals that corporate governance is not always a KPIs settlement concern (ANAF 2017), thus implying a formal feature to the regulations in force. The managerial accountability should be measured not only through financial results but also by directorial implication, vision, ethics, and professionalism.
- The financial KPIs analyzed, although limited in detailed data and not completely reliable for general assessment, suggest a stringent need to enhance transparency and public reports in Romanian public entities. In broad terms, the financial KPIs appointed without a proper support from non-financial KPIs may be directly affected by potential error or fault in financial statements. Also, in SOEs with long-term profitable activity, financial KPIs appointed to new managers may not be very relevant or accurate, because the activity may follow an inertial trend, with no necessary active implication from assigned new managers.

The current study strives to raise the interest in developing future research on the relevance of governance assessment in the public sector, based on the importance of cost-effectiveness and public service to quality of life. The performance assessment models of SOEs should not be considered an issue that requires addressing, but a challenge that eventually will lead to development. The further concern should also be attributed to enlarge dataset for accountability or transparency KPI. The augmentation of case study literature and development of econometric models for prediction purposes may also be of great value in the SOE sector.

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GOVERNMENT EFFECTIVENESS BETWEEN RULE OF LAW AND SANCTIONS POLICY

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Abstract. *Government effectiveness dimensions can be considered interdependent. It may be reasonable to believe that better accountability mechanisms lead to less corruption or better governance is given by a higher level of corruption control. Classical theories that address the effectiveness of sanctioning policies developed by Becker and Tullock state that the increase in sanctioning policies reduces fraud tendency. The cost of maintaining control and punishment policies is growing bigger due to the psychological changes of individuals, which involve additional and costly steps, both in terms of cost per se and increasing cognitive dissonance over rules. If we plan to observe this phenomenon, we can simply look back only 20 years ago in Italy (the "mani pulite" nationwide judicial investigation into Italy's political corruption and especially in the later developments). Moreover, we can analyze the current situation in Romania nowadays when we notice that the fight against corruption is difficult to sustain in the long term after a period of strong development. Similar situations have been described in theory during the experiments of Robert Sears in which people who have been subject to higher penalties for committing an act prohibited by the rules tend to commit the offense more often compared to those who were undergoing milder punishment. The models which use the cognitive dissonance theory to determine the effectiveness of sanctions policies, such as those of Akerlof and Dickens, based on Sears's experiments, explain that the internal decision not to commit an illegal act lies in the rule of law belief and enforced regulation rather than in the sanctions policy severity. Based on these theories, the paper aims to carry out a quantitative analysis of some factors that contribute to the government effectiveness increase. The analysis was performed using the worldwide governance indicators (WGI) developed by the World Bank and took into consideration the WGI indicators dynamics, rule of law and corruption control, and the way in which these two indicators influence the dynamics of government effectiveness. The research data included 32 countries for which the evolution of corruption control and rule of law indicators can be characterized by a significant trend. For each country have been calculated the trends in the indicators evolution for the period 1998 - 2016. The authors selected only those countries where the determinative factor was high, which means a significant trend of the corruption control indicator. A first conclusion of the paper highlights that the corruption control dynamics are directly correlated in the short term with the rule of law and government effectiveness dynamics which confirms Becker and Tullock's sanctions policy. The influence of cognitive dissonance on Sears's experiments (and also the models of Akerlof and Dickens) result from the second conclusion of the study, which emphasize that the increase in the difference between the two indicators tends to affect the government effectiveness dynamics. The conclusion of the*

paper is that the growth rate of corruption control should be roughly equal to the rule of law growth to achieve a maximal government effectiveness.

Keywords: *rule of law; control of corruption; government effectiveness; behavioral economics.*

Introduction

According to Tullock and McKenzie (1981) and Becker (1968), sanctions have the ability to prevent crimes. The concept is part of standard economic theory where, if the cost of an item is increased its consumption shall decrease. Accordingly, if penalties will increase in efficiency the tendency to commit an offense shall also decrease. A first element to be taken into account is the cost assigned to identify corruption cases (monitoring, tracking etc.).

The above-mentioned economists have previously applied price theory to explain crime and punishment. These models suggest that, by increasing the cost of crime, society can reduce the number of crimes committed. Consequently, by increasing the probability of detection or punishments imposed for crimes, the number of crimes committed can be reduced. However, psychological experiments suggest that another factor is worthy of consideration: self-motivation to obey the law.

Motivated by cognitive dissonance theory, psychologists have found that a threat of severe punishment can, once removed, increase the probability of a crime being committed. In contrast, removal of a weaker punishment led to a smaller increase in the probability of a crime being committed. Akerlof and Dickens (1982) explain that these studies suggest that individuals who decide not to commit crimes with small punishments are driven by an internal belief in following the rules. In other words, they create an internal justification for their decision to comply with the rules. These individuals do not just compare the costs and benefits of crime; they are strongly motivated by their initial belief in following the rules. In order not to get into cognitive dissonance people can control their beliefs to some extent, given the information regarding the rules around them which persist over time (including customs and legal regulations).

Therefore, people enter into cognitive dissonance when knowing that by committing an offense they disagree with the rules around them. When the power rules get deeper into people's conscience then increased corruption control becomes of secondary importance compared to trust and cooperation which rather lead to economic growth. Therefore, self-motivation to respect the law and to comply with the rules is an important factor to keep in mind on the long run, besides implicit costs of anticorruption measures, as they develop an important element for economic growth, namely trust and solidarity.

The research question is whether increased control and punitive measures are effective or not in cases where there is motivation to abide by the laws (Dollar & Kraay, 2002).

The authors also note that governance dimensions should not be thought of as being somehow independent of one another. One might reasonably think, for example, that

better accountability mechanisms lead to less corruption, or that a more effective government can provide a better regulatory environment, or that respect for the rule of law leads to fairer processes for selecting and replacing governments and less abuse of public office for private gain. In light of such inter-relationships, it is not very surprising that the six composite measures of governance are strongly positively correlated across countries. These inter-relationships also mean that the task of assigning individual variables measuring various aspects of governance to the six broad categories is not clear-cut.

On the other hand, the cost of maintaining a trend of increasing development for control and punitive policies is becoming higher due to psychological changes in individuals (not assuming responsibilities, lack of communication) that involves additional steps which cannot be developed at the same pace, both in terms of cost and cognitive dissonance growth against the rules. Similar situations have been described during the experiments of Robert Sears in which people who have been subject to higher penalties for committing an act prohibited by the rules tend to commit the offense more often compared to those who were undergoing milder punishment. In fact, social and legal rules have a time dynamics dependent on collective conscience.

For example, in 2009, British Prime Minister Gordon Brown has apologized for the "appalling" treatment that mathematician Alan Turing had undergone, for breaking a social norm of the time. The apology came after all the British population demanded that the recognition of the "tragic consequences of prejudice that ended the career and life of this man and that the gratitude we all owe to him make the inhumane treatment he had undergone to look even more awful", said Prime Minister Gordon Brown. The state norm at that time which was difficult to accept resulted in the loss of long-term development and technical progress that generates growth.

Another eloquent example is that in developed countries there are shops where customers choose their merchandise, leave the money in the mailbox, as much as each of them appreciates and leave (the experiment proved that people do not undervalue goods). Suppose that in a town where a similar local store exists, migrates a group of refugees (who have a different perception of rules), enter the premises and do not pay for the products.

Apparently, the imposition of control measures seems efficient, such as the hiring of a seller, but this approach for control causes a cost, both by salary or monetary costs but also due to the cognitive dissonance of people who were once accustomed to that rule (Thaler, 2005). As we shall see, if the store had existed in the country of the immigrants group, increased control over corruption has a direct connection to economic growth, as it generates a consistent business environment and correct distribution of the tax burden but also increases public revenue.

Hence, building national public policies must take into account punitive measures as well as building a stable set of rules, predictable and accepted (Georgescu, 2015). Depending on each country's development, certain factors determine the design of adequate public policies and government effectiveness.

The study aims to analyze the worldwide governance indicators (WGI) to deliver an opinion based on quantitative assessments and tools on the opportunity of public policy

measures, in the general framework of norms and guidelines in the rule of law area and the economic context. World Bank researchers have developed a series of indicators which classify countries according to governance quality by aggregating data from multiple sources available. Global indicators of governance corroborate perceptions of a significant number of corporations, citizens and experts who participated in the research in industrialized countries and in developing economies (Ramanujam et al., 2012).

The worldwide governance indicators are a long-standing research project to develop cross-country indicators of governance. The indicators are based on more than 30 individual data sources produced by a variety of research institutes, think tanks, NGOs, international organizations and private sector companies. They are based on 340 variables produced from 32 different sources, including providers of commercial information, studies of firms and households, non-governmental organizations and public sector organizations. The indicators defined by Kaufmann et al. (2007) are grouped into 6 categories, as follows:

1. *Voice and Accountability (VA)* is measuring the perception of a country's citizens being able to participate in choosing their government, freedom of expression, freedom of association and a free media.
2. *Political Stability and Absence of Violence (PV)* is measuring the perceptions of the likelihood that the government shall be destabilized or overthrown by unconstitutional or violent means, including political violence and terrorism.
3. *Government Effectiveness (GE)* is measuring the quality of public services and the degree of independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
4. *Regulatory Quality (RQ)* is measuring perceptions of the government's capacity to formulate and implement sound policies and regulations that allow and promote private sector development.
5. *Rule of Law (RL)* is the evaluation of perceptions regarding the extent to which agents have confidence in and abide by the rules of society, in particular, the quality of contract enforcement, the police, the courts and the likelihood of crime and violence.
6. *Control of Corruption (CC)* is the analysis of perceptions regarding the extent to which public power is exercised for private gain, including petty and serious forms of corruption, and state "confiscation" by elites and private interests.

There are several studies on the relationship between institutional structure, its characteristics, and the economy. These studies change according to the income status, institutional structure and the economic performance of the countries. In the studies performed by Kaufmann et al. (1999) on a sample of 150 countries, the scholars found out that there is a serious cause and effect relationship between rule of law and income per capita, literacy and infant mortality rate. Income per capita gap may be 3 times more in the countries not implementing the rule of law principles compared to the countries implementing it.

Nobel-winning economist North (1990, pp.97-112) who believes that short-term economic growth is possible without the rule of law requirement, argues that to provide long-term economic growth especially in dictatorial regimes, development in rule of law issues is required since North states that lack of property protection rights prevents capital investments which would help economic growth.

Furthermore, Keefer and Knack (2000) and Hall and Jones (1999) claim that there is a close and positive relationship between property rights and economic growth. Protecting property rights, taking them under the state guarantee and thus the increase in investment demand positively affect the economic growth as it is in technological and other various innovations.

Valeriani and Peluso (2011) made a panel data analysis for 181 developed and developing countries. As a result of the analysis, the authors stated that institutional quality has a positive effect on economic growth in developed and developing countries. Hence, generally, it can be concluded that with the rule of law increase in a country, social welfare and per capita income really increases in that country.

A number of studies in this field have used indicators in statistical analysis to explore the possible relationship between governance and growth: Neumayer (2002), Kaufmann and Kraay (2007), Meon and Sekkat (2005).

It is quite difficult to approach a comprehensive analysis because of the differences in public policy but also in countries development (Rigobon & Rodrik, 2004). Moreover, there are large differences between countries in terms of natural resources, regarding political or legal rules (Kahneman & Deaton, 2010, pp.1-5). Countries that have legal protection for investors, allowed the development of sophisticated financial markets, which increased the economy's ability to bear risks (Barro, 2003). Differences in the legal system or the degree of economic development are only part of the explanation.

In the presence of the factors such as corruption prevention and freedom of expression, the institutional structure has a significant impact on the economic growth. North (1990) defines institutions as: *"Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction"*. Institutional structure contributes to economic growth by providing use of resources in productive and efficient areas. Besides, corruption prevention, transparency, and accountability are also significant for the institutional structure to function efficiently and effectively. Rule of law principle, which is the cornerstone of democracy, is the greatest assurance needed by people both individually and as a society.

Dataset and the model

The variables used in this study cover the rule of law index, control of corruption index and government effectiveness index. Concerning the dataset used in the research paper, the authors analyzed 6 indicators for 181 countries that have been extracted from the website www.govindicators.org, and belong to the period 2004 - 2016. In the World Bank database, the aggregate indicators are reported in two ways: (1) in their standard normal units, ranging from approximately -2.5 to 2.5, and (2) in percentile rank terms from 0 to 100, with higher values corresponding to better outcomes.

A key feature of the WGI is that all country scores are accompanied by standard errors. These standard errors reflect the number of available sources for a country and the extent to which these sources agree with each other (with more sources and more agreement leading to smaller standard errors). These standard errors reflect the reality that governance is difficult to measure (Broda & Weinstein, 2004) using any kind of data.

To exemplify the data used in the study, the Figure 1 below presents the WGI evolution for Romania. Data representation for one country only provides a picture of the data used in the study. In a later white paper, the authors will perform comparative analyzes on the indicators evolution for different countries that will use qualitative analyzes of the particular causes that led to the indicators evolution.

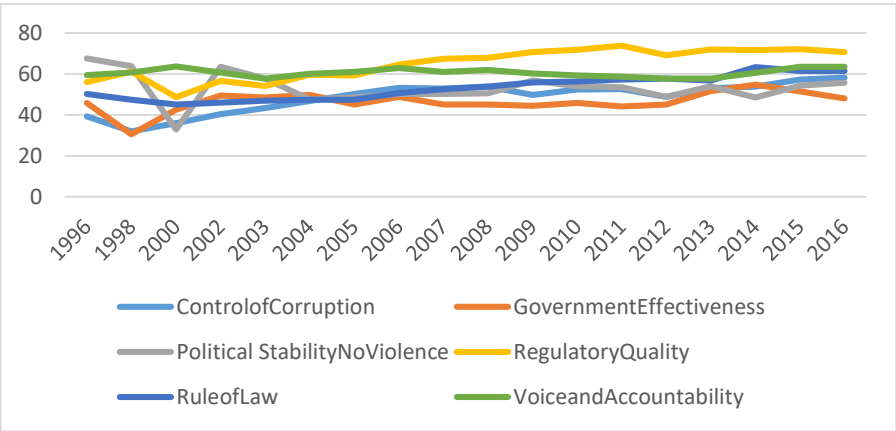


Figure 1. Evolution of WGI for Romania (Source: authors own research results)

To achieve the paper objective, the authors will only analyze the countries where the trend of corruption control is significant and only for these states will be analyzed the influence on government effectiveness. We shall further consider the differences between control of corruption, government effectiveness, and rule of law and their evolution for the group of countries that have a significant corruption control trend. For the example considered, the results are presented in Figure 2 below.

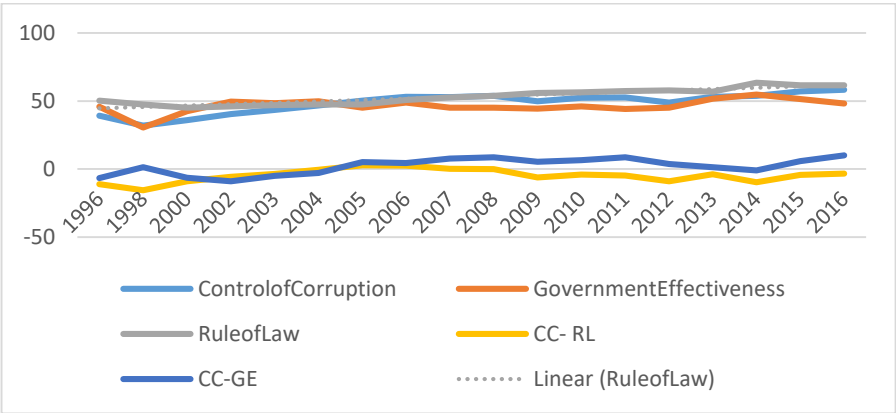


Figure 2. Control of corruption, government effectiveness and rule of law evolution (Source: authors own research results)

In the first stage of the data analysis, the authors transformed each indicator's evolution according to the linear regression parameters compared to the calendar year $y = ax + b$ (represented by the dotted lines in Figure 3 below).

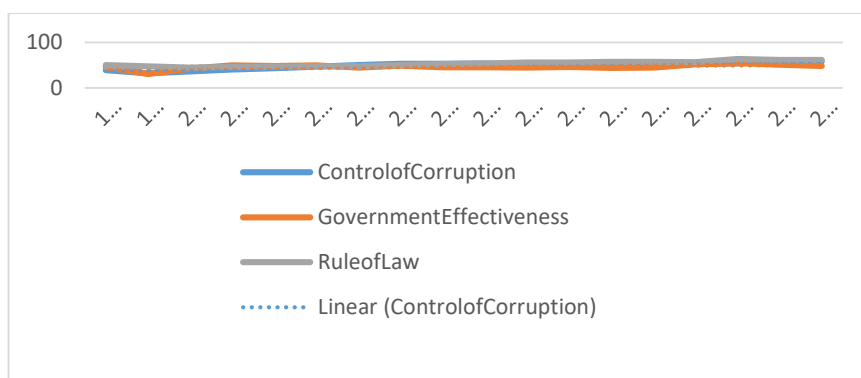


Figure 3. Control of corruption, government effectiveness and rule of law trend (Source: authors own research results)

Furthermore, the authors have numerically determined the coefficients (a) and (b) using specific spreadsheet calculation. Regarding the regression coefficient (a), the authors used the slope function which returns the slope of the linear regression line through data points in known_y's and known_x's. The slope is the vertical distance divided by the horizontal distance between any two points on the line, which is the rate of change along the regression line. As regards the (b) coefficient, the authors used an intercept function that calculates the point at which a line will intersect the y-axis by using existing x-values and y-values. The intercept point is based on a best-fit regression line plotted through the known x-values and known y-values.

Also, a third element considered was given by the indicators average that have the significance of a level indicator (for Romania this indicator is around 50%). The determinant coefficient that reveals the trend has been analyzed using the function RSQ which returns the square of the Pearson product moment correlation coefficient through data points in known_y's and known_x's. Accordingly, for each country, it is drafted a table highlighting the specific information.

In Table 1 below are presented the indicators: slope, intercept, average and RSQ for Romania. Similarly, the calculation below was performed for all the other 181 countries.

**Table 1. Calculation of WGI indicators trends
(Source: authors own research results)**

Romania	Slope	Intercept	Average	RSQ
Control of Corruption	1.108387	-2176.16	48.55555259	0.776413877
Government Effectiveness	0.447473	-851.684	46.46856615	0.269475244
Political Stability No Violence	-0.27281	600.819	53.24547746	0.043802454
Regulatory Quality	1.100658	-2144.33	64.87697199	0.729839274
Rule of Law	0.885221	-1723.54	53.24967024	0.792138608
Voice and Accountability	0.010938	38.64605	60.59955703	0.001058221

The table analysis reveals the following graphical representation of the functions (Figure 4 below). The graphical analysis highlights an upward trend of corruption control for the periods 2000 - 2005 and 2012 - 2016. If we compare the corruption control against government effectiveness, we notice that for the period 2014 - 2016, although control of corruption increases, government effectiveness is decreasing, even if there is a positive correlation between the two dimensions in the period 2012 - 2016.

The same type of relationship is also noticed in the period 2000 - 2005. The phenomenon defined in the introductory part of this paper can be described as follows: the increase in corruption control makes government effectiveness increase (which confirms Tullock & Becker's theory). The second phenomenon that confirms Sears's experiments took into consideration the cognitive dissonance theory, respectively, that a greater punishment could act as a hindrance due to a lowering effect of citizens' self-motivation to comply with the generally accepted rules.

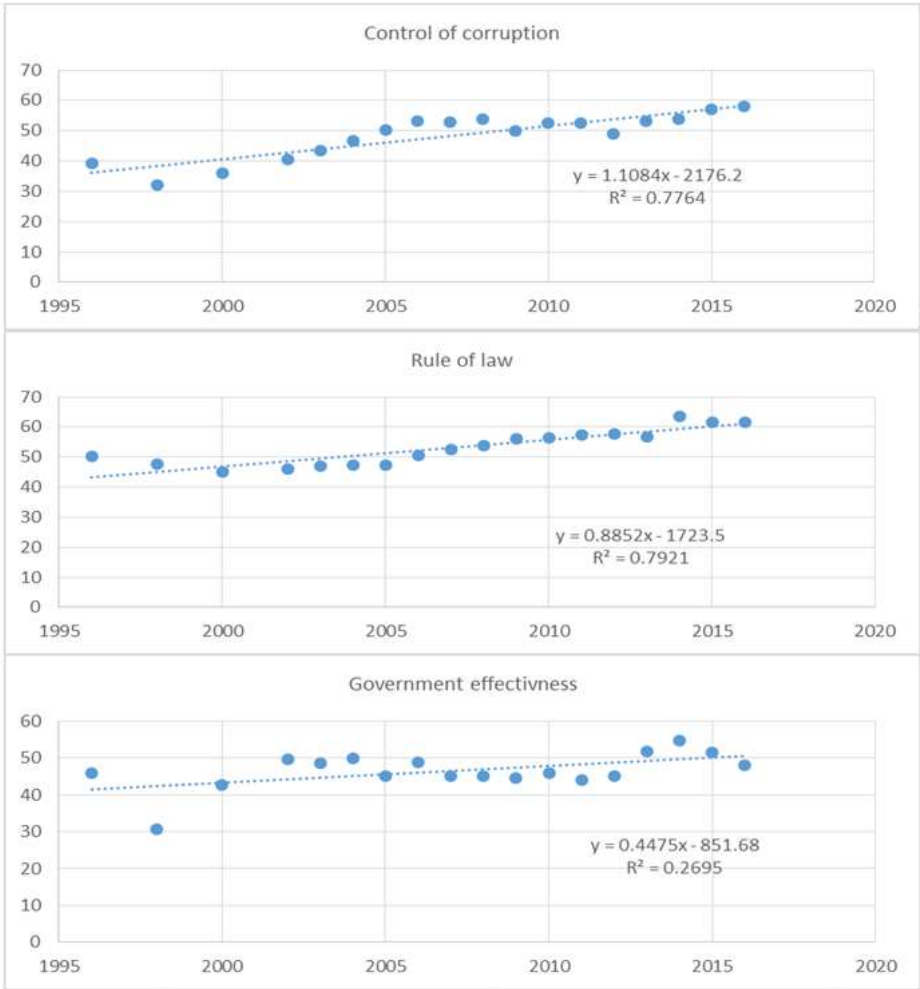


Figure 4. Evolution of WGI indicators for Romania and the regression equation (Source: authors own research results)

This procedure explained for Romania's case was repeated for all the other 181 countries. As we have outlined, in order to formulate an opinion on the influence of significant trends in corruption control, the authors have chosen the cases with a significant trend, respectively the cases where the determinative factor in the corruption control is higher than 0.4, resulting in a low number of states that have met this requirement (32 countries).

Table 2. Regression indicators for the analyzed countries
(Source: authors own research results)

Country	Contr ol of corru tion _a	Control of corruption _b	Control of corruption _average	Contr ol of corru ption _determi na nt coeffi cient	Rule of law_a	Rule of law_b	Rule of law_av erage	Rule of law_de termin ant coeffi cient	Government effectiv ness_a	Government effectiv ness_b	Government effectiv ness_averag e	Government effectiv ness_de termina nt coeffi cient	(trend cc - trend ri)/trend cc	(trend cc - trend ge)/trend cc
Mauritania	-1.36	2771.01	31.58	0.49	-1.12	2268.77	25.71	0.69	-2.59	5233.70	30.92	0.73	-40.58%	165.51%
Libya	-1.26	2537.22	11.82	0.85	-0.68	1387.93	13.63	0.41	-0.87	1762.30	10.83	0.72	52.28%	205.16%
Eritrea	-3.50	7062.92	41.16	0.96	-1.90	3834.54	15.11	0.82	-0.86	1728.66	9.80	0.58	14.30%	130.53%
Venezuela	-0.98	1973.02	12.10	0.71	-1.48	2979.36	7.83	0.82	-0.85	1717.29	14.96	0.62	-15.22%	141.64%
Lebanon	-1.23	2488.91	24.82	0.71	-1.37	2775.26	33.19	0.81	-0.78	1615.56	45.19	0.75	-13.91%	155.25%
Greece	-1.14	2349.00	63.24	0.73	-1.02	2125.31	71.91	0.76	-0.76	1601.17	71.38	0.83	-4.45%	181.01%
Hungary	-0.85	1776.15	70.54	0.82	-0.70	1480.24	75.64	0.58	-0.70	1484.36	75.42	0.82	29.77%	217.51%
Italy	-0.83	1732.74	65.58	0.70	-0.94	1953.76	67.64	0.69	-0.66	1393.90	70.40	0.45	2.02%	147.60%
Gambia	-0.95	1944.96	32.57	0.56	-1.29	2628.15	39.43	0.78	-0.65	1341.67	30.13	0.45	-40.22%	134.60%
Spain	-0.92	1925.40	82.88	0.64	-0.51	1108.08	85.47	0.82	-0.56	1209.35	85.01	0.36	-27.68%	170.99%
Mongolia	-1.35	2748.46	39.11	0.50	-0.90	1850.26	48.77	0.66	-0.54	1115.77	39.97	0.22	-32.47%	124.34%
Kuwait	-1.49	3062.64	65.63	0.73	-0.54	1150.49	65.27	0.62	-0.50	1069.97	56.62	0.34	14.75%	162.95%
Sudan	-0.62	1253.85	7.49	0.43	0.38	-763.75	6.28	0.72	-0.32	650.86	8.13	0.38	-69.03%	0.68%
Syrian Arab Republic	-1.19	2402.41	14.86	0.51	-1.77	3579.30	24.68	0.63	-0.28	585.21	17.34	0.02	-25.03%	101.39%
Uganda	-0.64	1308.22	19.65	0.77	0.77	-1502.17	39.41	0.63	-0.23	502.07	36.39	0.09	18.36%	88.02%
Trinidad and Tobago	-1.33	2734.59	56.96	0.79	-0.96	1980.71	55.06	0.67	0.04	-18.61	63.34	0.00	14.56%	100.45%
Thailand	-0.56	1165.86	45.71	0.41	-0.97	2010.89	55.32	0.68	0.07	-74.23	63.89	0.03	-67.24%	102.65%
Liberia	1.77	-3531.42	19.79	0.65	1.26	-2525.25	12.50	0.76	0.39	-771.30	6.50	0.70	-15.42%	44.97%
Estonia	0.60	-1116.18	81.02	0.71	0.99	-1899.63	81.75	0.77	0.41	-740.42	79.78	0.47	-7.46%	52.47%
Romania	1.11	-2176.16	48.56	0.78	0.89	-1723.54	53.25	0.79	0.45	-851.68	46.47	0.27	-2.03%	69.56%
Qatar	0.96	-1842.85	77.15	0.51	1.31	-2559.77	69.85	0.82	0.49	-902.56	73.10	0.48	-61.14%	63.46%
Croatia	1.00	-1957.05	57.63	0.43	1.36	-2668.64	55.88	0.81	0.59	-1115.50	68.55	0.75	-89.23%	44.67%
Latvia	0.61	-1164.11	63.75	0.58	1.05	-2040.62	70.10	0.88	0.70	-1332.00	72.67	0.71	-52.19%	32.62%
Zambia	1.12	-2218.06	37.40	0.88	0.50	-957.95	40.39	0.49	0.97	-1915.75	24.72	0.65	45.00%	-30.51%
Indonesia	1.31	-2609.13	24.99	0.66	0.71	-1402.72	30.97	0.43	1.09	-2149.01	43.11	0.70	34.61%	2.57%
Azerbaijan	0.59	-1180.82	10.81	0.61	0.79	-1561.93	22.17	0.73	1.48	-2937.12	27.00	0.70	-20.75%	11.07%
Albania	0.98	-1942.65	28.22	0.67	1.19	-2353.11	33.36	0.80	1.51	-2996.82	40.43	0.87	-19.17%	26.67%
Macedonia	1.48	-2917.52	44.93	0.68	0.69	-1332.95	43.60	0.50	1.65	-3268.79	47.04	0.79	26.18%	-15.43%
Kazakhstan	0.53	-1041.95	16.26	0.71	1.31	-2602.13	24.20	0.81	1.73	-3435.64	35.39	0.81	-14.05%	38.30%
Serbia	2.14	-4263.30	38.29	0.75	2.40	-4787.44	34.01	0.93	2.20	-4379.60	43.57	0.82	-24.44%	65.89%
Rwanda	2.85	-5664.01	54.15	0.91	2.92	-5819.96	34.50	0.97	2.49	-4953.58	41.07	0.81	-6.54%	72.07%
Georgia	3.89	-7768.99	47.86	0.89	3.07	-6123.09	40.08	0.94	2.76	-5487.02	52.76	0.86	-6.15%	72.06%

For the data of the countries with a significant trend in corruption control, the authors analyzed the correlation of the indicators evolution described above. Basically, this research stage provides an opinion on the growth indicators correlation. Table 3 below presents the correlation analysis that determines the relationships between the data analyzed (a coefficient close to 1 indicates a direct correlation, a coefficient close to -1 an inverse correlation and a coefficient close to 0 signifies a lack of correlation).

Table 3. Correlation analysis (Source: authors own research results)

	control of corruption_a	control of corruption_b	control of corruption_average	control of corruption_determinant coefficient	rule of law_a	rule of law_b	rule of law_average	rule of law_determinant coefficient	government effectiveness_a	government effectiveness_b	government effectiveness_average	government effectiveness_determinant coefficient	(trend cc - trend rl)/trend cc	(trend cc - trend ge)/trend cc
control of corruption_a	1.00													
control of corruption_b	-1.00	1.00												
control of corruption_average	0.06	-0.05	1.00											
control of corruption_determinant coefficient	0.12	-0.12	0.09	1.00										
rule of law_a	0.92	-0.92	0.09	0.16	1.00									
rule of law_b	-0.92	0.92	-0.08	-0.16	-1.00	1.00								
rule of law_average	0.00	0.00	0.92	-0.06	0.01	-0.01	1.00							
rule of law_determinant coefficient	0.29	-0.29	0.21	0.00	0.38	-0.38	0.06	1.00						
government effectiveness_a	0.86	-0.86	0.00	0.25	0.85	-0.85	-0.05	0.30	1.00					
government effectiveness_b	-0.86	0.86	0.01	-0.25	-0.85	0.85	0.06	-0.30	-1.00	1.00				
government effectiveness_average	0.12	-0.11	0.88	-0.09	0.13	-0.12	0.94	0.18	0.07	-0.06	1.00			
government effectiveness_determinant coefficient	0.44	-0.44	-0.05	0.31	0.42	-0.42	-0.18	0.20	0.35	-0.35	-0.05	1.00		
(trend cc - trend rl)/trend cc	-0.06	0.06	-0.07	0.80	-0.09	0.09	-0.07	-0.57	0.04	-0.04	-0.16	0.13	1.00	
(trend cc - trend ge)/trend cc	-0.63	0.63	0.22	0.14	-0.62	0.62	0.22	-0.03	-0.69	0.70	0.17	-0.13	0.13	1.00

The government effectiveness (government effectiveness_a) slope is directly dependent on the corruption control slope and the rule of law slope, which confirms Tullock's sanctions theory. Thus, the increase in corruption control leads in the short term to increased government effectiveness. Likewise, it can easily be noted that the difference between the rule of law trend and government effectiveness (-0.63) is influenced in the opposite direction by the corruption control and rule of law trend, which means that when the legislator is trying to increase corruption control without the simultaneous increase of the rule of law there is a reverse effect on the increase in governmental effectiveness. This confirms Sears and Akerlof's theories and reveals the fact that a great difference between corruption control and the rule of law leads to a decrease in government effectiveness.

This issue is also evidenced by another advanced statistical analysis using the classification and regression trees. The analysis tool used in this research is CHi-squared Automatic Interaction Detection (CHAID). CHAID algorithm is a type of decision tree developed and introduced by Kass in 1980. The algorithm can be used for prediction, classification, and also establishing relationships among the various factors (Baltagi, 2001, pp.4-9). Decision trees usually provide simple and understandable results. One of the advantages of this algorithm is also the simplicity of results to understand and interpret. CHAID algorithm can be used for grouped qualitative and quantitative variables (Han, Kamber & Pei, 2011, pp.15-116).

In order to analyze the influence of the dynamics differences between control of corruption and rule of law, the authors defined an aggregate indicator given by (corruption control trend – rule of law trend) / control of corruption trend. Using the

CHAID algorithm for the panel data and considering the government effectiveness slope as the explained variable it can be noticed that in the particular case of countries with declining government effectiveness this issue is caused by the significant difference between rule of law and control of corruption.

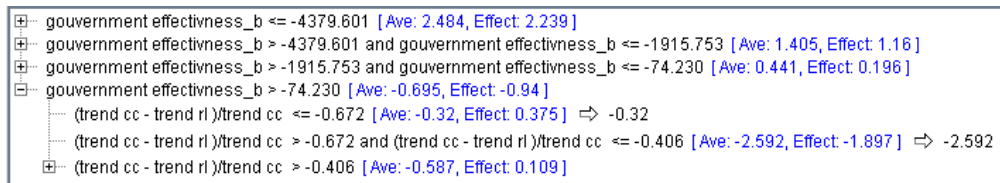


Figure 5. CHAID classification trees (Source: authors own research results)

CHAID classification trees complete the covariance analysis with the conclusion that government effectiveness is also dependent on the difference between corruption control and rule of law trend.

The study highlights the complementarity of the effects of the anti-corruption measures that lead to an increase in short-term governmental efficiency. In the long run, if the government's measures are not accompanied by the rule of law acceptance, their effectiveness may be reduced.

Conclusions

The paper explains why the fight against corruption is sometimes difficult to sustain in the long run mainly due to the fact that the increase in corruption control is conditioned by its acceptance by all the population. If the goal of a public policy is to increase government effectiveness in the short term, then the increase in corruption control should be considered as a measure. If governments propose to maintain the trend of increasing government effectiveness, they should also consider the second component that is given by the rule of law growth as acceptance and cognitive consonance with laws and norms.

The study confirms the cognitive dissonance theory in determining the effectiveness of sanctions policies, such as that of Akerlof and Dickens (1982), based on Sears's experiments. Thus, a positive evolution of government effectiveness is due both to the sanctions policy rise, but also to the internal decision not to commit an illegal act, which rests in the rule of law and rules trust rather than in the severity of the sanctions policy.

The results of the research lead to the conclusion that the growth rate of corruption control should be correlated with the rule of law growth to achieve a maximal government effectiveness rhythm.

The limits of the paper are given by the limitations of the indicators used and of the analysis tools that only provide evidence of some indicators. The error margin of the indicators used in the quantitative analysis is high. Therefore, in subsequent studies, the authors will also analyze the qualitative aspects related to the countries analyzed using open data sources of information to substantiate the conclusions. Moreover, in future research, the authors will use other data mining algorithms such as neural networks to provide a suitable quantitative model and will present in a white paper the specific

particularities for various countries. Likewise, other variables will be included in the model, which will be defined according to the size of GDP or GDP/capita.

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SUSTAINING E-PARTICIPATION FOR PUBLIC VALUE CREATION

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Abstract. *Technology helps public organizations to sustain democracy restoring public trust, promoting public interest and fostering citizenship and collaboration in order to uphold participation in front of citizens that feel to be unheard and disenchanted by traditional representative and democratic institutions. Public institutions are facing the challenge of dealing with a mixed polity embracing elements of representative and direct democracy in virtue of democratic and participatory potential of information and communication technologies (ICTs) that contribute to driving public institutions and citizens to act as active co-producers of social, democratic and public value. Sustainability of public organizations relies on embracing information technology as a source that enables to connect public administration with citizens opening up to civic contribution and participation of civil society and people in order to make effectively participatory and democratic government agencies and public administration that meet the needs of citizens.*

Keywords: *information and communication technology; democracy; participation; public value; sustainability of public organizations.*

Introduction

The advent of information and communication technologies (ICTs) helps public organizations to sustain public trust, promote the public interest and encourage an active citizenship and collaboration by enhancing the interaction citizens-government in order to foster democratic participation (Denhardt & Denhardt, 2003; Vigoda, 2002).

As institutions having to cope a growing disengagement of citizens, public organizations should pay attention to causes of the decline of public trust by embracing the Internet and introducing ICTs in order to connect public administration with people, to communicate with citizens and to support the structures of democracy by enhancing participation of citizens as a means for creating and maintaining public value. ICTs contribute to sustaining the dialogue and partnership between citizens, clients, public organizations and various stakeholders as active co-producers of social, democratic and public value (Moore, 1995).

The aim of this paper is to elucidate how ICTs help to drive public organizations to behave as responsive and collaborative institutions proceeding towards sustainability by strengthening forms of democracy and encouraging the participation of citizens engaging them in contribution to public policies choices ranging from information to active participation for upholding the values of democracy.

This study is based on archival and qualitative data by the analysis and review of literature on the public sector investigating how new technologies help promoting democracy and participation connecting citizens with public administration.

The paper is structured as follows. Following the introduction, the role of information technology within public organization seeking sustainability is elucidated. In the second section, revitalizing democracy by information technology is elucidated. In the third section, after defining e-participation and elucidating different stages of e-participation, ICTs help to rediscover democracy and support participation as support to wealth of communities and source to reinforce citizenship, to support digital empowerment. Finally, discussion and conclusions follow.

The information and communication technology helps sustainable public organizations

Public organizations contribute to sustaining democratic life by maintaining public trust underlying democracy (Goodsell, 2006) and facilitate sustainable solutions (Bourgon, 2007). Public organizations should have to serve the public interest as result of dialogue with citizens based on shared values, leadership and respect for people developing policies through a process of effective collaboration with citizens as partners opening to learning and change by interacting with citizens (Denhardt & Denhardt, 2003; Denhardt & Denhardt, 2001; Vigoda, 2002; Bryer, 2006).

While e-government refers to use of information technology to improve the efficiency of government services provision to citizens (West, 2004), e-governance refers to the use of ICTs to support democratic processes, to improve interaction and relationships between government and citizenry fostering transparency, participation accountability (Dawes, 2008; Bannister & Connolly, 2012). Technology has made possible greater access to the policy process as result of dialogue and shared values by enhancing quality of citizens' participation (Denhardt & Denhardt, 2000). Investigating the concept of sustainability and analyzing how the information technology can help sustainability in government is an emerging theme (Fiorino, 2010; Janowski & Estevez, 2013; Larsson & Grönlund, 2014; Larsson & Grönlund, 2016).

Technology enables public organizations as open, responsive institutions that enforce democratic public values as impartiality, equity, honesty and fairness of government (Cordella & Bonina, 2012), serve the interest of citizens (La Porte, Demchak & Jong, 2002) and involve citizens in policy-making to restore public trust (Moon, 2002; Tolbert & Mossberger, 2006).

ICTs lead to new forms of governmental legitimacy and spaces of governance (Navarra & Cornford, 2012). ICTs contribute to providing citizen-centred services and access to information as public key resource of government (Brown, 2005) improving quality of services and fostering participation in democratic processes (Fang, 2002).

Revitalizing democracy by information technology

Technology helps democracy to evolve and involve people, organizations and public institutions to develop democratic mechanisms of governance and participation (Denhardt & Denhardt, 2003), leading to decentralized representative systems (Zittel,

2003), making accessible data and information about parliamentary institutions and legislative process, leading citizens to exert influence on policy making (Grönlund, 2001) to approach their parliamentarians before the vote (Milakovich, 2010).

Technology helps to enhance the quality of democratic governance by providing better information to citizens (Kakabadse, Kakabadse & Kouzmin, 2003). Technology opens access to information and enhances lateral communication among citizens leading to direct and strong democracy (Barber, 1999). The information technology is deployed to improve the effectiveness and efficiency of democracy that requires both a flow of information citizenry-government and effective citizen participation in the political process (Watson & Bundy, 2001).

Technology helps to develop democratic processes providing information for engaging in deliberation and participating in decision making (Tsagarousianou, 1999) enabling new forms of publicness within a public sphere (Tsagarousianou, 1998). Models of democracy in the information era tend to develop along a *continuum* in which the parliamentary chain of steering may play a critical part or new kinds of democratic practice are pointed (Bellamy, 1999).

E-democracy should contribute to sustaining dialogue and facilitating ongoing civic participation (Freeman & Quirke, 2013). E-democracy initiatives and projects may take different shapes confirming that technological and democratic linearity does not exist (Grönlund, 2003). ICTs serves as an easy way to reconcile the disconnection between people and governmental institutions and foster the public voice (Cavanaugh, 2000). ICTs help to improve the quality of information exchange government-citizens and strengthen participation by involving citizens in decision-making processes within deliberative and strong democracies in which citizens participate in the discussion about public affairs (Åstrom, 2001; Päivärinta & Sæbø, 2006).

Parliamentary institutions as symbols of political integration, representation and accountability (Raab & Bellamy, 2004) should embrace new technologies to reinvigorate representative democracy connecting to the public avoiding to become marginalized institutions that merely ratify what political executives or government parties decide (Bellamy, 2003).

The use of information technology can appear as illusionary in emphasizing the role of citizens as effective decision maker (Fuchs, 2009) and rhetorical to oppose civic engagement (Mahrer & Krimmer, 2005) coherently with a managerial model of interaction between government and citizens as customers (Chadwick & May, 2003) that helps to reinforce existing patterns of authority, influence (Rethemayer, 2006) and social structures (Parvez & Ahmed, 2006).

Sustaining e-participation: a definition

Political systems should contribute to sustaining democratization by improving participatory, deliberative and direct forms of democracy that help quality and equality of deliberation (Anttiroiko, 2003). The role of technology is to increase amounts of informal communication for sustaining the creation of social capital in communities as factor encouraging public participation (Komito, 2005).

E-democracy as the use of ICTs to support the democratic decision-making processes, relates to e-participation as knowledge, interactive and collaborative process. «Electronic participation, or eParticipation, is the use of ICT to facilitate political participation by enabling citizens to communicate with each other, civil society, their elected representatives and their government. Much more than government simply consulting citizens through surveys and petitions, eParticipation actively involves citizens in the policy process so that they can raise issues, modify agendas and change government initiatives» (Davies, 2015, p.19). According to Tambouris et al. (2015) e-participation can be defined as the participation using ICT as the only channel or alongside other non ICT channel, relating mainly to policy and decision-making for political or public policy purposes, as embedded in particular governance regimes, in the context of different political cultures, having direct impact and relations to policy goal and democracy.

It is important to consider different levels of e-participation and appreciate the value of e-participation as public policy and support for wealth of communities and means for sustaining citizenship and digital empowerment.

Understanding the levels of e-participation

Citizens can be better informed and included in decision making processes using technology that enable public participation to policy debates and consultation. Different levels of participation are elucidated in the literature about the use of ICTs for participation.

According to Macintosh (2004) three levels of participation are identified: e-enabling to support the access to the internet taking advantage of the large amount of information available; e-engaging as concerned with consulting a wide audience to enable contributions and support debate on policy issues; e-empowering to support active participation of citizens as producers of policy and facilitate bottom-up ideas emerging and exert influence on the political agenda and policy formulation. according to a growing scale over time in relation to OECD framework (2003) to take part in the decision-making and influence the policy agenda: *information* as a one-way relationship in which government make available information for citizens; in the *consultation* level citizens are encouraged to contribute their views on a particular issue; in the *active participation* citizens are empowered by actively participating in the policy making process (partnership).

Tambouris et al. (2015) identify five levels of participation between one-way or two-way channels: e-informing as prerequisite for citizens willing to contribute and e-involving as the one-way channel for providing information on policies ensuring that public concerns are considered; e-consulting and e-collaborating as a two-way channel for collecting public feedback, for a partnership with citizens actively participating in the developing alternatives and preferred solutions; e-empowering for implementing what citizens decide

ICT tools (ranging from web portals to consultation platforms, e-petitioning systems as examples) can be implemented to change or reinforce parliamentary institutions governed by path depth processes, support more participatory forms of citizenship and facilitate a two-way dialogue reinforcing participatory forms of citizenship and public

involvement based on a two way dialogue. Web portals help to bridge representation and communication functions. E-petitioning system are citizenship oriented and focus on interaction between citizens and public institutions like e-consultations (representation oriented) (Pratchett, 2007).

Towards e-participation as public policy and support for wealth of communities

E-participation initiatives should empower citizens for stimulating contribution to greater cohesiveness and inclusion within communities (Ahmed, 2007). ICTs support e-democracy and contribute to encouraging participation of citizens in policy making (Sæbø, Rose & Flak, 2008) facilitating a way of communication between citizens and politicians (Trechsel, Kies, Mendez & Schmitter, 2003).

Online citizen participation can enrich democratic processes and build public trust by enabling public agencies to receive broader and more diverse opinions from citizens than those available through traditional means of off-line participation. During the last decade within developed countries governments have developed policies to support e-participation initiatives to engage the citizen in decision-making processes in order to fight political apathy by increasing transparency and accountability.

New forms of electronic communication help to support democratic commitment of people that tend to rediscover public values and believe that participation of community will be related to government policies that encounter the will of people (King, 2006). The Internet provides a means of seeking the views of constituents on public policy and for improving the policy process. Internet-based petitions can be interpreted as a response to declining trust of citizen in political system (Lindner & Riehm, 2008).

Information technology offers citizens greater opportunities for to participate in decision-making processes at all levels because participation of citizens in political decision-making is considered a core aspect of modern democracy. Social sustainability relying on the widespread contribution of citizens in every area implies to develop models of democratic engagement and embed participation in the organizational and cultural infrastructures of modern governance systems. Thereby, public institutions should develop models of democratic engagement and embed in participation within organizational infrastructures of governance systems (Molinari, 2010), search the feedback of citizens about legislation or policies (Östling, 2011).

Sustaining citizenship and digital empowerment

E-democracy relies on the capacity of new communication environment to enhance degree and quality of public participation in government (Kakabadse, Kakabadse & Kouzmin, 2003). Participation serves important democratic values: legitimacy, justice and the effectiveness of public action (Fung, 2006).

Sustaining participation as pillar of representative democracy helps to contrast with some democratic deficits emerging in the last few decades: a growing apathy of citizens in front of the politics and democratic institutions; an increasing number of people turning away from politics and feeling unheard or abandoned by representative democracy and traditional intermediaries; declining voter turnouts; decreasing membership in political parties. In the Council Regulation (EU) No. 390, 14 April 2014

Establishing the 'Europe for Citizens' programme for the period 2014-2020 the European institutions should contribute to sustaining the European citizenship by improving conditions to ensure and strengthen civic and democratic participation and engagement by developing citizens' understanding of the EU policy making-process. Introducing ICTs can help to reinforce the European Union citizenship and enhance forms and tools for increasing civic engagement and citizens' participation in the democratic life and public affairs.

ICTs contribute to mobilising people from passive to active attitude, moving services from being 'user-centric' toward 'user-driven', and contribute to transform societal and political approach from 'government for people' into 'government by people'. Digital empowerment of citizens as paradigm of good governance relies on e-participation tools that lead the citizen to acquire digital skills to participate in public life.

ICTs do not ensure effective deliberative participation without engaging and including citizens in the political decision making (Rose & Sanford, 2007). There are no clear guidelines that direct and effectively contribute to implement a sustainable participatory process (Islam, 2008) even if ICTs contribute to increasing the effectiveness of e-participation initiatives (Phang & Kankanhalli, 2008).

Democratic institutions should provide sources for digital literacy and an equalized access to technology in order to include and drive people into political and democratic decision-making processes (Krueger, 2002; O'Donnell & Henriksen, 2002) searching for and effective and valuable citizen involvement and engagement an listened about their preferences on policymaking (Cardoso, Cunha & Nascimento, 2006).

Conclusions

Reinventing public administration for driving change relies on managing strategically the potential of new information and communication technology as a source that supports public organizations and people to rediscover democratic values and democracy as efficient and effective form of organizing public life that enables the creation of public value within communities. As institutions embracing and using information technology to make more transparent administrative processes, public organizations tend to search for effective involvement and participation of citizens and people to constructing the *res publica* as a driver of change and value creation within society.

ICTs offer public administration opportunities for connecting and reconciling with citizens by structuring new forms of democracy and enhancing the active participation of citizens as means and source to create public value within communities. New technologies drive public organizations to engage an aware and active citizenship for policy contribution.

The main contribution of this study is to provide an interpretive framework in order to identify the trajectories leading public organizations and citizens to move towards forms of participation that enable public value creation. Public institutions should use ICTs in order to revitalize democracy and enhance democratic values that emerge in effective and sustainable participation of citizens in policy making and in public life. Public institutions should support free access to data and information as public source

for enabling public value creation within communities. Public institutions should promote initiatives to remove the obstacles and barriers that impede to citizens to access the information as source that enables involvement and participation. Revitalizing democracy by use of ICTs relies on sustaining participation of citizens in policy choices and decision-making processes. Thereby, citizens should have access to information, have opinions, interact with institutional representative and government organizations within constitutional system. Citizens should be educated and trained to be involved in debate and discussion about public policies and problems that interest the community.

Building sustainable public organizations relies on involving and engaging people by embracing technology for rediscovering the values of democracy fostering the participation of citizens in public affairs and policy. Thereby, the design and implementation of e-participation initiatives seems to be still in its infancy. Public organizations strengthening the channels of two-way communication for active participation by embracing an approach based on citizen-centred collaboration have the opportunity to encourage and foster a participatory democracy technology-driven by linking forms of representative and direct democracy as to serve the legitimization function as necessary intermediaries opening up to contribution of citizens through co-production of social and democratic values.

Creating public value implies that public organizations are able to involve and engage citizens to access information, discuss and participate to policy processes and choices. Participation is emerging as a source and public value that enables communities to rediscover the meaning of people living together to have wealth and create public health. Technology helps participation as enabler of value creation processes. Sustaining participation by information technology helps public institutions, businesses and citizens to co-create public value. Participation tends to emerge as a source and driver of value creation within society. Future research perspectives imply to investigate how information technology helps participation within local governments and autonomies.

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E-PARTICIPATION IN RUSSIA AT REGIONAL AND LOCAL LEVEL: VIEW OF THE GOVERNMENT OFFICIALS

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Abstract. *In recent years several e-participation projects have been introduced in some of the major Russian cities. However, there is a view that citizens in most other regions don't have as many opportunities to participate in decision-making processes. The purpose of this paper is to analyze the e-participation practices in regional and local government agencies in the Volgograd region in order to develop measures for improvement of the existing system. The study utilizes the following two methods: analysis of e-participation modes offered by regional and local governments and an expert survey. The survey was completed by 48 regional and local government officials responsible for information policy. The findings can be summarized as follows. All existing regional platforms provide opportunities to give feedback or ask questions related to the city's life. The local government website gives opportunities to participate in surveys that help to accumulate users' opinions and improve the quality of life in the city. On the other hand, the studied platforms do not provide collaborative tools (chat, shared agenda, forum, etc.). Their main aim is to give information, but not to involve citizens in decision-making processes. The experts evaluated the level of e-participation in the Volgograd region and identified the most important challenges. It has been concluded that citizens in the Volgograd region have fewer possibilities to participate in decision-making processes than citizens of the country in general. Among the variety of electronic services developed in Europe and the United States only a few (the least interactive as a rule) exist in Russia at the regional level. The most important problem highlighted by a majority of the experts (75%) is lack of clear and detailed e-participation strategy developed in the region. It has been reported that there is a need for developing this strategy at the regional and local level and citizens should be engaged in this discussion process. The other identified obstacles are the insufficient activity of citizens, lack of transparency in the local governments, and the complexity of e-services. Based on the investigations of this paper the following areas of improvement in this field can be proposed: development of an e-participation strategy in the region with citizen involvement in this process, enhancement of the existing e-participation services proposed by regional and local governments and adoption of new services, development of collaborative tools on existing platforms, simplification of e-services, using benefits of social advertising and social media.*

Keywords: *e-participation; e-services; local governments; e-democracy; public administration.*

Introduction

The main obstacles for the sustainable development of public administration in Russia are lack of transparency of authorities on the one hand and passivity of civil society on the other hand. The wide distribution of information technologies in the field of governance could solve these problems. The concept of e-democracy developed at the

end of the last century in the USA is widely spread nowadays in Russia as well. Federal and local e-government websites have been introduced and are working successfully. Nevertheless, e-democracy includes not only influence of authority on the society by means of information technologies, but also the feedback of the society, its reaction to government decisions and actions also by using electronic communications services.

Over the last 10 years, some government initiatives have been introduced by government bodies and agencies in Russia. There is a view that e-participation initiatives work successfully only in big cities such as Moscow and St. Petersburg whereas citizens of the most other regions do not have many opportunities to participate in decision-making processes.

The purpose of this paper is to analyze the e-participation practices in regional and local government agencies in one of the Russian regions and to develop measures for improvement of the existing system. The paper is structured as follows: Section 2 reviews the e-participation related literature, Section 3 presents the methodology, Section 4 analyses the empirical results obtained and Section 5 presents conclusion and recommendations for improvement in this field.

Literature review

Though the concept of e-participation has become quite popular in recent decades, there is still no single comprehensive definition of this term. It is difficult to understand what this concept includes, as each researcher either tries to create his or her own definition without a regard on the previous contribution or does not give any definition at all (Van Belle & Cupido, 2013). The explanation for this might be that this concept is broad and includes many kinds of activities: not only the most often considered e-voting, i.e., the use of electronic means to participate in the democratic electoral process (Macintosh, 2004), but also many other kinds of participation in governance at all levels: local, regional, national and international, i.e., planning, budgeting, decision-making implementation, evaluating (Grönlung, 2001; Sæbø, Rose, & Flak, 2010).

Based on theoretical consideration and earlier studies we can identify two views on the e-participation concept. Some schools consider e-participation to be a branch of e-government and the result of its development. They define e-participation as the use of electronic technologies for citizens to incorporate their concerns, needs, and values in government decision-making (Bennett, 2015; Bertot, Jaeger & McClure, 2008; Panopoulou, Tambouris & Tarabanis, 2010; Peristeras et al., 2009; Reddick & Norris, 2013). These studies view e-participation as a feedback of e-government, tools which enable communication and cooperation between citizens and public officials. A few researchers are skeptical towards this position and argue that it is not in accordance with some old e-government models. For instance, Layne and Lee's (2001) e-government model includes 4 stages: cataloging, transaction, vertical integration, and horizontal integration. As we can see there is no place for e-participation here.

With the aim to improve and develop the old concept a new e-government model has been developed. Bennett (2015) presents Siau and Long's model including 5 stages, where the fifth stage involves online tools such as e-voting, polling, and surveys to facilitate citizen participation. The authors call it e-democracy, but it also can be indicated as e-participation.

A number of contemporary studies broaden the concept and focus on a human factor in e-participation more than on its technological characteristics. They view e-participation as a way to engage citizens for the purpose to improve government activity and to strengthen representative democracy (Macintosh, 2004). Another aim is to improve communication between government agencies and citizens as well as among citizens themselves. Eccles and Kryus (2010) formulated the principles the connection between an entity and their stakeholders should be based on – collaboration and engagement.

It is in line with the concept of corporate dialog promoted by Bonson et al. (2012) which implies a fair equal relationship between all the participants of the communication process. We find it highly important for Russia where traditionally individuals are perceived as passive consumers of government services. The adoption of digital technologies in government can diminish the significance of the dichotomy of producer and audience (Hanssen, 2008) and increase the role of citizens.

One of the objectives of the study was to investigate and evaluate the e-participation modes and mechanisms offered by Volgograd regional and local governments. It should be noted that there are apparently not so many attempts in the contemporary literature to systematize electronic services and participation modes used by government agencies. The researchers usually concentrate on a few e-participation tools they intend to consider in their studies, but they do not try to summarize all the tools. For instance, Hanssen (2008) investigates and compares four e-participation forms in his research – e-mail, chat-groups, online-meetings, e-debates. Bonson et al. (2012) analyze utilization of technologies Web 2.0 and social media by municipalities. They summarize their data in the table according to their features and utility and demonstrate the newest e-participation tools: widgets, blogs, mashups, social networks etc. Anduiza, Gallego and Cantijoch (2010) investigate three modes of online-participation: contacting officials, donating money, signing petitions. However, the most authors focus on one or two tools and analyze its or their benefits and challenges for using. Van Belle and Cupido (2013) are concerned with using mobile phones as a platform to encourage public participation and engagement. A growing number of researchers from different countries regard examples of e-participatory budgeting adoption in local governance (Alfaro et al., 2010; Lironi, 2016; Matheus et al., 2010; Peixoto, 2009; Sampaio, Maia & Marques, 2011), participatory urban planning by digital tools (Rudd, Malone & Bartlett, 2017; Saad-Sulonen & Horelli, 2010; Wang et al., 2007), online participation in the legislative process (Coleman, 2004; Glencross, 2009; Lironi, 2016).

Based on the recent studies the following e-participation modes can be identified: submitting legislative initiatives; public consultations; evaluation of governments activities; e-budgeting; participatory urban planning; surveys and polls of citizens; e-voting; e-petitioning; e-referenda.

Most of these modes have been used to some extent in some of the Russian cities. Analysis of regional and local practices could be of a particular interest to compare and contrast the Russian experience with the situation in other countries. Therefore, this paper investigates finding and challenges of e-participation in Russia in view of the presented issues.

Methodology

Our strategy was a combination of qualitative and quantitative research. To achieve the main purpose this study utilizes the following methods.

1) Analysis of e-participation services proposed by regional and local governments. Data were collected by doing an analysis of the official websites of the Volgograd region local governments to obtain information about opportunities and channels they provide for citizens to participate online. The services were investigated according to the developed criteria: information related to the main aspects of city life, feedback, initiator of creation, timely updating, the simplicity of the graphic interface and navigation system, accessibility for citizens, possibilities to participate in decision-making processes through the sites.

2) The quantitative analysis was supplemented by a questionnaire expert survey [N=48]. This research tool is known for its sufficiently valid and reliable results and provides opportunities for researchers to study topics for which there is only scarce information (Hooghe et al., Bakker, 2010). A questionnaire was drafted to be filled by the experts. The survey was completed by 48 regional and local government officials responsible for information policy. The aim was to investigate their attitude towards citizen participation. The questions were selected based on the preliminary analysis of literature focused on e-participation practices in Russia and abroad.

The developed questionnaire consisted of four blocks: e-democracy situation in Russia and the Volgograd region, the most popular forms and sectors of e-participation, problems, and obstacles that might limit access to e-participation initiatives, actions of local governments to solve these problems. The respondents had the opportunity to complement their answers with written comments. To achieve the most reliable results the survey was conducted face-to-face. The meetings were organized during fall and winter 2017-2018.

Findings

E-participation tools on the regional and local government platforms of Volgograd

All e-participation platforms can be divided into two groups: initiated by governments and created by citizens. In Volgograd, only the examples of the first group can be found. In 2012 E-government of the Volgograd region was created with the ultimate aim to establish a united information space and infrastructure for successful communication between government and citizens. The objectives were also to facilitate transparency of government agencies and establish online liaison offices where every citizen could receive feedback from a local official. Thus, according to the plans, only two levels of e-participation were intended to be implemented: e-information and e-consultation. So, one of the important aspects of e-participation: e-decision-making (following the scheme developed by Macintosh, 2004) was left untouched while still in the planning stage.

According to the plans two platforms were established to implement the stated objectives: the official portal of regional government <http://www.volgnet.ru/> and the site of Volgograd city government <http://www.volgadmin.ru/>. The portal of regional

government provides links to the sites of local governments throughout the region. We present here the analysis of the platforms according to the developed criteria described in the previous section.

On both platforms, various kinds of information are available related to the main aspects of region life (education, health, social welfare, labor information, and environment). In addition, on a regular basis, government officials submit reports on the work they have done. The platforms have reference links to legislative texts, yet do not have any FAQ-pages.

Both platforms provide feedback opportunities to ask questions related to the region's or city's life. The website of the city government gives opportunities to participate in surveys that help to accumulate users' opinions and improve the quality of life in the city. Survey results are summarized in tables which are presented on the site.

As a general rule for any website, the navigation system should be simple to save users' time maximally. Both sites are updated on a regular basis, have good usability and a relatively clear navigation system. They offer a wide range of information which is well organized. But on the other hand, the platforms sometimes use complicated professional language and bureaucratic terminology which can limit access to the content for some participants. Besides, some tools require additional explanation for senior users which is not provided. Though the Volgograd region is considered to be multinational, access to government websites is possible only in one official national language. Special options for partially sighted persons are available on both platforms.

Social media enable the government to give people a large amount of useful information such as the location of offices or important events. Besides, social media are one of the ways to facilitate communication between government agencies and citizens due to available feedback tools. The official portal of Volgograd regional government has a social media presence on VKontakte (the most popular Russian social network), Facebook, Twitter, and Instagram. In most cases, they duplicate the information provided on the sites. Comments opportunities of the social media often remain unclaimed. Only a few posted citizens' comments have been ignored by local officials.

The analysis shows that the studied platforms do not provide collaborative tools (chat, shared agenda, forum, etc.). It can be concluded that their main aim is to give information, yet not to involve citizens in decision-making processes.

The results of the analysis are summarized in Table 1.

As we can see, in the Volgograd region only one level of e-participation has been implemented – e-information. Only two points “Information related to the main aspects of city life” and “Timely updating” have a maximum score. The analysis identified the chief problem: lack of possibilities to communicate with government officials and participate in decision-making processes. It is in line with conclusions made by American researchers about misbalance of functions performed by governments' websites which provide good information and deliver great services, but offer limited citizen-engagement opportunities (Zheng & Schlachter, 2018).

Table 1. Evaluation of the presented platforms (author's own elaboration)

Government platform	Information related to the main aspects of city life	Feedback	Initiator of creation (G or C)	Timely updating	Simplicity of the graphic interface and the navigation system	Accessibility	Possibility to participate in decision-making process	Social media presence
1	+++	+	G	+++	+	++	-	+
2	+++	+	G	+++	+	++	-	+

Evaluation of the e-participation experience by government officials

The second step of our research was to collect information covering experts' evaluating the current situation as well as their needs and expectations towards e-participation adoption at regional and local level. The survey target group were regional and local government officials responsible for information policy who agreed to participate in the survey. The survey was completed by 48 experts during the survey period.

The developed questionnaire consisted of the following blocks: e-democracy situation in the country and region, the most popular forms and sectors of e-participation, problems, and obstacles that might limit access to e-participation initiatives, proposals of local governments to solve these problems. The survey focused not only on statistical indicators of data but above all on the estimates and views of local officials on current situation related to e-participation opportunities in the Volgograd region. This sector is presenting an analysis of answers and inputs provided by survey respondents.

The aim of the first block was to indicate the most beneficial e-participation modes according to the respondents. Among the presented e-participation modes e-petitioning (52%) and surveys/polls of citizens (48%) were identified as the most useful. This is in accordance with current Russian studies marking high demand in these e-participation forms in Russia (Bershadskaya & Racheva, 2015; Chugunov & Bershadskaya, 2013; Demushina, 2016). Only a few experts chose such forms as submitting legislative initiatives (10%), evaluation of governments and officials' activities (7%), e-referenda (2%). None of the respondents marked e-voting, e-planning or e-budgeting. Total percentage exceeds 100% because up to three options could have been chosen. The results are summarized in Figure 1.

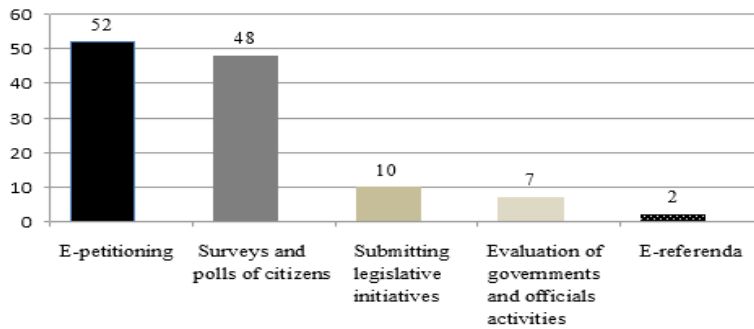


Figure 1. The most beneficial e-participation modes in the Volgograd region (%)
(author's own elaboration)

Respondents were asked to rate the effectiveness of e-participation practices existing in the country and region on a scale of 1 to 5, with 1 representing "very bad" and 5 representing "very good". 45% of the respondents gave 3 points to the e-participation practices both in the country and in the region. The rest evaluate the situation as "bad" or "very bad" (1 or 2 points). The results are presented in Figure 2.

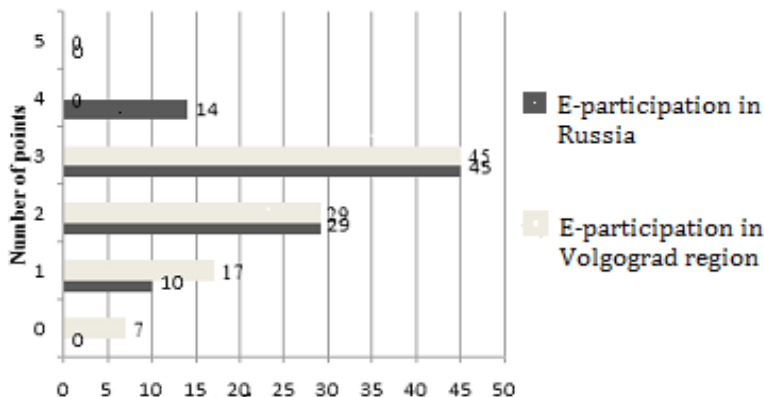


Figure 2. The effectiveness of e-participation practices existing in the country and region
(author's own elaboration)

To evaluate e-participation progress at the national and regional level, the survey included questions about existing platforms and tools. The replies allow concluding that the Volgograd region has a significantly lower level of development in comparison to other Russian regions. The survey participants identified the following e-participation modes and mechanisms existing in Russia: information provision, surveys, and polls of citizens, crowdsourcing, public consultations, evaluation of governments' activities, e-petitioning, e-referenda. Among them, the only two - information provision as well as surveys and polls of citizens are in demand in the Volgograd region in the view of most respondents. In addition, the experts note that some of the popular e-participation forms in Europe have not been developed in Russia, for instance, e-voting, e-planning, and e-budgeting. Figure 3 shows that these forms have been chosen by the least number of the respondents.

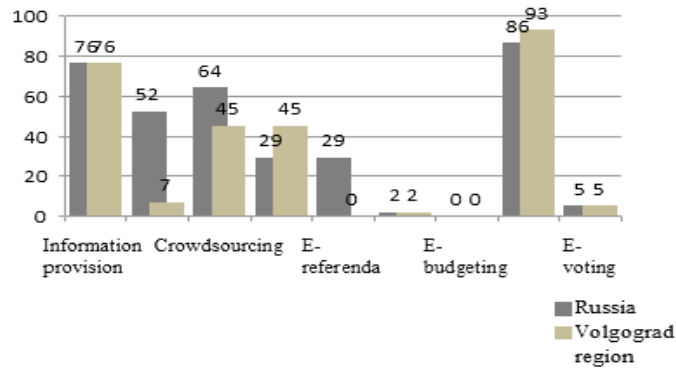


Figure 3. E-participation modes and mechanisms in Russia and the Volgograd region (%)
(author's own elaboration)

Several barriers to providing e-participations have been identified by the respondents such as insufficient civic engagement, the complexity of electronic platforms and tools, lack of awareness of computers in general and of e-participation projects and tools in particular. The important problem highlighted by a majority of the experts (75%) is lack of clear and detailed e-participation strategy developed in the region. However, the officials admit that they share responsibility for the low level of e-participation development and mark insufficient transparency of governmental agencies as an important challenge.

The participants were asked about the reasons for insufficient civic engagement in Russia. All the replies can be divided into two groups: explaining it by the unwillingness of citizens to communicate with governments and by the inability of citizens to participate. The given replies are summarized in Table 2.

Table 2. Reasons for insufficient online civic engagement offered by the respondents
(author's own elaboration)

Unwillingness of citizens to communicate with governments	
1	lack of trust in government
2	lack of confidence in the possibility of change the situation
3	negative attitudes toward local officials
Inability of citizens to participate	
1	low level of computer literacy
2	lack of awareness of e-participation tools
3	Internet access problem and lack of infrastructure
4	lack of appropriate e-participation tools

Noting insufficient civic engagement, the experts do not endeavor to provide the citizens with an opportunity to be involved in building up e-participation strategy. 74% of the respondents argue that the initiative to develop e-participation in the region should be taken by government officials. 24% see non-governmental and public organizations in that role. Only 2% of the survey participants consider citizens to be responsible for issues regarding e-participation (see Figure 4).

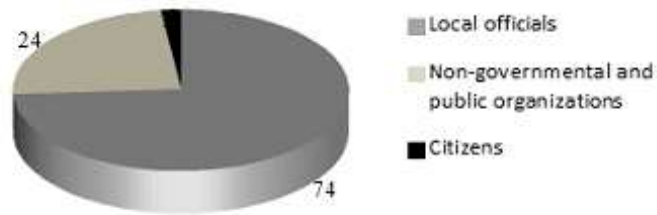


Figure 4. Who should be the initiator of building up e-participation concept in the region? (author’s own elaboration)

Nevertheless, the respondents are positive about the involvement of the public in decision-making at regional and local level. 79% of the survey participants approve citizen engagement, 10% replied in the negative. Remaining respondents found difficulty in replying.

Several measures for involving citizens in communication with governments have been proposed by the officials: providing citizens with information about governments’ activities, invitations for public discussion, establishing public liaison offices, public reports of government officials, social advertising, social media (see Figure 5).

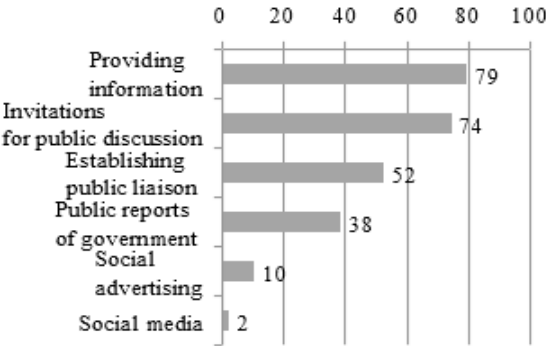


Figure 5. Measures for involving citizens in communication with governments (%) (author’s own elaboration)

Conclusions and implications

The purpose of this paper was to analyze the e-participation practices in regional and local government agencies in Russia. The findings of the study have both theoretical and practical implications. On the one hand, the study contributes through systematization of electronic services and participation modes used by government agencies. On the other hand, some recommendations for improvement of the existing system have been developed on the base of the conducted research, which can be used by regional and local government agencies to enhance the quality of public administration.

The analysis shows a lower level of e-participation development in the Volgograd region in comparison to other Russian regions and foreign countries. Most of the existing in the Volgograd region platforms do not provide collaborative tools. According to the analysis, their main aim is to give information, but not to involve citizens in the decision-making process.

The following barriers to providing e-participations have been identified by the respondents such as insufficient civic engagement, the complexity of electronic platforms and tools, lack of awareness of computers in general and of e-participation projects and tools in particular, lack of clear and detailed e-participation strategy developed in the region, insufficient transparency of government agencies.

On the base of the conducted analysis some areas of improvement in this field could be proposed: development of an e-participation strategy in the region with citizen involvement in this process, enhancement of the existing e-participation modes offered by regional and local governments and adoption of new services, development of collaborative tools on the platforms, simplification of e-services, using benefits of social advertising and social media.

Based on the conducted study, the following directions for further research can be proposed: to carry out a local population survey in order to find out the local citizens' opinions and attitudes towards the existing local e-participation services; to compare and contrast the Russian experience with the situation in other countries.

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THE ITALIAN PUBLIC ADMINISTRATION AND THE 2030 AGENDA: A BEST PRACTICE EVENT

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Abstract. *The aim of this paper is to describe and analyze a best practice event organized and managed by the Italian Public Administration concerning the achievement of the UN's Sustainable Development Goals (SDGs). Specifically, we are going to answer the following research questions: RQ1, Which approach is the most appropriate for the management of highly complex events and inter-institutional projects?; RQ2, Which is the connection between 2030 Agenda and great events? Large-scale events, which are characterized by a dynamic complexity involving different national public administrations and institutional levels, require a special attention in selecting an adequate event management system. For this reason, after a detailed literature review on event management, this paper explores the concept of sustainable development and focuses on the traditional elements of social, environmental and economic pillars within the context of planned events. Given the objective of this work, the analysis of a best practice event will be useful to identify the main variables, in terms of sustainable strategic planning, execution and control, required to achieve the greatest level of efficiency in terms of cost optimization and quality of service delivery, also exhorting the Italian public sector to look for a structural renewal, to better use its available resources, as well as to foster a global sustainable growth. From this point of view, a relevant experience is the case of the Extraordinary Jubilee of Mercy, coordinated by the Prefect of Rome. Indeed, the latter, decided to adopt actions consistent with sustainability standards, thanks to the design of an inter-institutional network and the engagement of institutions at different levels. The Prefect of Rome achieved, in a very short term, three main results: coordination of the activities of the working groups (SDG 17); integration of internal and external surveillance and communication systems (SDG 9); collaboration with higher education institutions to acquire and disseminate knowledge (SDG 4). To systemize and combine the outcomes of these processes, as well as to analyze their consistency with sustainable development, the System Thinking technique was used.*

Keywords: *Event management; 2030 Agenda; Sustainable Development Goals; Sustainable events; Italian Public Administration*

Introduction

Events, especially the large-scale ones, produce several impacts on the territory, which cannot be exclusively related to an economic nature. The evaluation of the environmental and social effects (according to a triple bottom line approach) of an event is very complex, not only because the effects are often indirect and intangible, and

therefore difficult to be perceived and measured in time, but also because the variables which affect the outcomes are actually manifold. Moreover, because of the wide range of the goals pursued and of the heterogeneity of the subjects involved both directly and indirectly (stakeholders), it appears very difficult to single out the parameters according to which measure the success of an event. Several scholars, indeed, state that “the performances measures are different according to the subjects involved in the valuation (promoters, organizers, communities, sponsors, public...) and to the goals pursued” (Bowdin et al., 2011; Gartner & Lime, 2000; Richards & Palmer, 2010).

Consequently, the organizational efficiency needs to pivot on the specific competencies of the civil and ecclesiastical authorities. The visitors’ hospitality will result attentive, inclusive and relished inasmuch as the institutions will be able to work in synergy and harmony.

Interesting theoretical inputs can also be obtained from the analysis of the case study of the Extraordinary Jubilee of Mercy, co-designed and co-organized by two national governments (Italy and the Vatican State) and involving the Catholic Church “as a recognized universal international institution” (Meneguzzo, Fiorani & Frondizi, 2017). According to what has just been written, in the last Jubilee, a sort of “responsible cooperation” among the several stakeholders has been enacted, with the activation of bidirectional relations between all the involved subjects and of concrete steps in a long-term vision, keeping in mind what the event will leave to the territory, the so-called legacy (Allen et al., 2011).

This paper highlights some initiatives and operations carried out during the 2016 Jubilee of Mercy which might steer the sustainable growth of the City of Rome if implemented in the long run. To this aim, this analysis focuses on some of the Sustainable Development Goals which constitute the most ambitious challenge for the international community until 2030.

Our contribution starts from the analysis of this event, in which the authors have been directly involved as participants to the inter-institutional task force in charge of managing the event (led by the Technical Secretariat for the Jubilee). The paper is divided into three sections: the first one is dedicated to a thorough analysis of the existing literature on event management, with a focus on the sustainable theories of the planning, implementation, and evaluation of large-scale events. In the second section, the case of the Extraordinary Jubilee of Mercy is examined, with reference to the management and organizational decisions taken by the Italian institutions. In the end, section three presents a conclusive evaluation of the issue.

Theoretical event management framework

As Thomas et al. point out, event management “comprises the coordination of all of the tasks and activities necessary for the execution of an event regarding its strategy, planning, implementation and control” (Thomas, Hermes. & Loos, 2008). Starting from some pioneering studies (Getz, 1991; Hall, 1992), event management has been rapidly rising and recognized as a profession and a formal discipline, reflecting the “need within all societies for the professional management of events in the private, public and not-for-profit sectors” (Getz, 2005).

The first step to understand the meaning and scope of event management is the definition of the event itself. Etymologically, the term event derives from the Latin *eventus*, which directly translates as “occurrence, issue”. Today, events form an integral part of all societies (Ferdinand & Kitchin, 2012) and the recognition, by practitioners and researchers, of their role as an ‘industry’ has gained importance in recent times, also because of the quantitative and qualitative growth forecasts for their market (Thomas, Hermes & Loos, 2008). In the academic literature, many authors from different disciplines have discussed the meaning and definition of events and related concepts, failing to reach a unanimous consensus on standardized terms, definitions or categories.

According to Shone and Perry, an event is “that phenomenon arising from those non-routine occasions which have leisure, cultural, personal or organizational objectives set apart from the normal activity of daily life, whose purpose is to enlighten, celebrate, entertain or challenge the experience of a group of a people” (Shone & Parry, 2004). Getz defines events as “temporary occurrences, either planned or unplanned” (Getz, 1997). In order to emphasize the difference between unplanned and planned events, the term ‘event’ is preceded by the word ‘special’. A special event could be a “one-time or infrequently occurring event outside normal programs or activities of the sponsoring or organizing body”, as well as “an opportunity for a leisure, social or cultural experience outside the normal range of choices or beyond everyday experience” (Getz, 2005).

All the above definitions stress the unique and temporary nature of events, a feature also highlighted in the definition by Silvers, who considers an event as “the gathering of people at a specified time and place for the purpose of celebration, commemoration, communication, education, reunion and/or leisure” (Silvers, 2008).

Other authors, such as Jago and Shaw, focus on the tourism context, defining a special event as “a one-time or infrequently occurring event of limited duration that provides the consumer with a leisure and social opportunity beyond everyday experience”, often held “to raise the profile, image or awareness of a region” (Jago & Shaw, 1998).

Summarizing these definitions, we can define an event as a unique or infrequently occurring happening that occurs at a given place and time outside normal activities for individuals or groups of people.

Concerning typologies, events are often classified according to different criteria. In terms of size, it is possible to identify four different types of events (Bowdin et al., 2011; Jackson, 2013): local or community events, which are generally small and linked to a particular geography; major events, which attract significant numbers of visitors and media coverage; hallmark events, which are not automatically bigger than major events, but are synonymous with a particular place; mega-events, which are global and can influence the host country’s economy.

In terms of form, while Bowdin et al. identify only three types of events – cultural, sports and business events (Bowdin et al., 2001) – Getz (2005) distinguishes ten categories – cultural celebrations, religious events, political and state events, arts and entertainment, business and trade events, education and scientific events, sports events, recreational events, private events, events at the margin. Lastly, Raj and Musgrave (2009) differentiate between the following forms: religious events, cultural events, musical events, sporting events, personal and private events, political and governmental events,

commercial and business events, corporate events, special events, leisure events (Jackson, 2013).

Sustainable, effective, accountable and transparent events

In the evaluation of the impact of events, it is fundamental to keep into account, besides the immediate effects, also those arising in the medium-long term which, especially in the case of large-scale events, have a multi-dimensional impact, interesting many aspects of the life in the hosting community area. "Such events might even deeply and permanently affect the local welfare and lifestyle" (Mount & Leroux, 1994).

In recent times, the attention for the sustainability of the event has increased. By sustainable is defined "a development that satisfies the needs of the present without compromising the ability of future generations to satisfy their own needs" (World Commission on Environment and Development, 1987).

By approaching the event evaluation in terms of sustainability, it is necessary to examine different points of view: it is the case of the environmental, cultural, economic, political and social sustainability. Thus, "for an event to be sustainable, it should be part of a larger strategic project of cultural, social and economic development" (Richards & Palmer, 2010).

The capacity to organize and manage events based on the principle of sustainable development implies the existence of strong and cooperative institutions able to initiate inclusive, representative and reactive decision-making processes (target 16.7), involving all the stakeholders according to the "quintuple helix scheme" theorized by Carayannis and Campbell (2010). In this model, the government, businesses, universities and civil society cooperate toward the sustainable development, sharing of resources, instruments and especially, know how. The virtuous circles initiated by the cooperative approach stimulate, indeed, the crossed fertilization of sustainable ideas and projects (innovation) able to overcome the limitations of the "mental models" (knowledge mix, expertise, capacity) of the single subjects and of the limited resources available. In this way, large-scale events cannot be clustered within the boundaries of a single public administration or agency, but are characterized by a dynamic complexity that involves several offices and institutional levels (central/federal; regional; metropolitan/local). Moreover, in times of economic crisis and expenditure cuts, institutions arise as solid only when they manage to operate soundly in terms effectiveness, responsibility and transparency (target 16.6 "Develop effective, accountable and transparent institutions at all levels") but also with economy and efficiency.

For these reasons, it is important to examine, in the upcoming section, the Extraordinary Jubilee of Mercy, an example of best practice of the Italian public administration. The need for achieving extraordinary objectives with ordinary resources led the Prefect of Rome, through the Technical Secretariat for the Jubilee to single out modern, innovative, shared and long-lasting solutions for the management of the event, based on the synergies between all the subjects involved and in line with the SDGs (Fiorani & Di Gerio, 2016).

Case study: the Extraordinary Jubilee of Mercy

We are going to answer the following research questions:

RQ1. Which approach is the most appropriate for the management of highly complex events and inter-institutional projects?;

RQ2. Which is the connection between 2030 Agenda and great events?

In the Catholic tradition, the Jubilee is a major religious event which dates back to the XIV century with Pope Boniface VII. The 2016 Holy Year was defined “extraordinary” not only because it does not fall within the traditional 25-year timeframe, but also because it was the first “thematic” – dedicated to the Mercy – and “decentralized” Jubilee in the history of Christianity. With an unprecedented decision made by Pope Francis, the Holy Doors have opened also in the cathedrals and sanctuaries in all the Dioceses of the world, including 91 States and 560 Doors of Mercy. In line with this “globalist spirit”, the first Holy Door was opened in Bangui, Central African Republic, on the 29th November 2015. The Extraordinary Jubilee of Mercy, announced by Pope Francis on the 11th April 2015 and formally inaugurated on the 8th December 2015, ended on the 20th November. More than 21 million people arrived in Rome during 2016 from 36 different countries. Such an exceptional inflow of visitors and notable personalities determined important implications for the hospitality system in general, and for the mobility services, infrastructures, and national security.

As Morcellini (2016) said, “the Jubilee of Mercy set a milestone in Rome’s capacity to organize large-scale events, offering a very different image of the Capital from the one pictured by the media”. In this way, the strategic management of the event was assigned by the Italian and the Vatican State governments to the Prefect of Rome. The Prefect was in charge of defining the planning framework for managing the event and of ensuring that the whole information and communication systems worked. In view of these objectives, the Italian government (DPCM, the 4th September 2015) resorted to an innovative instrument: the Prefect of Rome was supported by the Technical Secretariat for the Jubilee (TSJ)¹⁴, a task force aimed at fostering the cooperation among the several local administrations and the integration of their operations. Under the management of the TSJ, the Prefect created eight thematic working groups, with the task of linking the different areas, and invited all interested institutions to participate (Figure 1).

All parties involved were proactive and accepted to share their resources, their information, and competencies: this led to the creation of a new concept of the large-scale event, which capitalizes on the synergies between all institutions involved, both at the intra-institutional and at the inter-institutional and inter-governmental levels, and between the eight working groups.

A thorough evaluation of the direct and indirect effects, both on the short and medium-long term, is an essential part in the reviewing phase of the event management. Similarly, the social and environmental impact needs to be assessed, in line with the UN Sustainable Development Goals.

¹⁴ The ‘Technical Secretariat for the Jubilee’ included 10 experts representing public administrations and territorial institutions (Ministry of the Interior, Lazio Region, Municipality of Rome), as well as delegates from Civil Protection, Carabinieri Corps and Fire Corps.

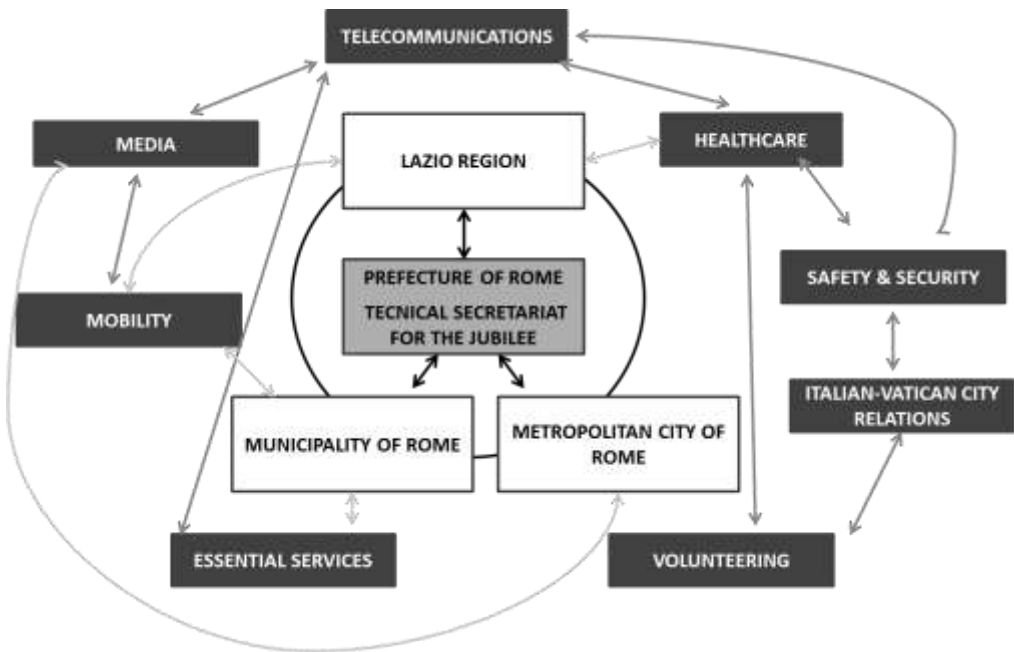


Figure 1. Inter-institutional synergies
(Di Gerio C., Fiorani G.)

The System Thinking map (Figure 2) shows some of the effects related to the Jubilee.

As Figure 2 shows, the partnerships (SDG 17, “Partnership for the goals”), i.e. the inter-institutional collaborations between public administrations, nonprofits institutions and enterprises, through the eight thematic working groups coordinated by the Technical Secretariat, together with the presence of strong institutions (SDG 16, “Peace, Justice and Strong Institutions”), are the key success factors of the last Jubilee.

The cooperation with university proved to be paramount (SDG 4, “Quality Education”). This goal, which underlines the link between primary education and professional training, was achieved through a memorandum of understanding between the Prefecture and the three State universities of Rome (La Sapienza, Tor Vergata, Roma Tre) which ensured a scientific and organizational support to the planning, management, communication, and post-event evaluation activities. In the “Third Mission” field, the three public universities contributed significantly to the success of the event, sharing their know-how and resources (teachers, recent graduates, spaces, and equipment) and offering to students the opportunity to serve an internship, with the aim to let them put into practice what they learned.

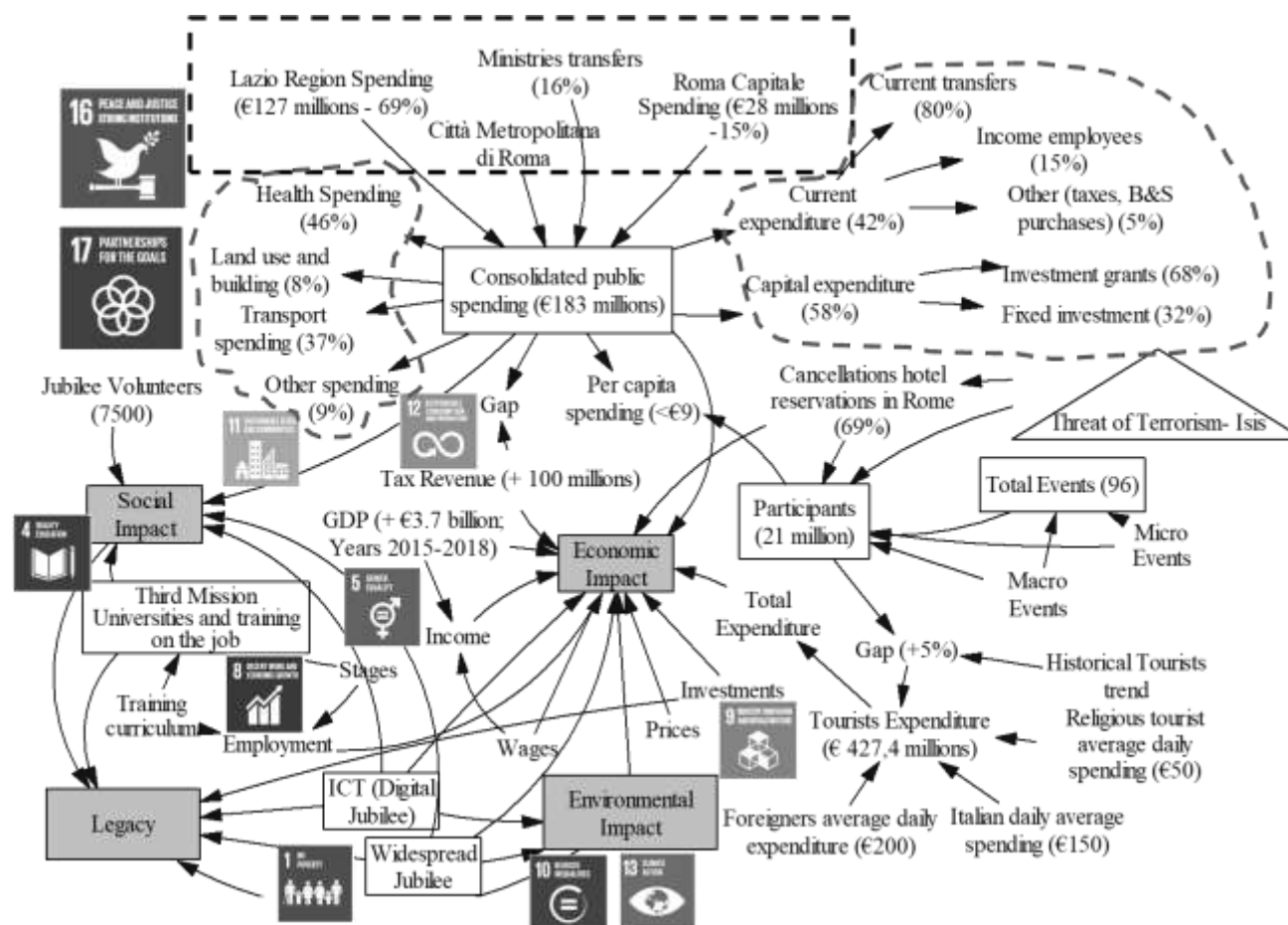


Figure 2. Multi-dimensional impacts: a sustainable Jubilee
(Di Gerio C., Fiorani G.)

Many technological (product and process) innovations (SDG 9, “Industry, innovation, and infrastructure”) realized during the Jubilee had a relevant positive impact on the responsible production and consumption models (SDG 12, “Responsible Consumption and Production”). A bright example is the inter-institutional centralized Jubilee Management Room (JMR), hosted by the System Room of the Rome Local Police forces, which played a major role in coordinating the Jubilee-related operations on the field, in monitoring the unfolding of events and assessing the different scenarios in real time. The JMR took advantage of an innovative shared cartographic system so to support the operations of all the Authorities watching the Jubilee events and flank the operation rooms of the single national and local police corps. Within the JMR, the creation of an integrated communication system based on TETRA radio allowed the numerous security forces on the field to share information through a single radio frequency. The JMR also had control on a comprehensive video-surveillance system based on the feed of the single local administrations with the aim to ensure a high degree of security for both the pilgrims and the local community. Thanks to the software and hardware sharing, the numerous entities involved through inter-institutional and public-private partnerships managed to rationalize their projects and intervention policies.

The JMR and the coordination activity of the Prefecture allowed to create public value and to initiate an “intelligent” management process, through a sound use of the resources available on the territory and constituting a best practice model to be applied to future complex events. It is noteworthy that the planning carried out by the TSJ during the Holy Year was characterized by a particular attention to maximizing savings and making the spending more efficient (SDG 12). The short timing (with an advanced notification coming just eight before the inauguration of the event) and the scarcity of financial resources demanded to resort to innovative solutions, including zero cost measures, considerable private capitals contributions, and the exploitation of the equipment already in possession of the national and local administrations.

This Jubilee was also modern, digital and built on a network basis. The 2016 Holy Year was, in fact, the first in the age of social networks, tablets, and smartphones, in the era of the continuous connection to the Internet. The Jubilee website and App provided information on monuments and churches, jubilee on foot itineraries, and mobility services. Communication was coordinated by the Italian institutions through the creation of a single website dedicated to the Jubilee called “Roma per il Giubileo” and a physical single Press Point from which all relevant information was conveyed.

The JMR and the single Press Point constituted the brightest examples of the integration of the several entities and administrations which, going beyond their identities and traditions, were called upon to joining their forces within a single operations room, under the same supervision and with a shared “Roma per il Giubileo” logo.

In order to explain more exhaustively the success of this large-scale religious event and the efforts made by the governmental institutions, it is noteworthy to address the link between the Jubilee and the other SDGs.

The interventions to make the City of Rome more inclusive, safe, flexible and sustainable during the event were manifold (SDG 11 “Sustainable Cities and Communities”). Concerning the mobility aspect, the public transport service was strengthened so to meet the high demand peaks in the celebration days and to guarantee the social and

environmental sustainability of the event. Moreover, thanks to a single direction of the mobility information¹⁵, it was possible to harmonize the messages about eventual service disruptions or delays and to convey urban and extra-urban mobility updates in case of necessity. The development of public transport made the City of Rome more sustainable in terms of the road system, emissions reduction, and livability. The positive environmental impact (SDG 13 “Climate Action”) of the Jubilee is also related to its global and widespread character, which minimized the movement of pilgrims allowing them to obtain the indulgence even in their own countries.

In order to crack down on illegal and unfair treatments to tourists and to raise the security perception of the Italian capital, Codacons, a network of associations for the consumer’s protection, realized a project called “Sportello del Pellegrino” aimed to provide legal assistance to pilgrims in more than 100 languages and fully managed by volunteers. Furthermore, several initiatives were achieved in favor of disabled pilgrims (SDG 10 “Reduced Inequalities”), in order to guarantee the righteous services. In this way, the App for urban mobility (Mapful) provided information on accessible routes for the disabled.

The Jubilee was the driver for the economic and employment growth in the City of Rome and its Province, in particular in the tertiary sector (SDG 8, “Decent Work and Economic Growth”). Nevertheless, the tourist inflow forecasted in 2015 was considerably reduced by the threat of ISIS terrorist attacks, the characterization of this event as a “widespread” Jubilee and the resort to unconventional staying options such as flat-sharing platforms and ecclesiastic structures.

Conclusions

The case study here analyzed shows that no one of the 17 2030 Agenda SGDs is feasible without the contribution of strong institutions. In this framework, the so-called quintuple helix cooperation, made up by governments, businesses, non-profit organizations, the civil society and the universities, emerged as paramount in order to ensure the success of the Jubilee.

Moreover, the issues of sustainable development are deeply rooted in an innovative, efficient, digital open and cooperative in public administrations. Based on this recent experience, the extraordinary spirit of sharing and cooperation which inspired the activity of all those involved in the success of the Jubilee of Mercy might constitute a valid example for all the future large-scale events in Italy and abroad. In fact, the challenge for great events is to think overdevelopment model in terms of sustainability and efficiency in favor of integration, cooperation, social innovation and ability to create inclusive networks; thus the engagement of several public actors is considered the rule rather than the exception.

In conclusion, the case of the Extraordinary Jubilee of Mercy, in our opinion, provides useful theoretical and empirical indications in the field of public management and governance and represents an important conceptual and operational challenge for the Italian public administration system. The integrated system for the management of the event, based on quintuple helix approach and integrated networks, could provide

¹⁵ Using ICT to support pilgrims and tourists’ mobility and transfer.

important indications for the future management of large events (sports, culture, promotion of the economy and the image of the country) and for the management of intervention policies facing environmental emergencies (such as recent earthquakes in Central Italy). This change of mind could be useful to turn a best practice into ordinary reality.

The other relevant aspect emerged from the paper concerns the introduction of a multidimensional assessment of the impact of the event. Short and medium-long term aspects should be taken into consideration, such as social and environmental impacts and legacy, in line with the United Nations' Sustainable Development Goals (SDGs). Goal 16 ("Peace, Justice and Strong Institutions") is definitely the one closer to a religious event like this and is the one which better meets the aims of the Jubilee: to promote pacific and inclusive communities and societies for the sustainable development. The extension of the event in the several countries (widespread Jubilee), the legal support provided by the Sportello del Pellegrino, the operations countering corruption and criminality, the public access to information, the promotion of initiatives to reduce inequalities, and the role played by the institutions for a representative, inclusive and reactive decision-making process are all examples of effectiveness, responsibility and transparency.

To conclude, we can answer the research questions stated.

For what concerns RQ1 (Which approach is the most appropriate for the management of highly complex events and inter-institutional projects?), the case of the Extraordinary Jubilee of Mercy highlights the need to work towards a co-operative approach, developing collaborative networks among interested actors. The aforementioned procedures of coordination and centralization of the operations constitute a novelty in the field of large-scale event management, with the TSJ as a highly innovative solution for avoiding flaws among the different entities involved in the organization of complex events. Ready-to-use technologies, the employment of available equipment and the interaction among public and private administrations were the key factors for delivering a high degree of efficiency and quality.

Concerning RQ2 (Which is the connection between 2030 Agenda and great events?), the integration of economic, environmental and social measures allows us to obtain a holistic view of the impacts generated by an event and, at least, its real level of sustainability. Such, material and immaterial legacy is added, considered as the starting point for the creation of a sustainable and smart city attentive to improving the quality of life of its citizens, businesses and institutions and the general well-being of the community.

Additional governmental efforts are required over the next 12 years in order to lead the world countries to the full implementation of the 2030 Agenda, also with respect to event management. The Italian government committed itself to this aim with resoluteness and resilience, as in the case of the Joint Italian-German-French Declaration on the US withdrawal from the Paris climate agreement, bearing in mind the outstanding results achieved in the organization of the Jubilee.

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MANAGING HUMAN RESOURCES BETWEEN REFORM AND CHANGE WITHIN PUBLIC ADMINISTRATION

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Abstract. *Public sector management reform driving strategic and organizational change within public administration is leading public organizations to rediscover the role of public office as vocation for developing effective and cultural changes driving behaviors of public employees. The aim of this study is to elucidate how promoting change within Italian public administration relies on public management reform driven by a 'laws and regulations perspective' that has influenced the processes of change and the design of work relationships within public employment. In Italy, public sector reform processes tend to follow a legalistic and juridical view to change leading to hybridization between traditional administrative culture and managerial culture. Public sector management reform following a legalistic perspective is leading to process of change in which new values drawn from managerial principles and administrative principles drawn by law-based tradition and legalistic culture tend to emerge and orient innovation and change. The study relies on the analysis of literature to understand the dynamics of change and reform within public sector with regards to public sector management reform and public employment reform in the Italian public sector. Reform supports the introduction of new behaviors and mentality within administrative culture of public employees and servants.*

Keywords: *human resources; public sector reform; change; law and public employment; public organizations.*

Introduction

As driving strategic and organizational change within public administration, public sector management reform is leading public organizations to rediscover the role of public office as vocation to develop effective and cultural innovation within behaviors and acts of public employees (du Gay, 1996). As institutions serving the public interest, public organizations should rediscover bureaucracy as form of organization that preserves ethic values, impartiality, equity and justice in governing the relationship between public bodies, citizens, businesses and no profit organizations (du Gay, 1996; du Gay, 2005). Rediscovering bureaucracy helps to rediscover the office as vocation and enhance the ethical attributes of good bureaucrat (du Gay, 1996; du Gay, 2005; Olsen, 2005).

The aim of this study is to elucidate how promoting change within Italian public administration relies on public management reform driven by following a *laws and*

regulations perspective that has influenced the process of change and the design of work relationships within public employment.

Sustainability of public organizations relies on driving public sector reform as a source for change by ensuring modernization and effectiveness of public administration, overcoming bureaucratic culture as the main obstacle to considering public administration as a community of people (public servant, citizens, organizations) that sustain efforts in order to promote innovation in public services delivery and quality in order to create social and public value.

In Italy, public sector reform processes tend to follow a legalistic and juridical view for change. The study relies on the analysis of literature on understanding change and reform within public sector and with regards to public sector management reform and public employment reform occurred in the Italian public sector since 1990. The analysis relies also on considering legislative innovation as source that enables processes of change and exerts influence on behaviors and culture of public servants.

Reform supports new behaviors and mentality but re-acknowledge the special nature of legal discipline on public employment and sector. It is possible to distinguish between the formal or legalistic side of reform and desired end or scope of administrative reform process evolving towards the change. Reform does not proceed and evolve towards an effective change of practices and administrative culture without people are willing and motivated to absorb new schemata and assume coherent behaviors (Capano, 1992).

Change is driven by behaviors, values and culture emerging in antithesis with previous paradigm and norms. Change may occur as new organizational behaviours experienced by people are introduced and implemented through explicit and tacit tasks (Dente & Lo Schiavo, 1999; Solari, 2007). Governing and managing change based on legalistic and juridical culture of public servants may fail in achieving results in terms of effective impact and consequences about public value creation (Rebora, 2012).

Creating public value relies on public managers sharing responsibility with other officials and citizens to decide what is valuable to produce with public resources by interacting with people to determine and organize the ends and means of service delivery and production (Moore, 1995).

Public institutions have to serve the public interest promoting effective collaboration with citizens as partners (Vigoda, 2002a; Vigoda, 2002b), encouraging shared responsibilities and public values (Bourgon, 2007), promoting the quality of human resources systems (Vigoda, 2000) driving public servants to engage in reciprocal communication with the public and helping citizens to meet their shared interests (Stivers, 1994; Denhardt & Denhardt, 2003).

The paper is structured as follows. After the introduction, in the second paragraph, understanding change within responsive public organizations is elucidated. In the third paragraph, reforming Italian public sector following the law-driven perspective for change is presented. In the fourth paragraph, a legislative view for governing and sustaining human resources by reforming public employment is presented. Finally, conclusions follow.

Understanding change within public organizations

In 1980s-1990s as theoretical and managerial response to inefficiency of traditional model of managing *res publica*, Npm doctrines have driven cultural and managerial change within public sector leading public organizations to import managerial practices from the private sector, focusing on re-organization of public bureaucracies disaggregated into agencies more flexible and output oriented, on financial efficiency and performance measurement, on separation of spheres between politics and management, reducing government functions through privatization (Hughes, 1994), stressing the private sector styles of management practices towards flexibility in hiring and rewards; a stress on greater parsimony and discipline in use of resources doing more with less, by cutting direct cost and resisting to union demands (Hood, 1991).

Thereby, the management state driven by public sector management reform has shown some limits, constraints and contradictory effects (Lane, 2009): neglect of meaning, no preservation of intangible values, unresponsiveness to requests and demands of citizens, democratic deficit within institutions. As stimulating competition mechanisms, public sector management reform driven by Npm doctrines have increased the chances of unethical behaviours associated with individualistic values reversing equity and legality as traditional values of public servants (Maesschalck, 2004). Npm doctrines contributed to deteriorate the corporate culture, the traditional work ethos and non-functional values, increasing a decline in motivation and work satisfaction, greater workload and stress (Diefenbach, 2009).

Governments should act to correct problems created by market dynamics and to maintain law, justice, individual rights, social organization, security and stability, and to promote prosperity for communities. Governments tend to protect public values as psychological and social constructs (Rainey, 2009). «Public values consist of outcomes based on what a government entity is supposed to be doing, and based on what citizens want it to do» (Rainey, 2009, p. 70).

Even if the interaction between public and private organizations is leading to a new public service ethos concerning honesty, community service and competition, consumer choice (Brereton & Temple, 1999), lawfulness, incorruptibility and impartiality tend to emerge as prevailing and specific values within context of public organizations (Van der Wal, De Graaf & Lasthuizen, 2008).

Reformers should take account of the value implications of reforms in order to correctly assess the ethical value and value consequences of public sector management reforms (Kernaghan, 2009). Achieving efficiency, efficacy and effectiveness does not comprise values and principles that inform the dynamics and life of public organizations. Innovation and traditional values of public service tend to coexist within public management reform. Public management reform should promote values as social equity, justice, fair treatment, inclusiveness and equity in compensation. Public management reform should support training and educational opportunities for sustaining human resource development, foster democratization and empowerment to improve citizen engagement and participative decision-making (Wise, 2002).

Reforming Italian public sector management: following a 'law and regulations driven' perspective

Reforming by laws and regulations helps to reinterpret the content of administrative reform driving change by following a bureaucratic paradigm rather than public management approach (Longo, 2003) without facing effectively the operational complexity and uncertainty of task and emphasizing the distance between formal organization (rhetoric) and reality (Adinolfi, 2004). Since public sector reform is to be codified in laws and regulations the legalistic nature of the political and administrative context may influence reform (Ongaro, 2010).

Since 1990 many public sector reform processes started in the Italian public administration. The Italian public sector reform introduced during the 1990s is part of an international trend (Npm) as global paradigm. Since 1992 the Italian public sector reform process has been implemented through a continuous flow of new legislation concerning: the reform of financial management and performance measurement; the reform of the civil service in terms of growing privatization of work relationships of public employees; the devolution of powers and tasks from the central government authorities to regional and local government autonomies. Public sector reform by law and regulations has driven performance management systems within Italian public administration (Panozzo, 2003).

Governing change and innovation within public administration relies on developing the quality of human resources as a source to enhance the autonomy of governing bodies (Rebora, 1991) and develop accountable public administrations (Valotti, 2000). Change within Italian public sector should transit through decrees and regulations view leading public administration to abandon bureaucratic approach and follow a public management performance-oriented perspective to drive learning processes and developing public employees as individuals motivated to public service and to assume new behaviors and attitudes (Rebora, 1999; Giannini & Bonti, 1997; Bonti, 2000).

The cultural variable is of essential importance to understand why administrative reform can vary in nature and follow very different paths (Capano, 2003). Introducing within public sector values, concepts and paradigm of Npm is exerting influence on the administrative culture (Pollit & Bouckaert, 2002). The prevalence of the administrative law paradigm influenced the process of change in countries with a legalistic culture or *Rechtsstaat* tradition driving the implementation of administrative reform merging the administrative tradition based on the respect of formal rules and the realization of the *public interest* as perspective coherent with an Anglo-Saxon system driven by New Public Management doctrines leading the Italian public system to orient behaviors of public servants and officials following a laws and regulations view (Pollitt & Bouckaert, 2000; Fedele & Ongaro, 2008; Panozzo, 2003).

Reforming public administration for change relies on sustaining the quality of human resources by proving a legal framework that enables public employee to rediscover public service motivation to serve the public interest and contribute to creating value within communities.

Reforming public employment: sustaining human resources

The nature of public service demands a sense of loyalty and attention to service on the part of public employees. Public organizations should support the employee work motivation and commitment public service rediscovering the organizational mission of public administration as service organization that creates public value with people (Wright, 2007). Public organizations should create an environment in which employees feel they can contribute both to the public goal and to an organization performing valuable services (Moynihan & Pandey, 2007).

People represent an important resource driving public administration to serve the public interest (Todres, 1994). The competitive advantage of organizations relies on sustaining the quality of human resources and on the capacity to manage people as human resources (Pfeffer, 1995). Human resources practices permit to improve and achieve high performances in public sector organizations and to communicate to employees the extent to which organizations trust employees (Gould-Williams, 2003).

Reinventing government relies on investing in human resources and professionalism of public employees in order to improve quality of public services for citizens and society (Crozier, 1988). Sustaining successful change within public organizations relies on providing resources in terms of training employees, developing new processes and reorganizing the structure, on employees able to learn new behaviours drawn by new policies or innovation in order to effectively institutionalize change in the institutional context (Fernandez & Rainey, 2006).

Reforming public employment: a legislative view for governing human resources¹

Traditionally, governance and management of work relationships within public administration implies to consider the need to maintain both protection of subordinate work and pay attention to the role played by public servant as acting for executive branch of public administration. In the public employment regulation, it is possible to distinguish the organic relationship that refers to the organizational relation between administrative office and the individual having the job in the public office and becoming an essential part of public administration and the service relationship that refers to the work or employment relationship between the individual as worker and employee and public administration as employer. In the Italian Constitution few rules govern the work in public administration: equality and prevision of competition-selection in access to public employment (articles 51 and 54); it is a mandatory duty for all the public employees to perform public functions by discipline and honor; penal, civil and administrative responsibilities of public employees (article 28); the design of internal organization of work units and departments within public administration in order to ensure impartiality and the *good way* (*buon andamento*) in the acting of public administration (article 97).

Preserving the constitutional principles that govern public administration system relies on ruling public employment by public and administrative laws and regulations as a means to ensure impartiality and the *good way* (*buon andamento*).

¹ Eufrasia Sena is the author of the paragraph.

Since the promulgation of law n. 93/1983 the collective bargaining in public employment tends to assume a relevant role with regards to rewards and compensation management, extraordinary work, professional training and personnel mobility coherently with constitutional and legal principles.

Reform driving change within public administration occurred in 1990s by introducing in the administrative law the principles of efficiency and efficacy and economic management as imported by private companies or organizations for profit.

Since 1990s the role of legislation is to drive change. The law n. 142/1990 concerning the reform of local governments and autonomies and the law n. 241/1990 governing the stages of administrative processes, the efficacy of administrative action and the separation between selection and implementation of political choices have opened to introducing new behaviors in the framework of public employment. The Decree n. 29/1993 introduced private work rules for public employment and attributed to the civil judge the competence in jurisdiction about the controversial between the employee and public administration. The civil judge is competent to evaluate trial regarding public employees. Previously, the administrative judge was absolutely competent for matters concerning controversial motives in public employment between the employee and public administration. Constitutional Court has blessed (sentences n. 313/1996 and n. 309/1997) the *Copernican devolution* occurred in public employment. Privatization of public employment does not obstacle but reinforces both the autonomy and the independence of public servants and officials in virtue of principles of impartiality and considering the *good way* (*buon andamento*) of managing *res publica* as a principle informing behaviors and action of public administration (Rusciano & Zoppoli, 1993).

Legislative innovation helps to consider the importance of work relationships between the individual as public employee and public administration as employer because it tends to stress the relevance of collective and individual bargaining as a source to restore the relationship between the individual and public administration as organization. The *Aran* (*Agenzia per la rappresentanza negoziale delle pubbliche amministrazioni*) as agency in charge of representing public administration in the collective bargaining and public employment unions having particular requisites of representativeness according to quantitative measurable parameters. To have access to collective bargaining in the public sector, only the unions that are mainly representative having a rate of representativeness not less than 5% considering both fees and the percentage of votes in the elections of personnel's representatives. As providing a link between public administration and *Aran*, the *sector committees* communicate to *Aran* the organizational needs of each work unit or department within public administration checking the coherency of the bargained document. Finally, the Court of Accountants checks formally and legally the agreement and the accounts verifying that the limits of expenditures are respected. The agreement is effective for all the public employees even if some of them do not adhere to any union because principles of equitable treatment are prevailing (Carinci, 2013).

Public management reform should contribute to redefining the relationship between political sphere and administrative sphere enhancing competence, autonomy and accountability as ethical values and principles that drive the culture of public employment. Only public management is in charge of directing the administrative action. Political bodies should be competent in defining the objectives and general

guidelines to orient behaviors of public servants and the action of public administration. Public management reform processes have followed a perspective oriented to cut the *connubium* between political sphere and administrative sphere in order to avoid blurred roles and tasks in the attempt to identify specific responsibilities, powers and duties that should allow to judge and evaluate strategic and operational choices of political and administrative bodies.

Law-driven reforms tend to follow a path of discontinuity than continuity following a contradictory and not always coherent logics. Public management reform processes were reinforced by the decree n. 165/2001 in which regulations on public employment were revisited and a new wave of laws and decrees (since 2009) contributed to qualifying public employment as a special matter to re-orient public employment towards the administrative law.

Recently, new rules for private employment were promulgated without any application to public employment. Some trends seem to be identified: centralization of selection procedures and planning; evaluating the merit coherently with new procedures to assess performance and contribution of employees; designing flexible forms of employment as the exception to the rule of full time employment and protection about the stability of job; special rules for public management.

The emerging and recent framework refers to a public servant who benefits of better law protections than private employees because the guiding principle that orient the vision and role of civil service is that better protection should ensure and enhance both the autonomy and the independence of public employee in terms of actions, behaviors and prerogatives. Thereby, today in the new scenario, acknowledging the autonomous and independent role of public employees implies control and evaluation and relies on designing mechanism of assessment to reward and/or sanction economically and financially the conducts based on merit and support productive behaviors coherently with goals and the ends of the public interest to serve citizens as users and beneficiaries of public administration outcomes (Zoppoli, 2018; Fiorillo, 2017; Giubboni & Colavita, 2016).

Conclusions

Reinventing public administration for change relies on managing strategically human resources rediscovering the role of public employees as drivers of strategic, organizational and cultural change and a source for design and implementation of public sector reform.

The aim of public sector management reform is to introduce and promote new and innovative behaviors, attitudes and procedures that involve public organizations to sustain the dialogue with citizens by ensuring high quality of public services and increasingly interact with citizens as people that play a relevant role as co-designers and co-producers of services they need and help the community to develop a path for growth and welfare over time by creating public value.

Reconstructing an organizational culture within public administration merging administrative tradition and managerial principles is an issue emerging from reform process and a challenge that public organizations and citizens have to face along a

continuum between rhetoric and reality using regulations and management principles as a source to improve public sector organizations to create and maintain social and public value.

Reform as a set of laws, regulations and decrees is leading the process of change in terms of new behaviors and values adopted by people managing techniques and interpreting laws. Change may proceed through people educated to values, beliefs and ideas coherently with enhancing the transparency as a value leading behaviors that effectively serve to restore the relationship of confidence with people as co-producers of public value by legitimizing behaviors, strategic and operational choices of public administration. Laws and regulations provide a platform that enables public employees and servants to develop behaviors coherent with a public service perspective that contributes to reinforcing the meaning of community where public organizations, businesses, citizens and other stakeholders interact in order to create public value.

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CHANGE MANAGEMENT IN FINANCIAL AND HUMAN RESOURCES IN POLISH HOSPITALS

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Abstract. *Purpose - The purpose of this paper is to examine the scope and direction of the desirable changes in hospital management, as viewed by the directors. Design/methodology/approach - The study is based on a sample of directors of 125 Polish hospitals. The questions concerned indicating management areas which, according to the people in charge, required introducing changes. The subject of the research was to determine the extent as well as the scope of changes in the following management fields: the settling of accounts with the payer, revenue and costs control, the payroll system, the way of settling ward accounts, the sources of employee conflicts and the necessary staff training. Findings - The extent of change indicated in the 4 fields of change management (CM) did not depend significantly on the type of education received by respondents. The answers did not depend on work experience. It turned out, that uneven workload was the most common cause of conflicts in hospitals. The main problems are Interpersonal communication. There is a need to organize training, especially relating to interpersonal communication, professional training and quality. Originality/value - The article presents results of the research which would pertain to two key management fields: human resources, as well as financial resources.*

Keywords: *change management; hospitals; financial resources; human resources; organization development.*

Introduction

Change management (CM) is associated with the development of an organization (Burke & Noumair, 2015; Cummings & Worley, 2014; Hughes & Gosney, 2016; Worley & Feyerherm, 2003). There are also numerous findings concerning the impact of CM on employee behavior, displaying how various leadership styles in change processes affect ways of conduct (Neubert et al., 2008; Podsakoff et al., 1990; Avolio & Bass, 1995; Podsakoff et al., 1996). Nevertheless, there are no research results which would pertain to two key management fields: human, as well as financial resources.

CM (Carnall, 2018; Keen, 1981) is always a difficult task, even more so in the area of human health. Hospitals must therefore target all their efforts to improve the quality of the provided medical services and to achieve coordinated economic results. The accomplishment of both of these aims requires a deep insight into the organization and conducting economic analyses in order to evaluate the effectiveness of processes and the changes in HR policy. It is important to plan and determine the scope and direction of the changes in line with the proposed objectives. Still, these plans are subject to change due to either new legislative provisions or differing views held by the owners or managers. CM is thus a process affecting the development, structure and capabilities of an organization which acknowledges the altering needs of its customers (Moran & Brightman, 2001; Hayes, 2018). This is the reason why the identification of the needs of a medical facility's external customers (its patients), as well as its internal customers' (employees) needs becomes one of the key research areas in terms of constant changes which must be managed (Giebels et al., 2016). The concern for fulfilling the customers' needs remains within the remit of the managers. The directors are those who notice the needs the best, although meeting of certain demands is often restricted by legal regulation and the payer's and owner's interest. However, there are areas on which the supervisor's influence is bigger than on other. These include, among others: the payroll system, the settling of accounts in individual organizational units, the method of settling accounts with the payer, cost and revenue control, the organization of training, and conflicts. Accordingly, the purpose of this article was to identify the scope and direction of the desirable changes in hospital management as viewed by the directors.

Change management and organization development with reference to hospitals

Analyzing numerous definitions of organization development (OD) (Burke & Noumair, 2015; Burke, 1982), one can draw a conclusion that the development is targeted at solving the given organization's problems and its ability to cope with the changes occurring in its external and internal environment. The notions of CM and of organization development are closely related to one another. Their common ground is to achieve greater effectiveness through the introduction of changes. It is achieved through a planned shaping of processes with the use of behavioral science. The improvement in the overall efficiency of an organization occurs thanks to a reinforcement of the key organizational dimensions (including financial and human resources) with reference to its environment, mission, strategy, leadership, culture, structures, information systems, staff appraisal system and wage policy. Hospitals are the subjects which were (and still are) subject to many changes and which had to deal with these changes having limited budgetary resources. As a result of changing conditions arising from health service reforms, hospitals are faced with a considerable need for a rational use of financial and human resources. Since securing new sources of funding for the hospitals is hindered, it is reasonable for the hospital managers to focus their efforts on securing financial resources and developing human resources.

The development of an organization is also defined as a comprehensive process of data collection, diagnosing and formulating strategic activities, and carrying out interventions and evaluations. This bottom-up process is supposed to show the relation between strategy, organizational structure, processes, human resources and organizational culture, and is oriented towards changes in management. It is realized thanks to the cooperation and commitment of the members of a given organization (Beer, 1980). Sharing knowledge and experience among employees is a significant

element of the organization's development, which renders CM easier and more effective. CM is thus realized thanks to employees' skills and knowledge. It also concerns the process of learning (Cameron & Green, 2015; Todnem By, 2005). The functioning of an organization in complex conditions and uncertain environment is possible only when its education and training systems are open. This, in turn, results in achieving the previously set goals, solving problems, and positively affects employees' responsiveness to assigned tasks and the quality of their professional lives.

Although the notions of OD and CM have common objectives (such as the one mentioned by Warren and others, 1990), they differ with regard to the values towards which they are oriented. OD, often equated to striving for an increased value of human resources, is oriented towards the improvement of the human potential and its role within the organization, as well as delivering performance and gaining a competitive advantage. CM, on the other hand, is more focused on defining costs, quality and plans for action, all of which constitute a core value for clients and owners alike (Hayes, 2002; Paton & McCalman, 2000). A thorough overview of the researchers' standpoints regarding change management was presented by Rune Todnem By (Todnem By, 2005). CM comprises diverse variables analyzed from many different angles (Garud & Kumaraswamy, 2005). Furthermore, organizational changes are closely connected with the organization's strategy (Burnes, 2004; Rieley & Clarkson, 2001) and are triggered by various factors (Burnes, 2004; Luecke, 2003). CM may take place in the presence of conflicts among groups or individuals, thus constituting an impairment of interpersonal relations within an organization. The conflicts arise as a result of contradictory aims, a difference between interests or views, disputes and feuds. From the various kinds of conflicts (i.e. political, class, economic, social, ideological, cultural, or concerning values and goals the most frequent ones are connected with the division of labor and pay. They result from differences in financial and social standing, physical appearance and the standard of everyday life (Salejko-Szyszcak, 2011). In the face of the ongoing changes occurring within hospitals, the managers take measures to thoroughly investigate the areas which should be subject to change and which, at the same time, are linked to the efficient use of resources. The research literature lacks sufficient findings regarding change management in hospitals. Therefore, this study endeavored to fill this gap by presenting research results from the 125 surveyed hospitals.

Material and methods

In 2016 a survey research has been done investigating areas which, according to the people in charge of the facilities, ought to be subject to change in Polish hospitals. Directors of public and non-public hospitals were requested to fill in questionnaires sent in electronic form. 141 completed forms were received back, 16 of which had to be rejected due to missing answers. In the end, 125 properly filled in questionnaires were analyzed. The hospital directors were asked to indicate to what extent the following areas of the financial resources should be changed: the payroll system, the settling of accounts with the payer – the National Health Fund (NHF), and revenue and costs control. The need for change was rated on a five-point scale: 1 – no changes, 2 – a slight change, 3 – partial, 4 – a significant change, 5 – a general change. Moreover, the directors were requested to point out in the human resources sector the main causes of conflicts between employees, as well as the necessary staff training. There were 40 women (32%) and 85 men (68%) among the surveyed directors. Their work experience was as follows: 26 directors (20.8%) - less than 5 years, 40 directors (32%) - between 6-10 years, 59

directors (47.2%) - over 10 ten years of work experience. 47 of them (37.6%) received medical education, whereas 75 directors (62.4%) completed studies other than medical. The number and proportion of the given answers were calculated in a statistical analysis, while for the question concerning changes an average was also measured.

A two-way analysis of variance has also been done to check whether the opinions regarding the extent of changes needed in hospitals depended on sex, work experience, and the interaction between sex and work experience. Furthermore, a test for the significance of the difference between the means of two independent samples was run to examine if the type of education received (medical or not) influenced the viewpoint on the extent of necessary changes in hospitals. In addition, a χ^2 test of independence was applied to check whether the indicated conflict sources and needed training varied according to sex, work experience and the type of education received. A significance level of 0.05 was adopted.

Results - potential areas of change management in hospitals

Table 1 shows that, according to the surveyed, the way of settling accounts with the payer should undergo the biggest changes. 38.8% of the subjects marked that this activity should be changed in general. The payroll system ought to be altered significantly according to 30.04% respondents, altered partially in the opinion of 13.6% of the surveyed, and slightly changed according to 10.4% of the directors. Only 12.8% of the questioned deemed that the way of settling accounts with the NHF should be left unaltered. The surveyed hospital directors also pointed to the need of changing the payroll system. 5.6% of them stated that this system required introducing general changes, 17.6% claimed that significant, 51.2% - partial, 18.4% - that slight changes are needed. Only 7.2% of the respondents did not signal any need to change the remuneration system.

Table 1. Desirable changes in management according to the surveyed (in general)

What should be changed in the hospital				The payroll system	The way of settling ward accounts	The way of settling accounts with the NHF (contracts)	Revenue and costs control
The scope of changes	No changes	-1	n	9	18	16	24
			%	7.20	14.40	12.80	19.20
	Slight changes (2)		N	23	31	13	32
			%	18.40	24.80	10.40	25.60
	Partial changes (3)		N	64	41	17	42
			%	51.20	32.80	13.60	33.60
	Significant changes (4)		n	22	26	38	22
			%	17.60	20.80	30.40	17.60
	General changes (5)		n	7	9	41	5
			%	5.60	7.20	32.80	4.00

The total in each line N=125 respondents and 100%.

Accordingly, answers to the questions concerning the settling of ward accounts and controlling costs and revenues were similar. 7.2% of the directors stated that the way of account settlement should be completely changed; 4% thought the same about costs and revenues. 20.8% indicated a significant need to change the settling of ward accounts, while 17.6% marked a significant need to change the way of dealing with costs and revenues. One in three respondents noticed the necessity of partial changes in wards

(32.8) and of the control over costs and revenue (33.6%). Approximately a quarter of the surveyed declared a wish to slightly alter the account settlement (24.8%) and control of revenues and costs (25.6%). Meanwhile, respectively 14.4% and 19.2% of the directors replied that there is no need to change either the settling of accounts or the cost and revenue control. The extent of required changes in the four afore-mentioned areas is confirmed by the averages of the given answers. The highest scores received pertained to the way of settling accounts with the NHF (3.60), which means that majority of the respondents asserted that it requires partial or significant alterations. The payroll system requires less changes, with the average answer around 3 (rated as partial changes). In turn, the lowest averages obtained referred to the way of settling ward accounts (2.82) and the control over costs and revenues (2.62). The responses concerning the four areas of CM did not depend significantly on the type of education received by the directors (medical or not) (Table 2). However, the extent of changes indicated in the two fields, the remuneration system and the way of settling accounts with the NHF, depended largely on the sex of the surveyed directors (Table 3 and Figure 1).

Table 2. Desirable changes in management in hospital according to the type of education received (average answers given)

Changes in the hospital	Education		Statistical significance	
	medical	non-medical	t	p
The payroll system	3.15	2.85	1.765	0.080
The way of settling ward accounts	2.87	2.78	0.428	0.669
The way of settling accounts with the NHF (contracts)	3.81	3.47	1.321	0.189
Revenue and costs control	2.53	2.67	-0.659	0.511

Table 3. Desirable changes in management in hospital according to the type of education received (average answers given)

Changes in the hospital	Work experience (WE)	Sex		Total	Statistical significance
		Female	Male		
The payroll system	up to 5 years	4.00	2.58	2.96	Sex F=9.425; p=0.003 WE F=1.739; p=0.180 Sex*WE F=4.456; p=0.014
	6-10 years	3.26	2.95	3.10	
	over 10 years	2.86	2.87	2.86	
	total	3.25	2.82	2.96	
The way of settling ward accounts	up to 5 years	3.86	2.68	3.00	Sex F=1.778; p=0.185 WE F=1.851; p=0.162 Sex*WE F=4.304; p=0.016
	6-10 years	2.68	3.24	2.98	
	over 10 years	2.86	2.56	2.63	
	total	2.95	2.75	2.82	
The way of settling accounts with the NHF (contracts)	up to 5 years	4.43	3.16	3.50	Sex F=4.236; p=0.042 WE F=0.272; p=0.762 Sex*WE F=1.148; p=0.321
	6-10 years	3.68	3.43	3.55	
	over 10 years	3.86	3.62	3.68	
	total	3.88	3.47	3.60	
Revenue and costs control	up to 5 years	2.86	2.68	2.73	Sex F=0.759; p=0.385 WE F=2.365; p=0.098 Sex*WE F=0.671; p=0.513
	6-10 years	2.58	3.10	2.85	
	over 10 years	2.21	2.47	2.41	
	total	2.50	2.67	2.62	

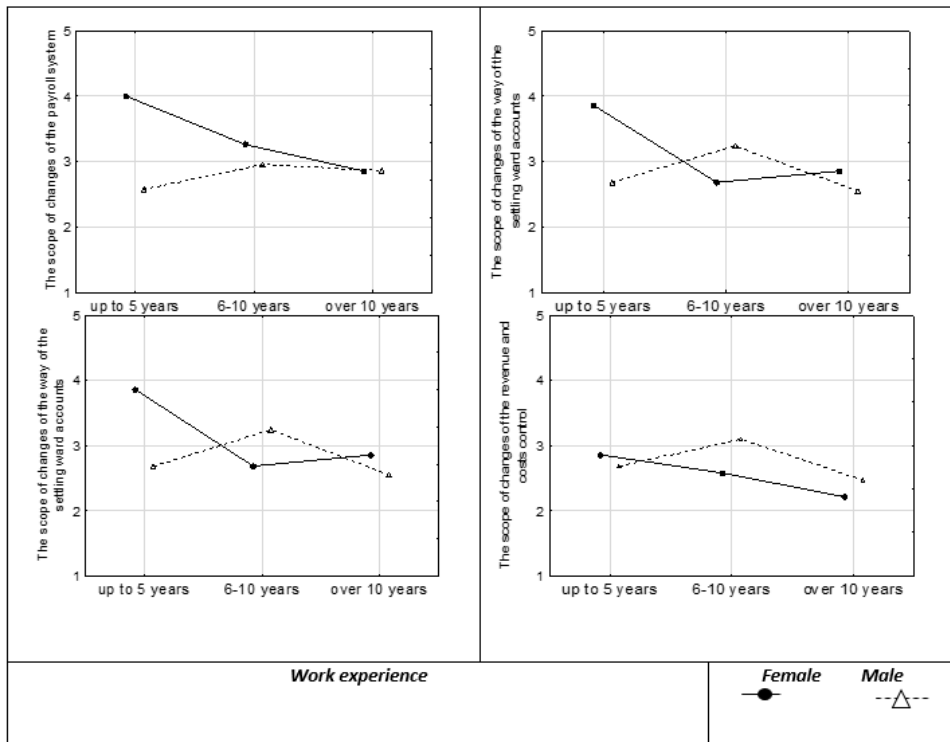


Figure 1. Desirable changes in hospital according to work experience and sex (average answers)

On average, women indicated a greater need for change in these sectors than men (in case of the payroll system 3.25 vs. 2.82; in case of accounts 3.88 vs. 3.47). Furthermore, the replies concerning the extent of change did not vary significantly with regard to the hospital directors' job seniority. Nevertheless, there appears to be a substantial influence of the interaction between sex and work experience on the opinion concerning two of the CM areas: the payroll system and the way of settling ward accounts. Women with work experience under 5 years showed a significantly larger need for changing the remuneration system (with an average rate of 4) in comparison with men with equal job seniority (on average 2.58). The answers given by female and male employees with work experience of more than 5 years fluctuated around 3, which means that according to them the system ought to be changed partially. Similar relations were exhibited in answers referring to the need for changes in ward account settlement. Women with work experience of less than 5 years displayed a greater wish for changes in ward accounting (an average of 3.86 - meaning a significant need) than men with the same job seniority (on average 2.86). In turn, the average reply given by directors with work experience above 5 years when asked about the need for changes in settling ward accounts was lower (ranging from 2.56 to 3.24), which means that in their opinion this field requires changes, but to a lesser extent.

The study of conflicts in hospitals as a factor of change

The survey research also required the respondents to indicate the sources of conflicts (Table 4 and Figure 2). Uneven workload emerged as the most frequent cause of

conflicts, with more than half of the surveyed directors (55.2%) pointing to this answer. The next most frequently indicated reason of conflicts were problems concerning interpersonal communication (according to nearly half of the questioned (48%)). One third of the respondents claimed that the disproportions in salaries were also a source of disagreement. The following causes of conflict were enumerated at similar rates: additional allowances (24%), differences in education (23.2%), and higher material status (20.8%). Only 8% of the questioned hospital directors did not observe any conflicts. A significantly larger percent of women (60%) than men (42%) pointed to communication problems as a source of conflicts. On the other hand, a smaller number of women (12.5%) than men (43.5%) claimed that conflicts arise as a result of disproportions in salaries. Moreover, a substantially higher percent of the respondents with work experience between 6 and 10 years signaled that the material status is a cause of conflicts. The remaining answers regarding the sources of conflicts in hospitals did not depend largely on sex nor work experience, while none of the replies depended significantly on the type of education received by the directors.

Table 4. Sources of conflicts according to the surveyed in general

Sources of conflicts in hospitals			Uneven workload	Communication problems	Disproportions in salaries	Additional allowances	Differences in education	Better material status	Other	No conflicts	
Total		n	69	60	42	30	29	26	15	10	
		%	55.20	48.00	33.60	24.00	23.20	20.80	12.00	8.00	
Sex	Female	n	22	24	5	9	8	12	5	4	
		%	55.00	60.00	12.50	22.50	20.00	30.00	12.50	10.00	
	Male	n	47	36	37	21	21	14	10	6	
		%	55.29	42.35	43.53	24.71	24.71	16.47	11.76	7.06	
Work experience	Up to 5 years	N	13	8	12	9	7	4	7	1	
		%	50.00	30.77	46.15	34.62	26.92	15.38	26.92	3.85	
	6-10 years	n	26	19	12	8	7	14	2	2	
		%	65.00	47.50	30.00	20.00	17.50	35.00	5.00	5.00	
	Over 10 years	n	30	33	18	13	15	8	6	7	
		%	50.85	55.93	30.51	22.03	25.42	13.56	10.17	11.86	
Education	Medical	N	26	25	16	11	9	13	4	4	
		%	55.32	53.19	34.04	23.40	19.15	27.66	8.51	8.51	
	non-medical	n	43	35	26	19	20	13	11	6	
		%	55.13	44.87	33.33	24.36	25.64	16.67	14.10	7.69	
Statistical significance	(test χ^2)	P	sex	0.975	0.050	0.001	0.788	0.561	0.082		
			Training	0.318	0.101	0.313	0.353	0.578	0.027		
			Education	0.983	0.367	0.935	0.904	0.405	0.142		

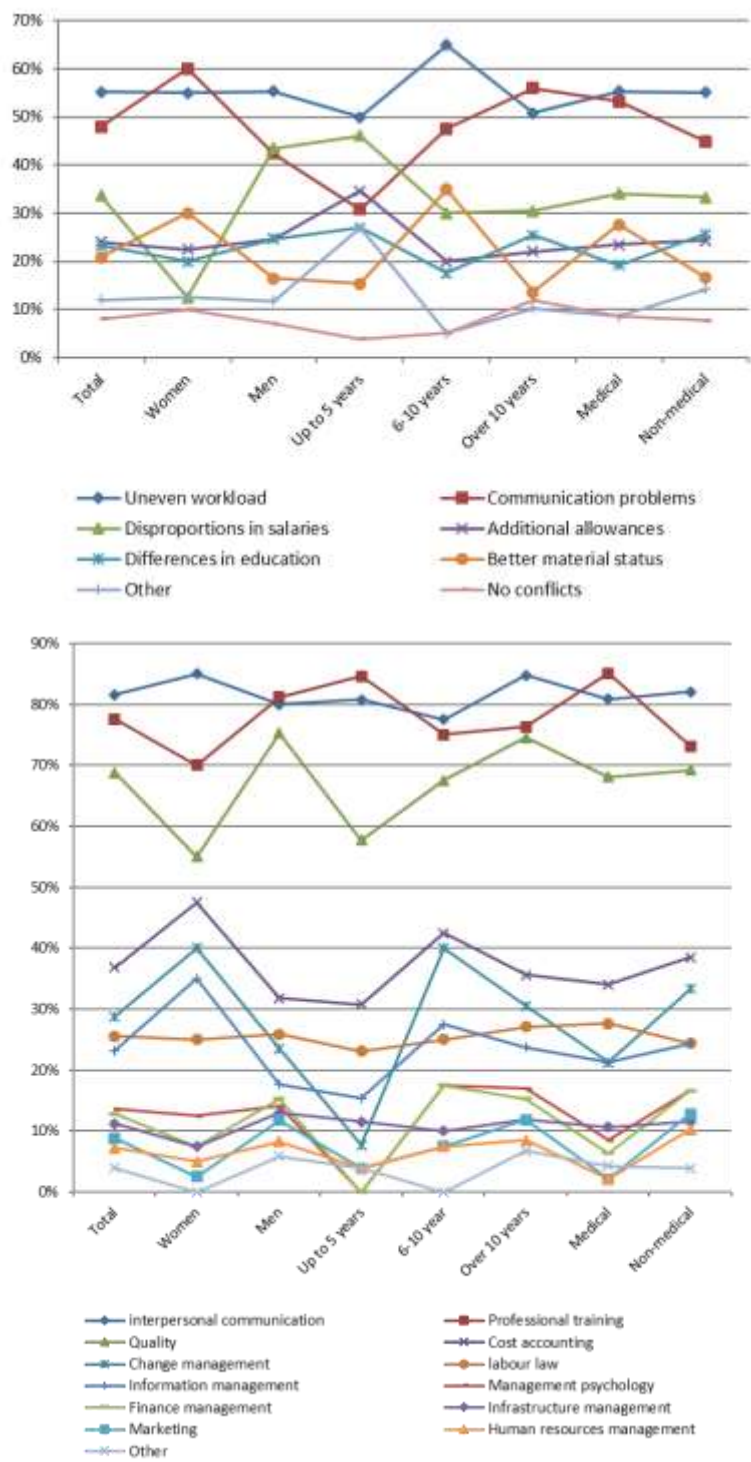


Figure 2. Sources of conflicts according to the surveyed in general and grouped according to their sex, work experience and type of education received)

Training as a change factor in the light of research

The directors recognize the need to organize training, especially concerning interpersonal communication (81.6% of the surveyed), professional training (77.6%), and quality (68.8%), which is presented in Table 5 and Figure 1. A less common indication regarded the need for additional training in: cost accounting (36,8%), CM (28,8%), labor law (25.6%), and information management (23.2%). The least frequently indicated needs for training referred to management psychology, finance management, infrastructure management, marketing, and human resource management (less than 15%). Female directors less frequently (55%) than male directors (73.3%) pointed to the need of training regarding quality, at the same time more frequently indicating the necessity to organize CM training (40% of women vs. 23.5% of men) and information management training (35% of women vs. 17.65% of men). When it comes to CM, a significantly smaller number of employees with work experience under 5 years (8%) than those working between 6 and 10 years (40%) or above 10 years (30.5%) acknowledged the need for training in this field. The directors who received non-medical education pointed to the need for marketing training more frequently (13%) than those with medical education (2%). The remaining replies concerning training did not vary significantly according to sex, work experience and the type of education obtained.

Table 5. Areas of employee training (for employees not in managerial positions) in general

Areas of employee training	Total		Sex			
			Women		Men	
	N	%	n	%	n	%
Interpersonal communication	102	81.60	34	85.00	68	80.00
Professional training	97	77.60	28	70.00	69	81.18
Quality	86	68.80	22	55.00	64	75.29
Cost accounting	46	36.80	19	47.50	27	31.76
Change management	36	28.80	16	40.00	20	23.53
Labor law	32	25.60	10	25.00	22	25.88
Information management	29	23.20	14	35.00	15	17.65
Management psychology	17	13.60	5	12.50	12	14.12
Finance management	16	12.80	3	7.50	13	15.29
Infrastructure management	14	11.20	3	7.50	11	12.94
Marketing	11	8.80	1	2.50	10	11.76
Human resources management	9	7.20	2	5.00	7	8.24
Other	5	4.00	0	0.00	5	5.88
Areas of employee training	Work experience (years)					
	Up to 5		6 -10		Over10	
	n	%	n	%	n	%
Interpersonal communication	21	80.77	31	77.50	50	84.75
Professional training	22	84.62	30	75.00	45	76.27
Quality	15	57.69	27	67.50	44	74.58
Cost accounting	8	30.77	17	42.50	21	35.59
Change management	2	7.69	16	40.00	18	30.51
Labor law	6	23.08	10	25.00	16	27.12
Information management	4	15.38	11	27.50	14	23.73
Management psychology	0	0.00	7	17.50	10	16.95
Finance management	0	0.00	7	17.50	9	15.25
Infrastructure management	3	11.54	4	10.00	7	11.86
Marketing	1	3.85	3	7.50	7	11.86
Human resources management	1	3.85	3	7.50	5	8.47
Other	1	3.85	0	0.00	4	6.78

Areas of employee training	Education				Statistical significance		
	Non-medical		Medical		(test χ^2) p		
	n	%	n	%	Sex	Work experience	Education
Interpersonal communication	38	80.85	64	82.05	0.501	0.654	0.867
Professional training	40	85.11	57	73.08	0.162	0.621	0.118
Quality	32	68.09	54	69.23	0.022	0.295	0.893
Cost accounting	16	34.04	30	38.46	0.089	0.606	0.620
Change management	10	21.28	26	33.33	0.050	0.017	0.149
Labor law	13	27.66	19	24.36	0.916	0.920	0.682
Information management	10	21.28	19	24.36	0.032	0.518	0.693
Management psychology	4	8.51	13	16.67	0.806	0.075	0.198
Finance management	3	6.38	13	16.67	0.224	0.085	0.096
Infrastructure management	5	10.64	9	11.54	0.368	0.957	0.877
Marketing	1	2.13	10	12.82	0.088	0.456	0.041
Human resources management	1	2.13	8	10.26	0.514	0.746	0.089
Other	2	4.26	3	3.85			

Conclusions and discussions

The presented research results constitute an identification of the scope of changes which will undoubtedly be introduced in the surveyed hospitals. It turned out that the payroll system ought to be modified. Moreover, it appears that also the management of resources should be subject to a thorough analysis. This concerns the unsatisfactory manner of settling accounts with the NHF and of the wards in particular. It is the obligation of the managers to improve the quality and efficiency of the work environment. The identification of the conflict sources may positively contribute to the implementation of changes in human resources management. It has been established that the most common causes of conflicts indicated by the respondents are not a major problem, since (provided they are willing to do that) the employees may easily eliminate them by themselves. Poor interpersonal communication also emerged as a significant cause of conflicts. A positive aspect of this is the fact that directors have substantial knowledge concerning the irregularities within the organization and that, accordingly, the indication of these irregularities enables the introduction of proper changes in certain areas, thus eliminating the conflicts. As far as other sources of conflicts are concerned, uneven workload was mentioned as the greatest cause, followed by problems with communication and disproportions in salaries. From these, it seems possible to eliminate the two former sources, for they do not depend on any external factors. Unequal access to training and conferences was not a significant cause of conflicts, although it has to be noted that taking part in training may also eliminate certain communication problems.

Therefore, it lies within the competence of the manager to thoroughly analyze the financial activities on which he or she has influence. All the fields of CM presented in Table 1 may undoubtedly be changed. The biggest problem concerns the ways and regulations concerning the settling of accounts with the NHF. However, the directors do not have much power and influence when it comes to solving this issue. What they can do is to make sure that the accounting procedures are thorough and sound. Furthermore, the study showed that the payroll system, as well as cost and revenue control system, ought to be altered. The change management in Polish hospitals should unquestionably be supported by a previously conducted detailed examination of the areas subject to change. Although the research results are a reflection of the directors'

outlook, their measures they take cannot remain isolated. CM ought to take place with the participation of employees and ought to take into consideration their different views, ideas and standpoints (Michalczyk, 2014). This, however, calls for further research.

While analyzing organizational changes in the Polish health service it must be highlighted that they were not performed in an unforeseeable way, since they were planned beforehand. The changes encompassed the following fields: strategy, structure and organization, techniques and people. The implementation of strategy is connected with a constant analysis of changes occurring in all areas of hospital activity, whether social or economic, in accordance with the law and international regulations. CM is also performed with due regard to the analysis of the competitors' behavior, the suppliers, the patients, and other parties concerned. This, in turn, leads to organizational changes which involve the given organization's resources. In the case of human resources, it is necessary to support employees by enabling them to improve their qualifications through training, by taking care of the working environment, by eliminating conflicts and by motivating them to work more efficiently. In the case of material resources, changes refer to a more effective use of assets and the selling of redundant assets. These can be implemented in any area of the hospital's activity, but they require an earlier recognition of the reasons behind such changes (Kister, 2015a, Kister, 2015b). What is more, the organizational transformations were undertaken primarily as forms of restructuring operations (Wysokińska – Senkus A., Senkus P., 2013). The transformations have influence on, inter alia, the ways of settling accounts between wards, as well as human resources management, including the planning of forms of employment, the training system, and solving conflicts. The rules concerning efficient application of changes which, in turn, are accountable for lowering the risk of venture failures have been thoroughly described in literature (Penc, 2007) and ought to become a basis for their implementation (Nadler & Tushman, 1989).

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STRATEGIC SUSTAINABLE MANAGEMENT APPROACH TO DESIGNING THE AGRICULTURE SECTOR IN NIGERIA

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Abstract. *The following paper was prepared as the result of the cooperation and development programs that have been run by the authors and Joseph Ayo Babalola University and is the voice in discussion to encourage Nigerian Government to develop strong and effective agriculture sector. Modern-day Nigeria has emerged as Africa's largest economy, with 2014 GDP at over 568 billion USD (The World Bank, 2016). Thanks to the largest population in Africa and the strongest economy Nigeria is often referred to as the "Giant of Africa". Although oil has been playing the mayor role in the structure of Nigeria's GDP the economic growth for over the last five years has been driven by growth in agriculture, telecommunications, and services. Economic growth and stability makes Nigeria according to PwC "one of the potential power economies of the world" (PwC 2016), but one the country is still facing several challenges economic, social and environmental. The biggest challenge is that according to the The World Factbook strong economic growth have not translated into a significant decline in poverty levels (Central Intelligence Agency, 2016). The government and President has announced plans to increase transparency, diversify the economy away from oil, improve fiscal management and working to develop stronger public-private partnerships for roads, agriculture, and power. That actions and activities are very positive, but because of significant differences between for example Europe, North America and Africa they should be designed specifically for Nigeria. The actions and activities should be strategically planed and follow latest developments of management and technological revolution like sustainability, knowledge sharing, Internet of things. The paper presents the challenges and possible scenario for Nigerian agriculture, one of the most dynamic and important sector for Nigerian economy, that produces not only economic output but could be nowadays fundament for welfare society supporting it with food, jobs and place to live.*

Keywords: agriculture; internet society; knowledge management; knowledge sharing; business; sustainability; cradle 2 cradle.

Introduction

According to Barak “Entrepreneurship creates new jobs and new businesses, new ways to deliver basic services, new ways of seeing the world—it’s the spark of prosperity.” The experts see the opportunities to develop SMEs in high-growth sectors like agribusiness, ICT, and clean technology (The World Bank, 2016).

Nigeria is a democratic country which operates the presidential system of government that has gained the independence on 1 October 1960. There are 774 local governments, 36 states and the Federal Capital Territory. The GDP of Nigeria has been constantly growing until 2014 to the level of 568 Billion of USD, but in 2015 has started to fall. The main cause of this “slowdown” of GDP output is because the Nigerian economy is tightly-coupled to “commodity prices” in the international markets especially oil.

The challenge as ben noticed by Nigerian government that has proposed several plans to drive economic growth, attract investment and diversify the economy with more focus on the non-oil sectors including agriculture, mining, manufacturing and services (PwC, 2016).



Figure 1. The key figures for Nigeria
(Source: Adeola Falodun, Doing business in Nigeria, 2016

<http://www.slideshare.net/AdeolaFalodun/doing-business-in-nigeria-with-a-focus-on-the-fashion-industry> access 2018.08)

Current population in Nigeria has exceeded 180 million of people that makes 2,4% of the world population, ranking the 7th place. Nigeria's population increased by 57 million from 1990 to 2008, a 60% growth rate in less than two decades (IEA, 2008). It is the most populous country in Africa. The Nigerian population pyramid, age population structure has very favorable structure according to social sciences, unlike Poland, Europe or developed countries (Figure 2).

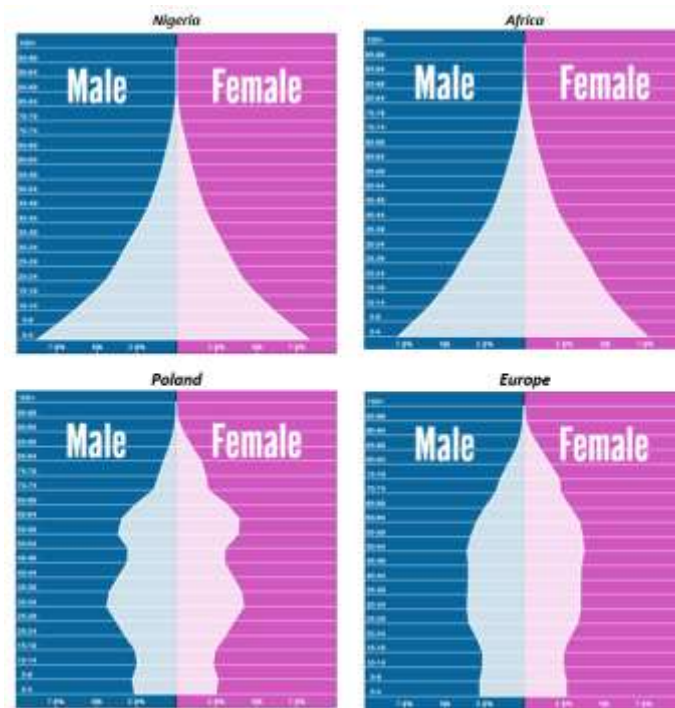


Figure 2. The population pyramids Nigeria, Africa, Europe and Poland 2017
(Source: <http://populationpyramid.net/> access 2018.08)

Such structure is also another challenge for Nigeria and with other economic factors it determines some key aspects to take under consideration when developing plans to for Nigerian growth:

- Nigeria has totally different number of young people than Europe or developed countries (about 40% of the population is under 14, while in the European population is going older and older);
- Because of demographics, less young people, less hands to work, the priorities for European countries are mainly related to ensuring the economic growth and wellbeing that requires less active jobs. That is why the significant investments in agriculture's technology, manufacturing and services has been made there;
- The very strong investment in technology also is very good idea for Nigeria, but crying to copy industrial model would not solve the problem of poverty and unemployment. Only the implementation of the sustainable model with fundamentals on small and medium enterprises in the manufacturing and services sector and family farms based on private property, could result in economic self-sufficiency for Nigerian families because it creates jobs and gives food;
- Building economic growth on big corporations founded by foreign investments could result in corporate (neo)colonialism because for foreign investments only profit counts, rather than ecological and social situation like income distribution inequality, "Land Grabbing" and ecological disaster (Michalski, 2014).
- Building economic growth on big corporations founded by state remains big economic experiment that was conducted in XX century especially in Central

and Eastern Europe and the USSR. In general, the experiment has result in significant drop in economics and productivity, society degradation.

The effects of inadequate development policy are very tragic and affects all economy of the country society and natural environment so should be planted with care and respect. The example of large scale economic growth policy failure for very big area is the case of “Aral Sea”, where irresponsible management of water resources used for agriculture, irrigation of big cotton plantations has caused drying of one of the biggest sweet water reservoir in the World and ecological and social disaster. The Nigeria with is demography and economical potential is entering new age of possible welling but the Nigerian politicians and economics have to draw their unique scenario because the economic ideas and practices base only on the dictation of high productivity and high profit without care of society and ecology had bankrupted with the 2008+ Global Economic Crisis.

The priority for the decision maker should be to support economically self-sufficient Nigerian family that in business either manufacturing or services sector could result is small or medium family based enterprise that gives stability and employment. The potential of the Nigerian agriculture sector seems to be nowadays even bigger than the rest economy. That sector also faces bigger challenges than the rest of economy, that is why the rest of the paper is devoted to highlight the challenges and try to point he adequate solution in order to build well developed Nigerian society.

The side effect of the pointed practices could also help to overcome the national Nigerian problems like:

- National identity problem and Tribalism;
- Poverty, Unemployment and Inequality;
- Corruption, Home violence, Terrorism and High level of child mortality;
- Poor education.

The facts about Nigerian agriculture

The total agricultural area, according to FAOSTAT, 72 million hectares, that is about 77% of total country area. Arable land is 35 million hectares, that makes less than 48% of agricultural area.

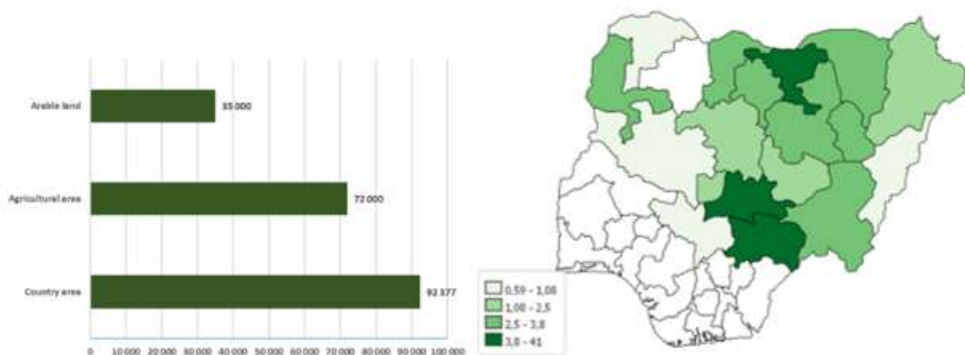


Figure 3. Agriculture statistics and agriculture land in Nigeria
 (*10 000 ha or 10 sq.km) (Source: own work, based on FAOSTAT, 2016)

Total agriculture production of crops was estimated to be 152 million tones. The main 10 crops planted in Nigeria are Cassava - 54 831 600 tones, Yams - 45 004 340 tones, Maize - 10 790 600 tones, Oil, palm fruit - 7 968 440 tones, Sorghum - 6 741 100 tones, Rice, paddy - 6 734 000 tones, Sweet potatoes - 3 478 270 tones, Groundnuts, with shell - 3 413 100 tones, Taro (cocoyam) - 3 273 000 tones, Cow peas, dry - 2 137 900 tones. That 10 planted crops make over 94% of total crops production in Nigeria (figure 4).

Conclusions could be retrieved from the analysis of yields of the main crops planted in Nigeria:

- Cassava – the yield in Nigeria 70 323 hg/ha, the best yields of that crop India – 349 594 hg/ha, the average yields of Cassava in the world was 112 121 hg/ha. That means that the growth of yields in Nigeria has still great potential because the achieved yields there are only 20% of the best yields achieved in the world and 62% of the average;
- Yams – the yield in Nigeria 70 001 hg/ha, the best yields of that crop Ethiopia – 279 805 hg/ha, the average yields of Yams in the world was 92 015 hg/ha. That means that the growth of yields in Nigeria has still great potential also in case of that crop, because the achieved yields there are only 25% of the best yields achieved in the world and 76% of the average.
- Maize – the yield in Nigeria 14 616 hg/ha, the best yields of that crop United Arab Emirates – 367 619 hg/ha, the average yields of Maize in the world was 47 217 hg/ha. That means that the growth of yields in Nigeria has still great potential also in case of that crop, because the achieved yields there are only 3% of the best yields achieved in the world and 30% of the average.
- Oil, palm fruit – the yield in Nigeria 26 667 hg/ha, the best yields of that crop Guatemala – 227 692 hg/ha, the average yields of Oil, palm fruit in the world was 117 416 hg/ha. That means that the growth of yields in Nigeria has still great potential also in case of that crop, because the achieved yields there are only 11% of the best yields achieved in the world and 22% of the average.
- Sorghum – the yield in Nigeria 9 727 hg/ha, the best yields of that crop United Arab Emirates – 241 358 hg/ha, the average yields of Sorghum in the world was 26 000 hg/ha. That means that the growth of yields in Nigeria has still great potential also in case of that crop, because the achieved yields there are only 4% of the best yields achieved in the world and 37% of the average.

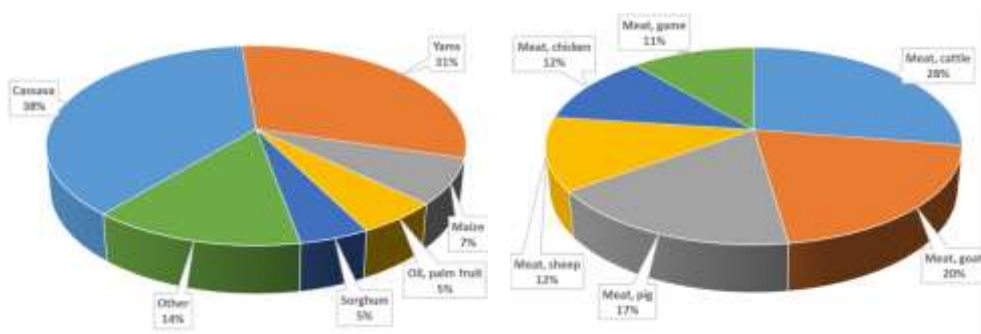


Figure 4. The structure of crops and meat production in Nigeria
(Source: own work, based on FAOSTAT, 2017)

The situation described above could be generally seen according to any kind of crops planted. There are differences because of climate in the certain countries but still when one benchmarks the Nigerian agriculture with the countries with similar climate one should get similar findings. That factor is important in case of drawing the scenarios for Nigeria.

When considering meat and main animal products production the total production achieved in 2014 about 1,4 million tones (figure 4), 650000 tons of hen eggs and 570 000 tons of milk. The analysis made on crops production and meat and main animal products production shows that agriculture is very extensive.

Interesting findings one could made when analyzing agriculture products international trade of Nigeria and OPEC oil prices (figure 5).

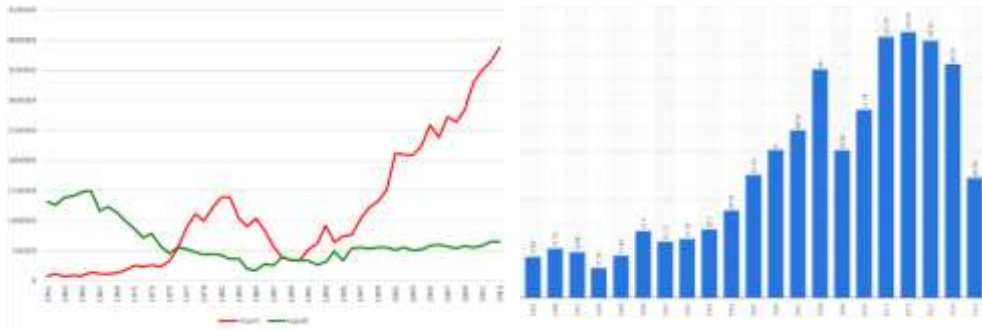


Figure 5. Value of Nigerian export and Import and OPEC oil prices
(Source: own work, based on FAOSTAT, 2017)

The Nigerian economy, as the country is forth OPEC exporter is strongly depended on oil prices, co the form about 1995 then the oil prices had started to grow also the agriculture products trade deficit had grown. During that more or less 20 years of prosperity on the oil market Nigeria had financed their agriculture trade deficit with income from oil export. The dangerous situation has appeared in 2015 when oil price has significantly dropped. Nigeria has not totally been prepared for that situation. Moreover, the situation on the oil market, and also prices, will never be the same again also because of the growing popularity of substitute to oil energy sources like for example shell gas or all palette of the renewable energy sources like wind, sun, etc. That situation draws the new challenges in front of Nigerian economy and agriculture

The new challenges in front of Nigerian economy and agriculture

In management before drawing any plans for the future there is significant need to get as much information as one can about past, current situation ant the trends that could affect the plans, not only according to one issue that is currently researched but also the issues closely related to it. Especially the things that has to be carefully examined are changes.

Charles Robert Darwin has told "It is not the strongest species that survive, nor the most intelligent, but the ones most responsive to change." (Senkus, 2013. p.57), in case of Nigeria that means that the only condition for success in developing the economy is to adjust to new trends either economic or ecological or social. Jack Welsh, the former CEO

GE, told “if you do not change you’re dead”, the symptoms of economic troubles for all oil-dependent countries could be noticed with oil price drop that is why they would have to find the way to change in order not to get bankrupted. But the hardest thing still comes ... Albert Einstein has told “We can't solve problems by using the same kind of thinking we used when we created them”. That are words are very actual nowadays. Probably no conventional way to encourage the economic growth would work. It would not work, because external environment has totally changed especially according to technology, knowledge sharing or information flow. So how to draw right plans and chose the good actions? Let us begin from general to specific.

The ability to answer the question is bigger when one understands the “game-changers” or often called the technological waves. The theory of waves has been developed by Alvin and Heidi Toffler. They claim the entire history of mankind is considered by them within the context of three consecutive but simultaneously interpenetrating one another technological waves:

- the agrarian - began about 10,000 years ago and was a consequence of the spread of inventions and skills related to farming that resulted in forcing the settled way of life. The wave has not gone yet. The wave is still present in the countries where the most of the society is depended on agriculture. It does not mean that that countries are worse than others, it only means that in order to achieve success another plans have to be drawn and another actions have to be taken. According to agriculture to make it modern and efficient, the new technologies like Internet of Things, new way of planting or breeding or new platforms, based on Internet, to educate farmers and share the knowledge have to be implemented;
- the industrial - began with the invention of movable type by Johannes Gensfleisch zur Laden zum Gutenberg about 1450 and this wave was surged thanks to James Watt, who improved the atmospheric steam engine in 1763, which was constructed by Thomas Newcomen. However, the invention of a steam engine and launching the industrial era are assigned to James Watt. This wave revolutionized steel production methods, popularized electricity and brought new means of transport and mass communication as well as it popularized standardization and uniformity. Like in case of the agrarian wave that wave has not been over. That wave is characteristic for the countries with strong industry, but without R&D centers. The interesting thing about the theory is that the countries on their way to development do not necessary need to get into all waves. It is only necessary to uncover and implement the new trends that are shaping industry of the future like 3D printing (it allows to manufacture goods directly in the place where they are needed);
- the information - is directly related to the emergence of new technologies enabling unlimited communication amongst people. It is characterized by the development of different services and leaving mass production; it is not a talk about simple services here such as gastronomy or hairdressing, since they cannot, according to Toffler, become the icons of the third wave. The services associated with the third wave are above all the services related to creation and accumulation of knowledge and modern technologies; the third wave is still in the initial phase and faces the resistance of the defenders of the second wave (Toffler, 1997).
- Nigeria and the rest of the world is now at the end of the third wave or even at the beginning so the “proven programs” that were conducted in the other countries would not work the for Nigeria. The easiest way to improve agriculture would be

to use more fertilizers, more heavy machinery and promote monoculture ... such action runs in a straight line to repeat the environmental, economic and social catastrophe of the “Aral Sea”.

Table 1. Gaps in the Nigerian demand and supply across key crops and activities (2016 estimate) (Source: Federal Ministry of Agriculture & Rural Development in the document “The Agriculture Promotion Policy (2016 – 2020) - Building on the Successes of the ATA, Closing Key Gaps”)

Crop	Demand	Supply	Gap (%)	Observations
	(million tons)			
Rice	6.3	2.3	173,9	Insufficient supply chain integration remains issue
Wheat	4.7	0.06	7 733,3	Driven by demand for various types of wheat (white, hard, durum), etc. for bread, biscuits and semovita
Maize/Corn	7.5	7.0	7,1	Limited imports required but can shift due to feed demand
Soya Beans	0.75	0.6	25,0	Animal feed and protein cost alt. driving demand
Chickens	200 birds	140	42,9	Gap filled by illegal imports that enter market at lower price point than domestic producers; gap also a moving target based on fast food/QSR demand
Fish	2.7	0.8	237,5	Fall off in ocean catch and weakness in aquaculture yields due to cost of fish feed a constraint on growth
Milk / Dairy	2.0	0.6	233,3	Driven by insufficient milking cows and low yields (~15-25 liters/day versus norm of 35 - 40 liters NZ/US)
Tomato	2.2	0.8	175,0	Actual production is 1.5 million tons but 0.7M ton is lost post-harvest
Yams	39	37	5,4	Limited gap today but volumes expected to rise in planning period
Oil Palm	8.0	4.5	77,8	Refers to fresh fruit bunch (FFB) from which oil is extracted at a 10% - 15% efficiency rate
Cocoa	3.6	0.25	1 340,0	Demand is global demand which will rise to 4.5M by 2020
Cotton	0.7	0.2	250,0	Demand is for seed cotton and could rise to 1.0 - 1.5 million tons subject to textile sector revival
Sorghum	7.0	6.2	12,9	Demand will rise further as use in feed grows in 2016 - 2020. Import of malt extracts and glucose syrup is currently used to manage gap, hence a commercial threat for Nigerian farmers

Federal Ministry of Agriculture & Rural Development in the document “The Agriculture Promotion Policy (2016 – 2020) - Building on the Successes of the ATA, Closing Key Gaps” has identified the gaps in Nigeria demand and supply across key crops and activities that are presented in table 1.

The figures shown in the table 1 show that Nigeria has a lot to do but the chance for the success is great because even the gap in the production of strategic crops is from about 5 to 7 733% the average value is 793,4 and the modal value is 174,5%. Getting back to the yields analysis one could notice that even when to improve yields about 200% the

yields still remain relatively low to worlds average. The select challenges and production gaps by value chain stage were displayed (table 2). The most important when restructuring Nigerian agriculture is to treat agriculture as the part of the all Nigerian economy system, not stand as alone.

Table 2. Gaps in the Nigeria demand and supply across key crops and activities (2016 estimate) (Source: Federal Ministry of Agriculture & Rural Development in the document "The Agriculture Promotion Policy (2016 – 2020) - Building on the Successes of the ATA, Closing Key Gaps")

Area	Illustrative shortcomings
Input Supply	- GES's limited focus and exit strategy set aside, with material implications for Ministry's budget, hence the sharp rise in indebtedness to banks. The system has many leakages from farmer registration and data capture to supply and distribution mechanism. - Insufficient access to improved variety seeds e.g. still a 300,000MT gap between demand and supply of seeds
Financing	- Credit access particularly for small holders remains weak - Nirsal's 2013 change in credit guarantee rules disrupted market for agriculture financing until mid-2015 when rules were reviewed again - Backlog of unpaid GES loans (estimated at N39B) has slowed down bank lending - Of ~\$8 billion in domestic and foreign investor commitments often cited, only limited volumes actually moved from idea to reality
Infrastructure & Logistics	- Investment inflows into infrastructure and midstream logistics e.g. warehouses, storage, processing systems remains rudimentary - Staple crop processing zone (SCPZ) strategy has not yield results. For example, Kogi SCPZ has not taken off due to withdrawal of Cargill, the anchor investor from the project
Production	Growth in food production remains limited due to gaps in input supplies e.g. rice; hence rice imports still exceed \$1 billion/annum. Outlined below is an <i>illustrative</i> "best estimates¹" of demand-supply gaps given data quality issues still present in Nigeria. It is anticipated that as production gaps are closed via yield improvements, per/ton equivalent costs will also decline, helping reduce food costs and ultimately, inflation.
Market Access	- Post-harvest losses still an issue but improving moderately - Illegal food imports remain an issue, depriving farmers of market opportunities
Others	- Federal - State coordination of policy became significant challenge; some states made choices at odds with federal approach e.g. continuing direct procurement of fertilizer - Absence of program delivery infrastructure / unit at the federal and state levels; held back key implementation and donor funding - Data collection and evidence based reporting remains weak, hence tracking results / M&E continues to be a challenge

¹ Based on data drawn from FMARD, NBS, NIRSAL, CNBC Africa, commercial bank project analysis, FAO, USDA GAIN. NDPI Foundation, and private estimates

One of the most interesting of management that is e part of “sustainability trend” is Cradle to Cradle. The application of the model has been already conducted in Ford Motor Company, Deso and many other industries and agriculture (Bouma et al., 2011; Docuyan, 2011). Cradle to Cradle (C2C) is a biomimetic approach to the design of products and systems. It models human industry on nature's processes viewing materials as nutrients circulating in healthy, safe metabolisms. It suggests that industry must protect and enrich ecosystems and nature's biological metabolism while also maintaining a safe, productive technical metabolism for the high-quality use and circulation of organic and technical nutrients (McDonough & Braungart, 2010; Hunter, 2008).

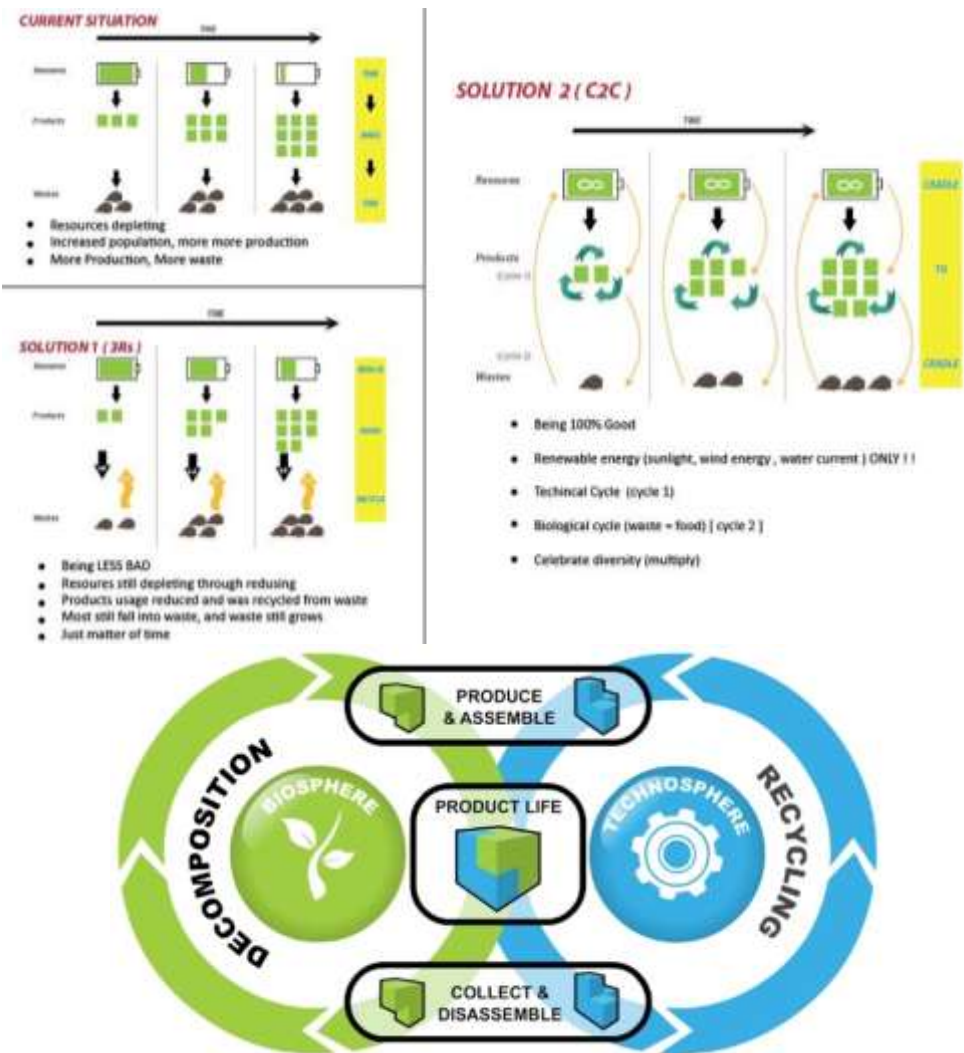


Figure 6. The idea of Cradle to Cradle (C2C) and Model C2C
(Source: McDonough & Braungart, 2010; Cradle to Cradle Products Innovation Institute, <http://www.c2ccertified.org/>, dostep 2013)

According to the "Cradle to Cradle" model (figure 6), all materials used in production or services, such as metals, fibers, dyes, fall into one of two cycles: "technical metabolism" or "organic metabolism":

- The technical – is strictly limited to non-toxic, non-hazardous synthetic materials that have no negative impact on the environment and also can be used in continuous cycles, without loss of integrity and quality. Thus, these materials may be used in a continuous cycle, instead of being "recycled", where part of the product, becomes waste;
- The biological - contains materials that once used, can be thrown in any environment and decompose in the soil, providing food for small life forms without affecting the environment.

The main principles of Cradle to Cradle (C2C) are:

1. Waste = Food is a basic concept of organic waste materials becoming food for bugs, insects and other small forms of life who can feed on it, decompose it and return it to the natural environment which we then indirectly use for food ourselves;
2. Use current solar income – the designers of the method encourage to renewable sources of energy for example powered by sun;
3. Celebrate diversity – that means biodiversity, cultural diversity or conceptual diversity.



*Figure 7. The principles of Cradle to Cradle (C2C)
(Source: McDonough & Braungart, 2010.)*

Nigerian Government and the agencies, universities and specialists who would do the agriculture or other branches of Nigerian Economy reorganization in order to achieve success have to treat their job as project or portfolio of projects and run them under project management regime and except of sustainability, use new management tools and techniques like business process management, lean management.

The scenario for Nigerian agriculture development

Federal Ministry of Agriculture & Rural Development of Nigeria has prepared also the development policy with the certain fundaments:

- Food security;
- Import substitution;
- Job creation;
- Economic diversification.

From the perspective of sustainability and new management trends the policy is well prepared because the policy seems to be treated as system.



Figure 8. Agriculture Promotion Policy Fundamentals

(Source: Federal Ministry of Agriculture & Rural Development in the document (2016) "The Agriculture Promotion Policy (2016 – 2020) - Building on the Successes of the ATA, Closing Key Gaps").

The ministry has also described some priorities (Federal Ministry of Agriculture & Rural Development 2016) but based on experience of the countries like Poland or other countries who has gone through economic transformation some comments and additions should be made. The priorities are mentioned below in points and are commented based on practical and research experience of the authors:

- 1) Agriculture as a business - focusing the policy instruments on a government-enabled, private sector-led engagement as the main growth driver of the sector. This essential principle was established in the ATA and will remain a cardinal design principle of Nigeria's agriculture policies going forward. Comment: The introducing "agriculture as a business" is great idea because actually managing the agriculture farm does not really differ from managing any other business. Peter Drucker told "management is divided only into good or bad management". The thing that has to be mentioned is structure of farms and structure of capital:
 - a. Farm structure – large farms are more effective and more profitable, but definitely do not create jobs. The high effective big farm in Europe or US employ 2-3 workers on each 100 ha while the large state farms in communist times in Poland employed about 12 workers. Unfortunately, Polish government did not care to much about that numbers that has result in very high unemployment in the rural areas. The most effective farm type for Nigeria would be, based on the polish experience, would be family farm.
 - b. Capital structure – the policy makers in Nigeria has to take care also for proper balance between foreign and domestic capital. The foreign capital is welcomed, but no controlling it could result in neocolonialism because foreign capital would invest only in big profitable farms and transfer the profits to their countries. Such mechanism is unfortunately noticeable in Polish banking sector, where 98% of banks are foreign and industry sector where almost none of big companies are Polish. The significant thing is that one who owns the capital decides how many people to employ and how much to pay for the job. That means that in order to company would be high profitable the wages have to remain low. The other way to build very economically effective society is the Japan way described in the Imai Masaaki book "Kaizen: The key to Japan's competitive success" (Masaaki 1986).
- 2) Agriculture as key to long-term economic growth and security - focusing policy instruments to ensure that the commercialization of agriculture includes technologies, financial services, inputs supply chains, and market linkages that directly engage rural poor farmers because rural economic growth will play a

critical role in the country's successful job creation, economic diversity, improved security and sustainable economic growth. Comment:

- 3) Food as a human right – focusing the policy instruments for agricultural development on the social responsibility of government with respect to food security, social security and equity in the Nigerian society; and compelling the government to recognize, protect and fulfill the irreducible minimum degree of freedom of the people from hunger and malnutrition.
- 4) Value chain approach – focusing the policy instruments for enterprise development across successive stages of the commodity value chains for the development of crop, livestock and fisheries sub-sectors, namely input supply, production, storage, processing/utilization, marketing and consumption. Building complex linkages between value chain stages will be an important part of the ecosystem that will drive sustained prosperity for all Nigerians.
- 5) Prioritizing crops – focusing policy on achieving improved domestic food security and boosting export earnings requires a measure of prioritization. Therefore, for domestic crops, the initial focus in 2016 – 2018 will be expanding the production of rice, wheat, maize, soya beans and tomatoes. For export crops, the initial focus will be on cocoa, cassava, oil palm, sesame and gum Arabic. In 2018 onwards, the export focus will add on bananas, avocado, mango, fish and cashew nuts. Investments in closing infrastructure gaps to accelerate productivity and investment in these crops will also be sequenced to reflect capital availability and management attention.
- 6) Market orientation – focusing policy instruments on stimulating agricultural production on a sustainable basis, and stimulating supply and demand for agricultural produce by facilitating linkages between producers and off takers, while stabilizing prices or reducing price volatility for agricultural produce through market-led price stabilization mechanisms (commodity exchanges, negotiated off-take agreements, extended farm-gate price under value chains coordination mechanisms, agricultural insurance, etc.)
- 7) Factoring Climate change and Environmental sustainability – focusing policy instruments on the sustainability of the use of natural resources (land and soil, water and ecosystems) with the future generation in mind while increasing agricultural production, marketing and other human activities in the agricultural sector.
- 8) Participation and inclusiveness – focusing instruments on measures to maximize the full participation of stakeholders including farmer's associations, cooperatives and other groups, as well as NGOs, CBOs, CSOs, development partners and the private sector. This places a premium on the role of these organizations or groups as agents of economic change in general and agricultural economy in particular, thereby drawing benefits from their policy advocacy roles as partners to and watchdog of government.
- 9) Policy integrity – focusing policy instruments on measures for sanitizing the business environment for agriculture, in terms of accountability, transparency and due process of law, ensuring efficient allocation and use of public funding and fighting corruption on all programs involving public resources. This also applies to compliance with international commitments, protocols and conventions that Nigeria is a signatory to. To make real integrated policy and actions the specific frameworks and tools are needed like Business Process Management or Project Management. The implementation of the frameworks and tools could ensure that could ensure transparency, eliminate corruption and finish project with success (Senkus 2013),

- 10) Nutrition sensitive agriculture – focusing policy instruments on addressing the issues of stunting, wasting, underweight and other manifestations of hunger and malnutrition with particular reference to the vulnerable groups, which include children under 5, nursing mothers and persons with chronic illness and disabilities.
- 11) Agriculture's Linkages with Other Sectors – focusing policy instruments on the connected relationship between agriculture and other sectors at federal and state levels, particularly industry, environment, power, energy, works and water sectors.

According to authors the scenario drawn for Nigeria by the Federal Ministry of Agriculture & Rural Development, with could make the success of the Nigerian agriculture development. Moreover, investing in agriculture even when the world is at the end of the third technological wave still could be profitable for the country. The example or that thesis is Denmark. Generally, two thirds of the Danish agricultural production are exported to more than 100 countries all over the world. Only half of the export goes to the EU-countries. This means that Danish farmers are competing with farmers on the world market (Danish Agriculture & Food Council). The significant thing is that Danish agriculture is based on family farms and co-cooperatives.

Another thing should be also included in the scenario of developing Nigerian agriculture and Nigerian economy at all. The thing is Internet and the related to it like Internet of Things (IoT). IoT could dramatically change the business reality in agriculture that could effect in: significant drop of the production costs, better risk management, better decision making and incense of the welfare in the rural areas (Senkus, Łuczak & Skrzypek, 2014). The only thing is to do by Nigerian government is to set up Internet backbone network as a framework for knowledge sharing.

Conclusion

Nigeria is standing now in the front of very big challenge related building their economic security through to reorganizing the agriculture sector but in order to achieve success the three main activities should be undertaken.

- Developing the family farm model to make them food self-sufficient,
- Developing the co-cooperative model for proper quality of agriculture supply,
- Building the broadband Internet infrastructure to spread specific knowledge.

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THE IMPROVEMENT OF INTERBUDGET RELATIONS NATIONAL MODEL AS A TREND TO BOOST THE RUSSIAN FEDERATION INDUSTRIAL CITIES TAX POTENTIAL

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Abstract. *The topical character of the given paper in the positive effects of the interbudget relations working model is presupposed by the dependence management of financial stability in the Russian industrial cities, caused by transfers from the higher level budgets and bringing about the lack of motives to create favorable conditions for business structures functioning, for enlarging their own tax basis of territorial formations. Aim: working out and finding foundations for a complex methodological approach to the estimation of interbudget relations national model effectiveness as a trend to enhance the tax potential of Russian industrial cities. Using the instruments of the correlation analysis, the character and trend of relations between the scope of interbudget transfers' different types and the figures of the integral indicator of an industrial plant are explained. The method of average figures is applied in the process of the norms optimal figures calculation for interbudget transfers, which condition the maximal increment of the integral indicator, characterizing the tax potential of the territorial formation and the balance of all the state government levels and the tax-payers' economic interests. The paper expounds the results of exploring and finding grounds for the principally new complex methodological approach to estimation of the national model effectiveness in interbudget relations through comparing the criteria of "interbudget transfers" and "the integral indicator of tax potential", introduced by the authors. Its systematized mathematical algorithm is represented. The expediency of the introduced criteria practical application and of the represented mathematical algorithm are investigated in the estimation of the*

financial providing leveling positive effects with state instruments on the example of major industrial cities of the Ural Federal District. The carried out research contributes to the development of ideas about the interbudget regulation on the basis of all levels of power and economic subjects' interest's coordination by means of stimulating the process of tax potential boosting. The results of using the complex methodological approach to estimating the interbudget relations model organization effectiveness through comparing the criteria "interbudget transfers" and "the integral indicator of tax potential" are of objective character and can be used by different countries' financial-budgetary bodies of management in the process of: forming the offers to correct the mechanism, distributing transfers, aiming at stimulating the social-economic development of territorial formations; regular monitoring of asymmetry in the budgetary environment and the correspondence of results in territorial financial policy factual indicators to optimal figures.

Keywords: budget; subsidies; tax revenues; tax potential; non-tax incomes; subventions; interbudget transfers.

Introduction

The modern economic situation in the industrial cities of the Russian Federation is characterized by the chronic lack of their own resources to cover the expenses of the local budget. The state applies the instruments of horizontal and vertical leveling in financial providing of the territories and orients on the distribution of revenue powers among the Russian Federation, the subjects of the Russian Federation and municipal organizations, which leads to the high level of revenues centralization in the federal budget and, accordingly, to negative effects. The negative effects of the national budgetary practice are the resource dependence on the higher level, the decrease of interest on the part of the government bodies in industrial cities to the expanding of their own revenue basis, as well as the arising temptation to increase the amount of expenditures and the deficit of local budgets. It is noteworthy that "many fiscally decentralized economies rely heavily on transfers from upper to lower-level governments as well as on equalizing transfers between lower-level governments" (Lundqvist, 2015, p.43). That is why the increase and solidifying of an industrial city tax potential requires, first of all, working out and practical application of the stimulating mechanisms, instigating modern territories to try to enhance the total resource basis.

Founding grounds for the topical character of the research subject-matter, it seems appropriate in Table 1 to depict the content of interbudget relations traditional models, presupposing the specifics of not only the revenue sources distribution but also of municipal territories.

Comparing the traditional models of interbudget relations organization, it seems expedient to note that the system of state-used instruments of territorial financial providing leveling changes depending on the condition of outer and inner social-economic environment, its historical and political-legal specifics. With this, "the budgetary federalism model effectiveness becomes maximal only as a result of a long-term step by step agreement of interests between the society and the state, on the one hand, and the federation, territorial communities and the local population, on the other" (Wildavsky, 2004, p.157).

Table 1. Review of interbudget relations traditional models' contents (Composed by the authors)

Name of the model	Specifics of the model	States, using the model
German model	The model is aimed at the decrease of horizontal disproportions in the level of financial providing and realized using redistribution of tax sums, first of all, from the interest rate tax and providing the substantial amount of interbudget transfers. The system of interbudget leveling presupposes the existing taxes, the sums of which are distributed among all the levels of the budgetary system, their partial redistribution to cover the gaps in the territorial financial providing rate.	Germany
Anglo-Saxon model	The Anglo-Saxon model of interbudget relations is characterized by decentralization of the budgetary system – the municipal organizations have a substantial level of independence, affording them to introduce additional and double taxes. The system of interbudget leveling presupposes the active use of purpose grants.	The USA, Great Britain, Canada, India, etc.
The unitary model of interbudget relations	The unitary model of interbudget relations is characterized by the decrease of the territorial financial providing level disproportions through transfers, defined as the difference between the basic financial needs and the basic financial revenues, which, by no means, are related to the factual replenishing of the local budgets.	Japan, Sweden, Denmark, etc.

Recognizing the importance of foreign experience in the organization of interbudget relations, its copying in the conditions of the Russian Federation is impossible and fruitless, because:

- first, there are significant differences in the self-organization of some state regions potential;
- second, the system of national budgetary management is based on the principles of self-government and subsidiaries, which presupposes the basic role of municipal bodies in satisfying the social needs;
- third, the level of territorial financial stability is traditionally characterized by significant horizontal and vertical disproportions, requiring certain amounts of financial resources for their decrease.

No doubt, the stated problem is perceived and discussed at different government levels. Though, in our opinion, this problem cannot be solved positively without the complex research of the national model of interbudget relations as the trend to enhance the Russian Federation industrial cities tax potential as the instrument to coordinate economic interests of all the government levels and tax-payers. The formed interbudget relations national model estimation mechanism does not reflect the real situation with resource providing of the territories and distorts its social-economic dynamics rating (Zenchenko, 2009, p.3).

Moreover, in the course of the problem under consideration analysis, it was clarified that by the present time there are practically no publications, devoted to the working out of approaches to the interbudget leveling national model effectiveness estimation

and proliferation of their test results. Most of the works are based on the analysis of certain criteria of the territorial formations revenue powers distribution quality and do not concern the issues of holding the total estimation. Here belong the papers by Avetisyan (2011), Bahl (1986), Bahl and Linn (1994), Boik (2013), Boadway, Cuff and Marchand (2003), Chernyavsky and Vartapetov (2004), Jack (2005), Kizeev (2011), Kimelman (2010), Liberati and Sacchi (2013), Lundqvist (2015), Marques, Nazrullaeva and Yakovlev (2016), Mello (1999, 2000), Nortman (1971), Pechenskaya and Uskova (2012), Siluanov, Starodubrovskaya and Nazarov (2009, 2011), Staats (1974), Vasilieva et al. (2017), Verbinenko and Badylevich (2013).

The investigation of different approaches to the estimation of interbudget relations organization effectiveness and the practice of their realization enables us to note that by now their conceptual contents are incomplete:

- first, the approaches to the study of interbudget relations' effectiveness are considered separately from the conditions of the state financial system functioning;
- second, most of the approaches are based on the analysis of certain quality criteria of territorial formations revenue powers distribution and do not concern the aspects of carrying out total estimation;
- third, the study of interbudget relations as a trend to boost the tax potential of the territories, which is a key instrument to arise interest in all levels of power and taxpayers in actions and results, as well as in the coordination of their economic interests – all this has not yet become the object of special research.

The above-mentioned circumstances determined the topical character and practical importance of scientific research, in whose framework the complex methodological approach to the estimation of the interbudget relations current national model effectiveness as a trend to enhance tax potential of industrial cities in the Russian Federation is formed.

Methodology

Paying its due to the significant research work, made in the field of comprehending and studying interbudget regulation processes effectiveness, its role in the management of the social-economic development of territories and the state, on the whole, within the limits of the present paper, the authors tried to eliminate the above-mentioned gaps. The methods of economico-statistical estimation effectiveness, proposed by the authors, and covering the current national model of interbudget relations as a trend to enhance the tax potential of the territories, presuppose two stages.

Within the first stage, with the help of statistical research, the interrelation between the volume of interbudget transfers of different kinds (grants, subsidies, subventions and other transfers) and the figures of the integral indicator of the municipal territory tax potential is explicated and analyzed. It is noteworthy, that it is in the process of dependences statistical research that the cause-effect relations among the phenomena are expounded as "the relation of phenomena and processes, when the change of one of them – the cause – results in the change of the other – the effect" (Vasilieva et al., 2017, p.638).

In order to divulge the existing relation, its character and trend between the volume of interbudget transfers into the budget of the territorial formation and the integral indicator of the tax potential, it is proposed to point out factor markers (factors) and

result markers, necessary for the research. As a factor marker, in view of the analysis, we recommend to take the number of grants, subsidies, subventions, and other transfers into the local budget from the higher level budgets; and as a result marker – to take the integral marker, characterizing the level of the territorial formation tax potential.

The close-knit character of the relation is quantitatively expressed with the correlation coefficient figure, as well as the close correlation link between the grants, subsidies, subventions and other transfers, coming into the local budget from the higher level budgets and the integral indicator of the territorial formation tax potential and can be measured by the determination coefficient. The determination coefficient is an indicator, representing a relative figure, characterizing the ratio of the intergroup dispersion in the general dispersion of the resulting marker and reflecting the factor marker influence strength on the formation of the resulting marker general variation (Vasilieva et al., 2017, p.639):

$$R^2 = \frac{\delta^2}{\sigma^2} \quad (1)$$

where δ^2 – is the average square deviation of the mean figures in the resulting marker;
 σ^2 – is the average square deviation of factual figures in the resulting marker.

For the qualitative estimation of the close relation, based on the determination coefficient indicator, it is generally accepted to apply Chaddock ratio, represented in Table 2.

Table 2. Chaddock correlation (Vasilieva et al., 2017, p. 638)

R²	0,1-0,3	0,3-0,5	0,5-0,7	0,7-0,9	0,9-0,99
Relation force	Weak	Average	Notable	Close	Very close

On the second stage the authors propose the calculation of threshold levels of interbudget transfers ratio in the total revenues of the local budgets, where the maximal increment of the integral indicator is noted and it characterizes the territorial formation tax potential, and the balance of economic interests of all the power levels and the tax-payers is kept with the help of the mean balanced figure:

$$\bar{x} = \frac{x_1 f_1 + x_2 f_2 + \dots + x_n f_n}{f_1 + f_2 + \dots + f_n} = \frac{\sum x f}{\sum f} \quad (2)$$

where $f_1, f_2, \dots, f_n$ – are balances (frequencies of the same indicators' repetition);
 $\sum xf$ – is the total of the indicators figure multiplied by their frequencies;
 $\sum f$ – is the total number of integral units.

The calculation of threshold levels in the ratio of interbudget transfers figures in the total budgets revenues of territorial formations is recommended to supply with the found analogous figures by the current date and their comparison.

Results

In this article, there was an attempt to clear up the expediency of the practical application of the complex approach to results estimation of the interbudget relations current national model for the field of investigation – major industrial cities, included in the Ural Federal District of the Russian Federation. Regarding this fact, N.A. Kharitonova, E.N. Kharitonova, and N.L. Levinson noted: "Economic restructuring within the Russian Federation has considerably reduced the number of industrial giants, many of which proved unviable in the new economic conditions. However, those that remain, are leaders in Russian industry, and their success determines the life not only of the local municipalities but often also of the whole region where they are located; as before, they continue to determine the economic and industrial potential of the region" (Kharitonova, Kharitonova and Levinson, 2007, p.250).

The rationality of the research range choice is determined not only by industrial specialization of territorial formations but also by a high dependence of local budgets on the resources of the higher level budgets, that is pointed out by the authors, by the gradual decrease of interest on the part of the municipal bodies of power to expand their own revenue base. In particular, the specific weight of interbudget transfers in the total revenues of local budgets of the Russian Federation Ural Federal District industrial cities during the period under consideration increased from 41,3 % in 2007 up to 48,3 % in 2017, which is reflected in Table 3.

Table 3. The structure of revenues into local budgets of the industrial cities of the Russian Federation Ural Federal District in 2007-2017, % (Calculated by the authors, according to the official data of the Russian Federation Finance Ministry, 2017)

Type of income	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Tax incomes	43,0	41,8	38,3	39,0	40,9	44,8	41,7	42,7	42,0	44,2	39,3
Non-tax incomes	15,7	17,3	14,8	13,5	12,8	11,8	11,8	11,2	13,1	12,4	12,4
Interbudget transfers	41,3	40,9	46,9	46,6	46,3	43,4	46,6	46,1	44,9	43,4	48,3

The results of the first stage, presupposing the divulging of the relation between the volume of interbudget transfers into the Russian Federation industrial city budget and the integral indicator of the tax potential, using the determination coefficient, are represented in Table 4 and are based on the following dependencies:

- the ratio between the scope of grants into the Russian Federation industrial city budget and the integral indicator of the tax potential is expressed by the formula: $y = -5E-15x^3 + 4E-09x^2 - 0,0012x + 103,53$;

- the ratio between the scope of subsidies into the Russian Federation industrial city budget and the integral indicator of the tax potential is expressed by the formula: $y = -8E-16x^3 + 2E-10x^2 - 2E-05x + 0,18$;
- the ratio between the scope of subventions into the Russian Federation industrial city budget and the integral indicator of the tax potential is expressed by the formula: $y = 1E-14x^3 - 3E-08x^2 + 0,0252x - 7704$;
- the ratio between the scope of other transfers into the Russian Federation industrial city budget and the integral indicator of the tax potential is expressed by the formula: $y = 5E-12x^2 - 2E-05x + 23,09$ (Table 4).

Table 4. The degree of relation between the scopes of interbudget transfers into the budget of the industrial city and the integral indicator of the tax potential (Calculated by the authors, according to the official data of the Russian Federation Finance Ministry, 2017)

Factor, X	Result, Y	Existing relation	
		R ²	Force of relation
The total sum of grants into the local budget	The integral indicator of the tax potential	0,9533	Rather close
The total sum of subsidies into the local budget		0,8710	Close
The total sum of subventions into the local budget		0,9888	Rather close
The total sum of other transfers into the local budget		0,7710	Close

Because the determination coefficient reflects the ratio of the result marker Y variations under the influence of the factor marker X, the analysis of calculated figures of the determination coefficient testifies to the existence of a close functional relation between the scope of interbudget transfers into the local budget and the integral indicator, characterizing the level of the Russian Federation industrial city tax potential. In particular, by 95,33% the variation of the integral indicator of the tax potential is preconditioned by the change in the volume of incoming grants into the local budget and by 4,67 % - by the other factors; by 87,10% the variation of the integral indicator of the tax potential is preconditioned by the change in the volume of incoming subsidies into the local budget and by 12,90% - by the other factors; by 98,88% the variation of the integral indicator of the tax potential is preconditioned by the incoming subventions into the local budget and by 11,12% - by the other factors and, finally, by 77,10% the variation of the integral indicator of the tax potential is preconditioned by the change in the scope of other transfers into the local budget and by 22,90% - by the other factors.

The final results of the second stage, presupposing the clarification of the threshold values in the ratio of interbudget transfers in the total revenues of the local budgets, are represented in Table 5, while in the local budgets there is noted the maximal increment of the integral indicator, characterizing the tax potential of the territorial formation, using the average balanced figure.

Table 5. The degree of correspondence in the interbudget transfers ratio figures in the total revenues of the local budgets to the requirements of enhancing the tax potential of the Russian Federation industrial city (Calculated by the authors, according to the official data of the Russian Federation Finance Ministry, 2017)

Result, Y	Factor, X	The threshold value of the interbudget transfers ratio in the total revenues of the local budgets/threshold value of the interbudget transfers special type ratio in their total volume, %
An integral indicator of the tax potential	The total sum of grants into the local budget	43,4/14,0
	The total sum of subsidies into the local budget	43,4/23,1
	The total sum of subventions into the local budget	43,4/56,0
	The total sum of other transfers into the local budget	43,4/6,9

The results of the calculations testify to the fact, that the optimal ratio of the interbudget transfers in the total revenues of the local budgets, stimulating the solidifying and increasing of the territorial formation tax potential, is at the level of 2012 and is substantially different from the figures of 2017, which is represented in a systematized way in Table 6.

Table 6. The detailed structure of the local budget's revenues in the industrial cities of the Russian Federation Ural Federal District in 2007-2017, % (Calculated by the authors, according to the official data of the Russian Federation Finance Ministry, 2017)

Type of income	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total tax incomes	43,0	41,8	38,3	39,0	40,9	44,8	41,7	42,7	42,0	44,2	39,3
Total non-tax incomes	15,7	17,3	14,8	13,5	12,8	11,8	11,8	11,2	13,1	12,4	12,4
Total interbudget transfers	41,3	40,9	46,9	46,6	46,3	43,4	46,6	46,1	44,9	43,4	48,3
including:											
Grants	23,9	24,0	23,9	21,2	21,3	14,0	16,0	15,2	12,6	13,7	22,0
Subsidies	31,1	23,5	31,1	29,4	29,5	23,1	31,0	32,2	27,1	23,7	29,0
Subventions	37,6	49,7	37,6	40,9	40,7	56,0	46,0	45,6	53,8	55,9	40,0
Other transfers	7,4	5,6	7,4	8,5	8,5	6,9	7,0	7,0	6,5	6,7	9,0

Moreover, the results of the calculations are proved by the maximal figures of the tax incomes' specific weight in the total revenues of the Russian Federation Ural Federal District industrial cities budgets, achieved in 2012.

Conclusions

In the process of achieving the set aim of the investigation, implied in the improvement of existing methodological approaches to the estimation of effectiveness in the current national model of interbudget relations as a trend to enhance the tax potential of the Russian Federation industrial cities, the authors of the article arrive at the following significant results.

Following the comparative analysis of the numerous approaches to the estimation of the interbudget levelling system effectiveness on the level of the Russian Federation industrial cities financial providing, it was clarified that by present, the majority of scientific papers are based on the analysis of separate quality criteria in the distribution of the territorial formations revenue powers and, practically, there are no publications, devoted to the complex methods of research. The authors of the article put forward a way to eliminate the mentioned gap in the modern financial science through exploring and finding grounds for the complex methodological approach to the estimation of effectiveness in the current system of interbudget relations in the conditions of the Russian Federation.

The proposed total method of economical and statistical estimation of the current system, distributing transfers among the budgets of different levels as a trend to enhance the tax potential of the Russian Federation industrial cities is based on carrying out of the following stages:

- statistical investigation of the relation existence, its character and trend between the volume of interbudget transfers of different types (grants, subsidies, subventions and other transfers) and the figures of the integral indicator of the Russian Federation industrial cities tax potential by means of pointing out the factor and result markers and calculating the correlation coefficient;
- the calculation of threshold values of the interbudget transfers ratio in the total revenues of the local budgets, where there is registered the maximal increment of the integral indicator, characterizing the tax potential of the territorial formation, and also the balance is kept between the economic interests of all the government levels and the tax-payers, using the average balanced figure;
- the estimation of effectiveness in the system of interbudget relations under the conditions of the Russian Federation through clearing up the threshold values of the interbudget transfers ratio in the total revenues of the industrial cities local budgets by the current date and their comparison with the optimal figures.

The testing of the proposed criteria and of the represented approach to the estimation of effectiveness in the current national model of interbudget relations, that in a complex way takes into consideration "the interbudget transfers" and "the integral indicator of the tax potential", proved the importance of the achieved results in the process of exploring the proposals to correct the mechanism of transfer distribution, aiming at enhancing the interest of the Russian Federation industrial cities government to decrease the resource dependence from the higher level and to stimulate the social-economic development of territorial formations.

Further, the research will be continued due to the use of the approach, put forward by the authors, concerning not only the industrial cities of the Ural Federal District of the Russian Federation but also the municipal territorial formations in general.

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KNOWLEDGE MANAGEMENT OF MODERN PUBLIC ACCOUNTING PRACTICE

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Abstract. *Global and national agendas focus increasingly on the harmonization and development of strong principles, directions and policies, not only concerning economical and financial issues, but also regarding accounting and reporting processes. In this context, governments play an important role in securing adequate levels of efficiency and transparency of public funds spending. This paper analyzes the current framework of standards and regulations in different EU member states and their influences on national public accounting systems. New advances in information technology offer both opportunities and challenges for policy makers in their attempt to improve decision-making processes and promote competitiveness. The current paper uses both quantitative and qualitative methods to describe these processes in various EU member states. Results and conclusions of the study are of interest to policy makers and reflect tendencies for developments according to International Public Sector Accounting Standards.*

Keywords: IPSAS; knowledge management; smart digital technologies; reporting standards; public sector.

Introduction

Modern organizations heavily rely on performant information management systems for ensuring optimal performance and efficiency. This reliance is the result of extensive change processes which have affected accounting and finance not only by the introduction of social policies and reforms in the field (EU, EC, Horizon 2020), but also by harmonization of rules and practices as well as the adaptation of international and European accounting standards (IFAC, IPSASB, 2018). Moreover, in Romania these reforms have affected the accounting system (World Bank, 2008), which was, correlated with the economic, legal, social and political changes that occurred. In this context, accounting system is the representative area for the administrative capacity and have an impact to the countries that have most modified their approaches that can be matched realistically to contextual capacities (Moynihan & Beazley, 2016, pp.3-5).

However, this very complex process cannot be completed without the attraction of the newest information technologies that offer the necessary logistic support. This is true for both private organizations and public entities, but is more complicated for the latter, because of (1) the amount of resources managed by any state, and (2) the need for interoperability between the different EU-member states. The economic alignment

process between EU-member states is one of the priorities of the European Union, focusing on eliminating discrepancies between some of the members; lesser-developed states need in this context an increased effort and attention in increasing their capacity to structure and manage public funds (Dumitrescu Peculea & Mortelmans, 2017, pp.65-82). In this regard, finance, accounting, and audit are in an interdependent relationship, a series of directives (directive IV and VII) along with recommendations to urgently adopt international standards such as IFRS and IPSAS has been issued (IFAC, IPSASB, 2018, 2011).

Finally, yet importantly, in order to overcome the differences between its members, as well as to successfully carry out the harmonization process, there is a great need for innovation, both technical and social. The innovation and modernization of a state are influenced by public administration rationality, which generates competition between public values and searches new opportunities for efficiency growth (Savulescu, 2015, pp.30-33).

The paper is structured as follows: part two describes the harmonization process of accounting practice throughout the European Union by comparing different European states; part three approaches the issue of cross border knowledge management in accounting, part four discusses innovation issues in the international environment and part five concludes the paper.

European harmonization processes in public accounting

The European Union strives to reform the accounting systems of its member states, one of the main objectives being the insurance of comparability of financial data between states, which is required by several European directives and regulations based on international standards (*International Public Sector Accounting Standards* called IPSAS; *European Public Sector Accounting Standards* are so called EPSAS). Another issue is to make performance data more understandable for accounting and reporting processes and additionally, as Caperchione (2015, pp.1-11) argues that harmonizing at the EU level would allow for the production of good quality data to be used more easy. Nevertheless, the alignment with the European legislation (Council Directive 2011/85/EU and so one) demands great-cumulated efforts by all EU-members and an intense need for increased inter-state communication.

Accounting provides an important competitive advantage for an organization that helps create better decision-making value and provides an integrating perspective to the management's strategic functions (Islam & Kantor, 2005). In order to do this, accounting must meet certain demands like accuracy, sensitivity, malleability, timeliness, completeness and consistency of information, without disregarding the legal constraints that are imposed by its fiscal nature.

A study of the Ernst & Young for European Commission from 2012 regarding accounting and audit arrangements throughout the EU mentions communication problems in states such as Austria, Belgium, Cyprus, Greece, Denmark, Germany, Italy, Spain and the United Kingdom. Authorities take some solutions and adopt mechanisms to be aligned in the future and allowing the connection of macro and micro accounting. For example, in Austria are two instruments available for improving the systems, one is the Austrian Stability Pact and the other is regarding to new reporting regulation (Rauskala &

Saliterer, 2015, pp.12-26). Another analysis of the EC approaching national accounting legislation of its member states concerning the diversity of legal requirements in the accounting systems has concluded that a total of three different accounting laws per state are reasonable for the coverage of the main accounting practices of a country.

According to these studies, the countries with the most complicated accounting arrangements are federal states. On the other hand, countries such as Hungary, the Czech Republic, Lithuania, Estonia, Slovakia, Slovenia or Romania have a unique accounting standard, which is applied uniformly throughout the public administration.

In addition, the same studies have determined the accounting models used by the EU-member states (Bellanca et al., 2015, p.25; PwC, 2013):

- Cash accounting – transactions are recorded at the moment of payment;
- Modified cash accounting – a variant of cash accounting which also takes into account unpaid or outstanding accounts;
- Accrual accounting – transactions are recorded at the moment of their occurrence, and not at the moment of payment;
- Modified accrual accounting – a variant of accrual accounting, which records, completed accruals and omits some asset and liability classes.

According to PwC Global survey on accounting and financial reporting by central governments (PwC, 2013) it can be observed that “many countries initiating accounting reforms and moving to the more sophisticated end of the government accounting spectrum”.

In addition, the EC acknowledges a fifth model, a hybrid between cash and accrual accounting, since there are cases of public institutions that use both models such as Italy, or there are cases of different public institutions that use different models despite being administratively linked to each other such as in Denmark (as we can see from the figure 1).

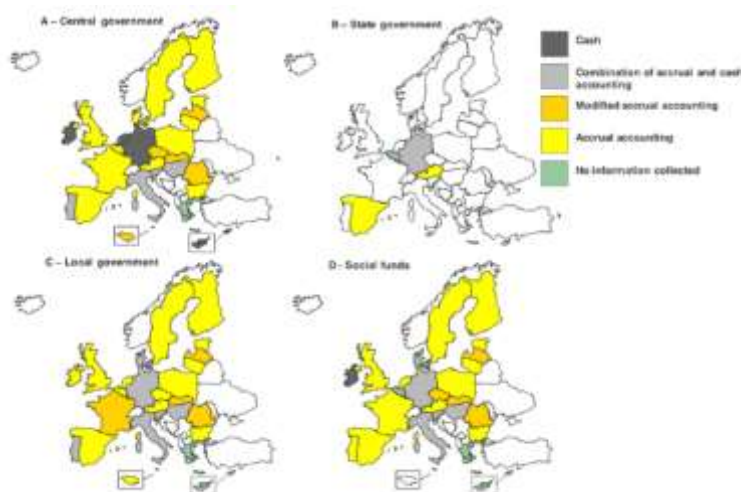


Figure 1. Accounting models throughout the EU
(Ernst & Young, 2012, date based and correlated with ec.europa.eu/eurostat)

According to numerous studies reveals that Scandinavian states tend to adopt accrual accounting (Falkman & Tagesson, 2008), while central and southern European states more often use cash accounting. Austria, Germany and Spain show combinations of the aforementioned models.

IT-based accounting systems part of knowledge management processes

The exploitation of IT-based resources for accounting practice has several advantages on operative levels as well as on strategic levels, leading to both an efficiency and efficacy increase in accounting operation as well as to an enhanced portability and compatibility of accounting data in the strategic plane. Also, by the intensive and extensive use of such systems, knowledge management processes can be introduced to the entity. Figure 2 shows the main components of organizational knowledge management.

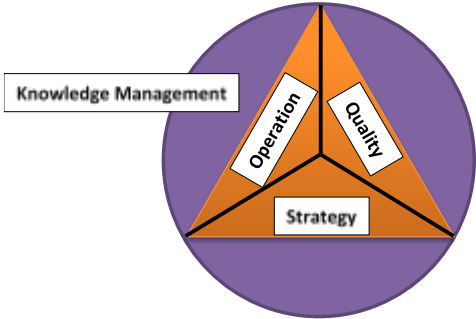


Figure 2. Components of organizational knowledge management (Authors' interpretation)

In this regard, the positive influence of IT-based systems can be observed on the same three components of knowledge management (operation, quality, strategy), as shown in figure 3.

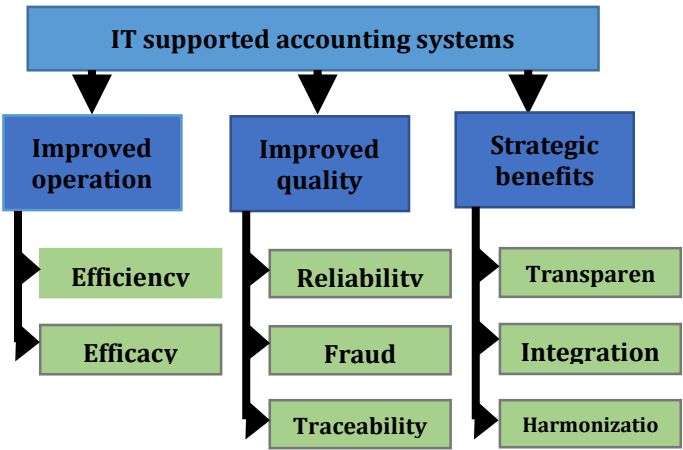


Figure 3. Knowledge management elements of IT based accounting systems (Authors' interpretation)

The European Union encourages the use of modern accounting systems based on accrual accounting (see also Milosavljević et al., 2014), which allow for increased transparency levels and are able to deliver complete, reliable and integrated information, in order to improve the quality of management decisions and the accountability of decision makers at all levels of government. In addition, in this regard, the World Bank has launched a strategy for the period of 2012-2015 called “ICT for Greater ICT Impact” for supporting of innovative systems in key fields of public administration activity such as healthcare, education, agriculture, justice, energy and others.

Thus, the implementation of ICT technologies in accounting processes is of vital importance being a sine qua non condition for national and international competitiveness by reducing transactional costs and overcoming geographical and territorial constraints (Yeboah & Oppong, 2014). Also, as underlined by the World Bank, the introduction of such system will lead to economic growth and better delivery of public services and accounting information systems have revolutionized the accounting world (Miller et al., 2016, pp.265-270).

Innovation of accounting processes in the EU

The transition to knowledge based accounting and to performant knowledge management processes is a lengthy and innovation intensive process. Countries that show the greatest innovation levels also are the ones with the greatest HDI and the lowest corruption levels. Innovation leaders such as Sweden, Denmark, Finland, the Netherlands, the UK or Germany also have the most efficient and effective public administrations, as opposed to those that show moderate or even modest innovation rates. Figure 4 shows a multilevel comparison between these countries.

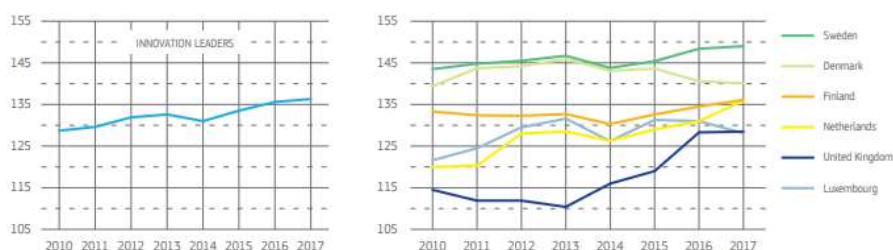


Figure 4. Performance Innovations Leaders (EU, European Innovation Scoreboard, 2018)

For Moderate and Modest Innovators, performance has increased. Figure 5 shows a picture for some countries.

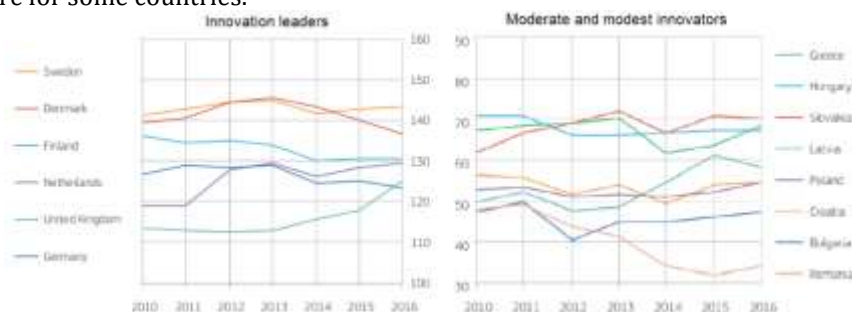


Figure 5. Innovation levels for leading, moderate and modest innovators (EU, European Innovation Scoreboard, 2017)

The innovation of the international accounting conceptual framework struggles in front of national accounting frameworks. Users of accounting information such as experts, creditors, investors, and managers have requested out of necessity an innovative approach to modern accounting practices. The European Union has tried to implement such approaches by issuing numerous regulations and directives, however, the best theoretical basis for the normalization of the accounting profession proves to be the IPSA Standards. Also, the same IPSAS proved in many countries to be the best for the transition from cash to accrual accounting. This lengthy, complex and slow process has proven to be most effective when approached step by step, since it reduced the risk of financial system unbalance.

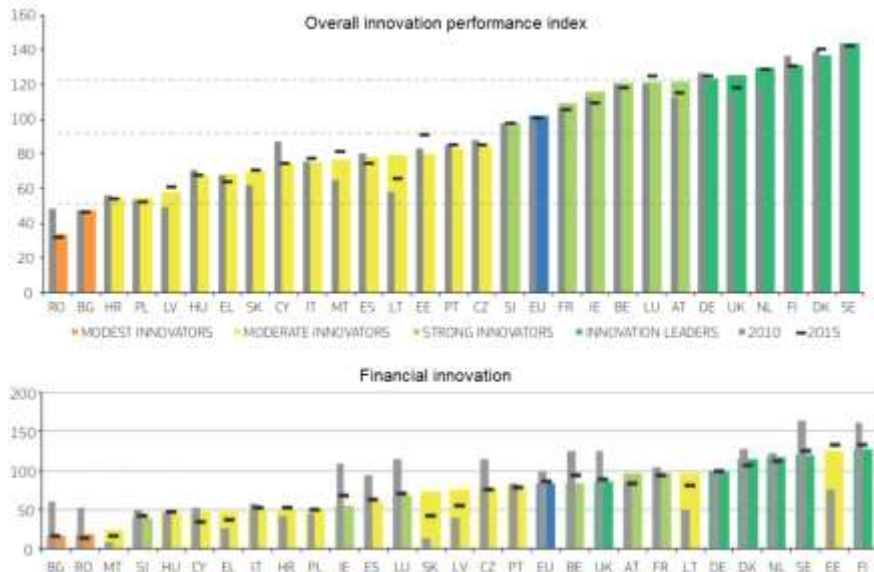


Figure 6. Overall and financial innovation levels for EU member states (EU, European Innovation Scoreboard)

In addition, countries recording the highest levels of innovation show the most efficient and effective processes of financial innovation. By studying figure 6, the high correlation between these is obvious. According to literature, the relationship between these two dimensions is bidirectional, meaning, that high overall innovation levels lead to high financial innovation levels and vice versa.

Conclusions

The integration of public accounting systems throughout EU-member states is crucial for the future developments of the European Union and is carried out on three levels: (1) harmonization and standardization, (2) intensive and extensive use of ICT opportunities, and (3) high performance innovation processes. However, while concerning harmonization and use of ICT the gaps between countries are not that great, regarding innovation levels the differences are substantial.

The findings of this paper are especially useful to policy makers, in the formulation of alignment strategies to actual and future standards of European accounting. Starting from accrual accounting, processes have to be developed which can ensure the smooth

transition to an integrated accounting system. There are at this time no unitary rules of application of such integrated accounting systems for the public administration, and in countries like Romania, Bulgaria, the Czech Republic, Estonia, Finland, Hungary, Italy, Lithuania, Malta, Poland, Slovenia, Slovakia and Sweden public entities can choose freely what system they use. Additionally, "the key to enhancing adoption of consistent accounting policies within a reporting entity by all controlled entities is regarding to central guide" (ISASB, 2018).

The reliability and transparency of accounting information are vital and this is the reason why numerous studies have been conducted on the importance of public sector transformation (Lapsley & Wright, 2004; Askarany, 2016). By recommendation of the EC this is to be achieved by implementation of "Bookkeeping System", an integrated accounting and financial information storage system. However, EU member states do not have regulations on how to implement such a system. Future developments in the field include the institutionalization of knowledge management processes, and further exploitation of ICT opportunities.

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SUSTAINING LEADERSHIP FOR INNOVATIVE BUSINESS

THE DEVELOPMENT OF ENTREPRENEURSHIP IN ROMANIA AT REGIONAL LEVEL: TRANSYLVANIA REGION

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Abstract. *We often hear that the entrepreneur is the engine of the economic environment in a society. This person is very important for the development of the country, takes many risks and is always a leader. Not all leaders must necessarily be entrepreneurs, but in my opinion, all entrepreneurs are definitely leaders. Entrepreneurship is not something known from the beginning of life, as these abilities are not innate, but you can train them and develop them over time. The first step is to start acting. When you have an idea, you do not have to be afraid to express it in a business. Entrepreneurs are doers, not dreamers. Most people develop many ideas during their life, but very few of them put these ideas into practice. Why did that happen? The eternal problem, financing? Bureaucracy? Taxation? Internationalization? Education? Legislation? I will touch and talk about all these subjects in this work. According to a study by The Economist Intelligence Unit for DHL Express, five out of six companies believe that cultural barriers are the most important factor in making the decision to enter a new market. In Romania, this is still not the only one. There will be analyzed a series of main reasons why the number of small and medium enterprises is still small compared to the other member states of the European Union. Primarily, the article starts with the role of small and medium businesses worldwide. After that, a few statements on the situation of SMEs in Romania. Further, we introduce a comparative analysis on the strategy of supporting the SMEs of Romania in comparison with other countries and the effects of the economic crisis on entrepreneurial leaders. The work ends with a case study on the small and medium enterprises from Transylvania, Romania. We will present three important regions from Romania: North-West, Central and West region, and also the effects of the crisis on the evolution of the economy in this part of the country. This study analyses data reports of the National Institute of Statistics. The selected indicators for the current research are distribution of companies by the business sector, the evolution of the number of new registered companies, average number of employees, turnover evolution and GDP evolution for each county. The results are evaluated in order to have an overview and a comparative analysis of the region.*

Keywords: *Innovative leadership; diversity; regional development; unemployment; culturally responsive leadership; regional disparities.*

Introduction

The role of business has an economical component and a social component. That arises from the relationship with other dealers, organizations, institutions, but also from the founders and employees of the company itself. The role of the companies is different from each of these collective entities (Kerbalek, 2002).

One can speak of a formal role and of an actual role of the company. The formal role shows what a business has to do, while the real role shows what a business is actually

doing. The major part of the formal role is contained in the activity of the company, which was defined together with the formation of the company. This role can also be found through the goals that the founder or founders initially identified. The company has a target system made up of one or more haptic targets and several minor targets. One can represent these in a pyramidal form. The main objectives are usually set in relation to sales, net income or market share. For example, one main goal may be to reach a turnover of over 10,000 lei during the first year of employment. The main objective is further divided into other secondary objectives, such as the number of jobs in the company (Kerbalek, 2002).

In the European Union, 99% of companies are SMEs. According to the European Commission, Romania ranked last in EU28 in 2016 in terms of density of active SMEs and 17th place in terms of their contribution to added value. However, Romania expresses itself positively by the ratio of the number of employees as it ranks 8th among the 28 EU Member States (European Commission, 2015).

In Romania, there are 21.3 small and medium-sized enterprises per thousand inhabitants. The European Union average is 42.7 SMEs. The highest densities were recorded in the Czech Republic, Malta and Slovakia (Business Review, 2015).

The critical state of SMEs in Romania has been deepened by accumulating new development gaps following the global crisis. In 2013, there were 15.5% fewer SMEs than in 2008. The proportion of micro-enterprises among the total number of SME's in Romania is 88%, none other than the EU average of 92%. At the same time, the small business class is 10.4%, higher than the EU average of 6.4%. As a main activity, trade remains in first place in Romania, with a share of 40% companies, compared with the average approach of trade in EU of 28% (Mediafax, 2015).

The number of people who believe that the economic environment is favorable for business declined from 19.9% in 2014 to 14.1 in 2015. The deterioration in perception will come in 2015, after the number of People who found the business environment to be favorable rose from 3.79% to nearly 20% (Nicolescu, 2015). According to a report of the European Commission in partnership with Global Entrepreneurship Monitor, Romania is the first country in the European Union in terms of entrepreneurial intentions, stating that 27% of Romanians want to start on their own. The percentage is more than twice the average in the European Union. We are among the first European countries when it comes to how entrepreneurship is viewed in society. 71% of Romanians believe that entrepreneurship can be a good career alternative compared to only 58% of Europeans.

Literature review and general framework

The progress Romania has made so far in SME development is due in large part to the effort, initiative and courage of a few thousand people taking the risk to start on their own. Entrepreneurs are very often the driving force behind economic development. Besides the success, the Romanian entrepreneurs are also responsible for the failures. Therefore, an objective analysis of the characteristics of the Romanian entrepreneurs must take into account even the successes as well as the failures. From the beginning, two major differences between the West European and Romanian Entrepreneurs are

noted: different social background and approach, attitudes and expectations, which are very different in terms of business overview.

Since the late 80s / early 90s, a series of articles has been published, which criticize the "Trait Approach". (Gartner, 1989) even pointed rather brusquely, if the personality of the entrepreneurs important for the business is. The "traits" approach does not lead to his opinion a declaration of entrepreneurship or success because "a startling number of traits and characteristics have been attributed to the entrepreneur, and a "psychological profile "of the entrepreneur assembled from these studies would portray someone who has a great deal of life, full of contradictions, and, conversely, someone so full of traits that he would have to go to a sort of generic 'Everyman' ". He asked then to discuss whether it was not much more important to find out what an entrepreneur is doing to succeed. He clearly pursued one behavioral approach. As a result, traits research has become increasingly insignificant, especially in the United States. There have been a number of long-term studies that "traits" are not considered significant or at least not particularly relevant.

Romanian entrepreneurship is definitely in a promising stage. Despite the country having a lot of potential, the dynamics of change towards a more innovative economy and digital society are poor. There are undoubtedly islands of excellence, and access to a well-educated talent pool is one of Romania's main assets.

Methodology

For assessing the evolution of the entrepreneurship in Romania the attention was focused on the evolution of four main indicators, covering, mostly the period 2008-2016. The source of all data used in the present paper is the Tempo Online Database of the National Institute of Statistics (NIS).

The analysis includes:

- The evolution of the number of firms/1000 inhabitants (only population in working age) for the 2008 – 2016 period, national and county level;
- The evolution of the number of firms/1000 inhabitants (only population in working age) for the 2008 – 2016 period, for micro, small, medium and large companies;
- The evolution of the number of SRL-D firms (started each year) for the 2013 – 2017, national and county level;
- The evolution of the unemployment for the 2008 – 2016 period, national and county level;
- The evolution of the population within working age for the 2008 - 2016 period.

Empirical results

The impact of the crisis on the economic situation of Romania

The absorption of the effects of the crisis has been strongly achieved by 5 channels:

- The foreign trade channel (consequence of the reduction of the main export markets of the Romanian products);
- Financial channel (the reduction of private credit lines of foreign parent companies);
- The channel of trust (increase of foreign investors' appetite in the emerging countries);
- The exchange rate channel (because of the currency devaluation pressure);

- The effect of real estate and balance sheet channel (the impairment of some assets, especially the real estate).

The main consequences of the economic crisis even from the internal, as well as from the external factors are:

- significant decrease in the volume of gross domestic product;
- severe worsening of the budget deficit;
- the decline of the national currency;
- the significant reduction of the current account deficit (European Commission, 2015).

An important source of vulnerability of the Romanian economy was in the perception of investors, the high volume of short-term foreign debt. (20.6 million euros at the end of 2008). The general government deficit has exceptionally exceeded the reference value of 3%. In July 2009, the European Council included Romania in the excessive deficit procedure. As a result, Romania had to achieve fiscal consolidation of at least 1.75% per annum in the period 2010-2012.

At the end of 2009, government debt was 23.7% of GDP at the end of 2009 and matched the 60% reference value of GDP. The national currency was devalued in 2009 at 2.9% in comparison with the euro currency, but the exchange rate developed unevenly throughout the year (CNIPMMR, 2009).

The newly established companies (SRL-D, are companies started under a state scheme by entrepreneurs which are starting a company for the first time) might signal the risk aversion of Romanians and their desire to get involved in a more direct way into the economic gave. The peak was reached in 2013, when the program started and most of those thinking on embarking on this path "jumped" on the opportunity. The decrease that followed was abrupt and it almost halved the number of established SRL-D in 2014 and it was followed by an increase in the coming years. The economic increase that accelerated during the last two analyzed seems to be favoring employees and as a consequence it does not seem to be encouraging entrepreneurship through this governmental scheme. The newly established companies (SRL-D, are companies started under a state scheme by entrepreneurs which are starting a company for the first time) might signal the risk aversion of Romanians and their desire to get involved in a more direct way into the economic gave. The peak was reached in 2013, when the program started and most of those thinking on embarking on this path "jumped" on the opportunity. The decrease that followed was abrupt and it almost halved the number of established SRL-D in 2014 and it was followed by an increase in the coming years. The economic increase that accelerated during the last two analyzed seems to be favoring employees and as a consequence it does not seem to be encouraging entrepreneurship through this governmental scheme.

North-West Region

The North-West Region is one of the eight developing regions of Romania and includes 6 districts: Bihor, Bistrita-Nasaud, Cluj, Maramures, Satu-Mare and Salaj. The surface of the region is 34,159 km², which is 14.32% of the total surface area of the country and has a population of 2,744,914 inhabitants (Popescu, 2001).

The region comprises 421 administrative-territorial units: 6 districts, 42 cities, 398 municipalities and 1823 villages. The region has a strategically favorable geographic location, namely borders with two countries: Hungary and Ukraine, but also borders with other three regions of Romania: the center, the northeast, and the west.

Northern Siebenbürgen (as this region is still called) is a cosmopolitan region, where besides Romanians more than half (52.8%) live in the Hungarian population. This thing has created a unique, cultural identity.

The region had a GDP per capita of 10,100 euros in 2009, i.e. 91.24% of the average national GDP / inhabitant, but only 43% of the average of the European Union. The sectors with the highest contribution to gross value added in 2009 were services (53.81%), industry (26.75%), construction (10.8%) and agriculture (8.64%) (Carta Alba a IMM-urilor din Romania, 2011). In comparison, we have a figure with the number of SMEs in the main sectors of northwestern Romania in 2014.

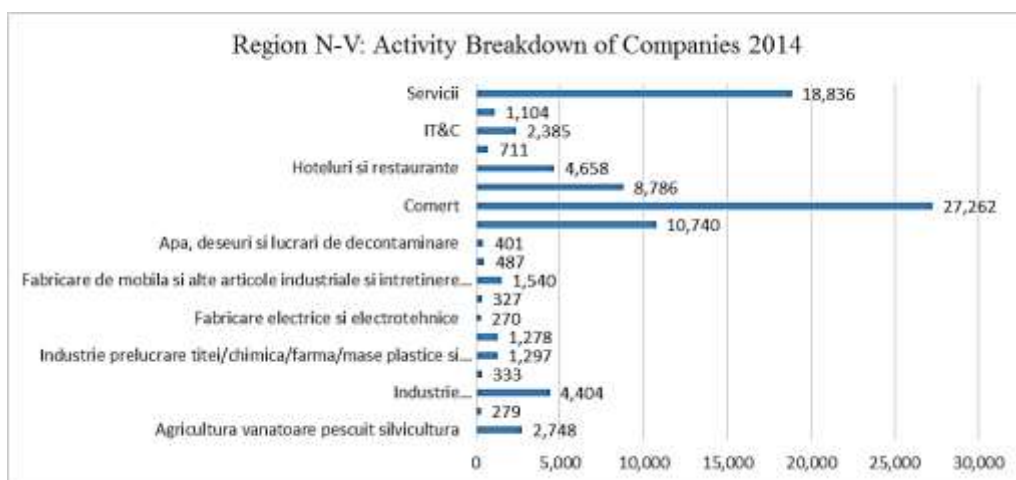


Figure 1. Distribution of SMEs on sectors in NV region 2014
(Own processing using the data of NIS Romania)

In almost all counties, we notice a sharp decline in the number of small and medium-sized enterprises in 2009 and 2010, a shy return between 2011-2013, but in 2014 we again have a very strong decline, except for the Cluj County, where there was a very slight growth. We have two concrete examples in Bihor and Cluj (as shown in Figures 3 and 4). The sharp reduction was due to the decline in activity in the construction sector between 2009-2014, which was caused by the global economic crisis. The economic leader of the region is Cluj County, where some of the biggest companies are based, such as: Nokia, Dacia or Mol Romania. These have helped the district to emerge more easily and faster from the economic crisis and have promoted the activities of small and medium entrepreneurs.

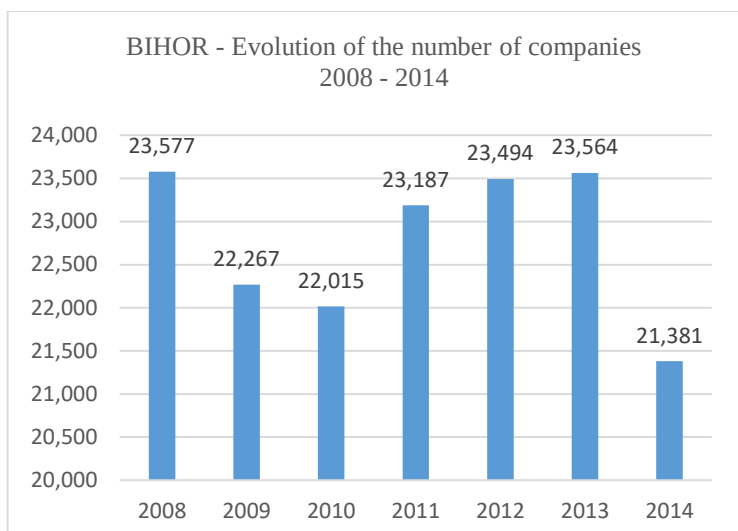


Figure 2. SME's development, Bihor
(Own processing using the data of NIS Romania)

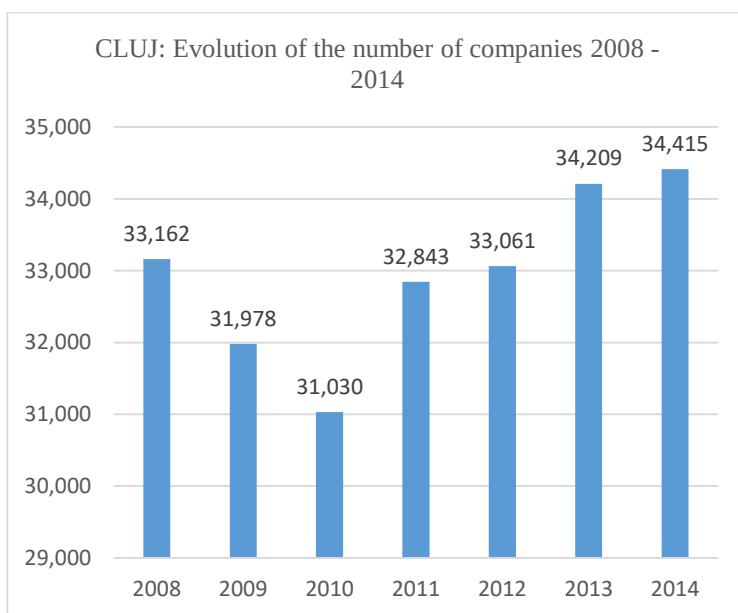


Figure 3. SME's development, Cluj
(Own processing using the data of NIS Romania)

It is quite clear that the number of employees from the private sector has also fallen. At the beginning of the crisis, SMEs reduced costs and implicitly reduced jobs. That is why we observe a sharp decline in the whole region, as illustrated in the next figure.

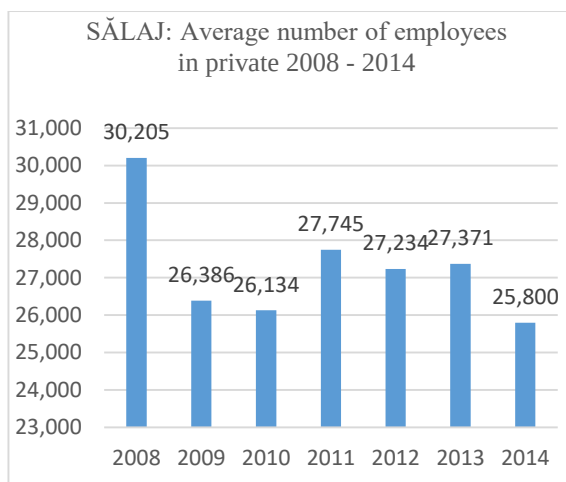


Figure 4. Average number of employees, Salaj
(Own processing using the data of NIS Romania)

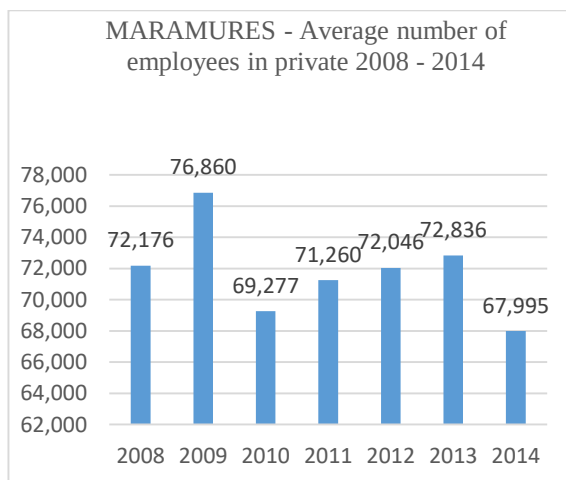


Figure 5. Average number of employees, Maramures
(Own processing using the data of NIS Romania)

The economic attractiveness of the North-West region

The north - Transylvania development region is one of the most attractive regions of Romania from the economic point of view, to București-Ilfov. This is due to the labor market, the level of wages, the foreign investment, but also the private field and the high level of competition. Suppose, for example, Maramureș County. Here the turnover has always increased positively from year to year.

Important for the region is that the service sector is a very large part of the economy in the developing region. In Cluj, as the development of recent years, tourism and commerce are important areas. But if we look at Figure 8, we notice that there has also been economic growth in sectors such as construction, textile, IT & C and machinery.

This strong development from 2008 to 2014 also happens thanks to the private industrial parks of Cluj-Napoca. Cluj small and medium-sized businesses are very supportive of external transactions, thereby adding value to the region.

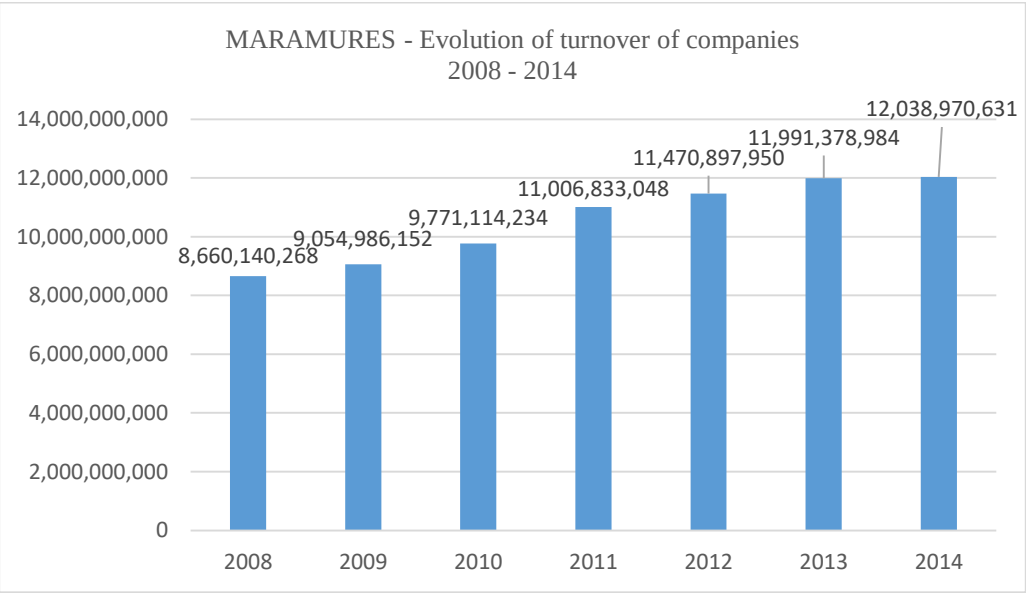


Figure 6. Development of the sales of SMEs in Maramures
(Own processing using the data of NIS Romania)

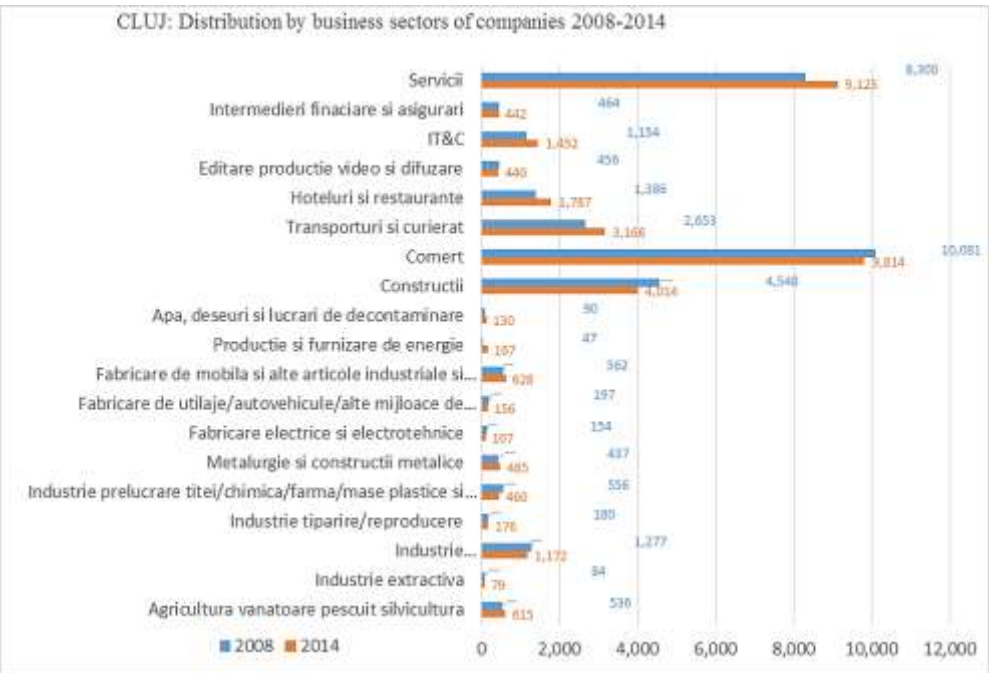


Figure 7. Distribution of SMEs on sectors, Cluj
(Own processing using the data of NIS Romania)

The West Region

The Western region has a surface of 32,034 km² (i.e. 13.4% from the whole surface of the country) and contains 4 circles: Arad, Caraș-Severin, Hunedoara and Timiș. The whole region comprises a total of 42 cities and 276 municipalities (Boari, 1999).



Figure 8. West Region
(*Directia Regionala de Statistica Timis*)

Historically, the region includes the historical province of Banat and part of Ardeal, with a previous economic development and stronger in comparison with other provinces of the country. The region is connected to Hungary, Serbia and Montenegro by European roads. The cities of Arad and Timisoara have airport with modern technologies of aviation (Boari, 1999).

The urbanization of the region (63.6% urban population) is higher than the national average (54.9%) and Hunedoara county has the highest rate of urbanization of the country after Bucharest and 76.9% urban population. The western region population is characterized by cultural diversity. The Romanian community lives between German, Roman, Hungarian and Serbian minorities. In 2002, these accounted for 11.7% of the total population of the region.

GDP per capita has steadily grown since 1998, when it was 1697, to reach 3363,7 euro in 2004. This placed the West region in second place in Romania after the Bucharest-Ilfov region. The most important contributions in the GDP have the service sector and the industrial sector (Carta Alba a IMM-urilor din Romania, 2011). A good indicator that shows us what happened 4 years later is the number of SMEs divided into different activity sectors:

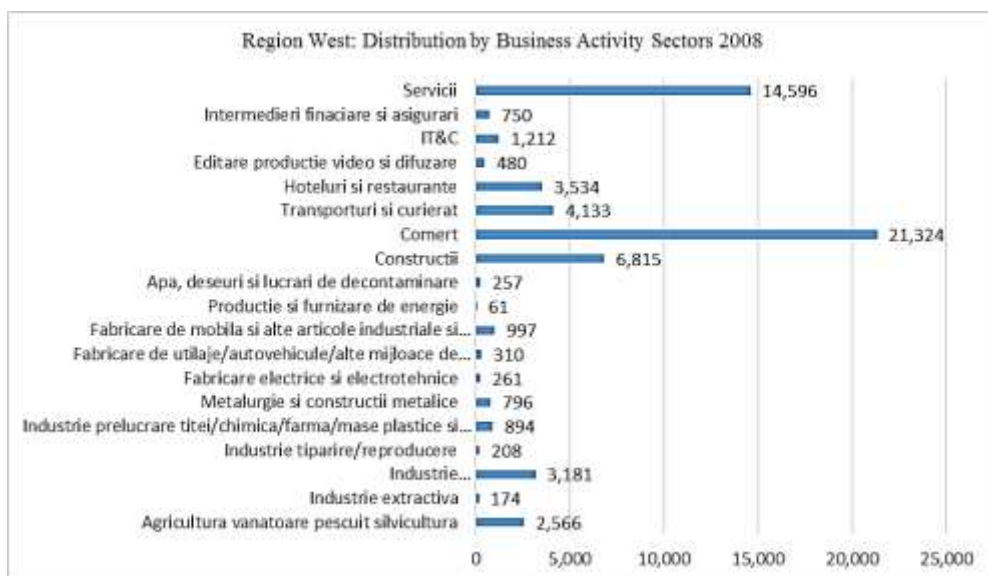


Figure 9. Distribution of SMEs on sectors in W Region 2008
(Own processing using the data of NIS Romania)

In contrast, we see in Figure 11 that after the economic crisis, many sectors, especially services, trade and construction, have fallen sharply. All three were important parts that could increase the gross final product per inhabitant of the region.

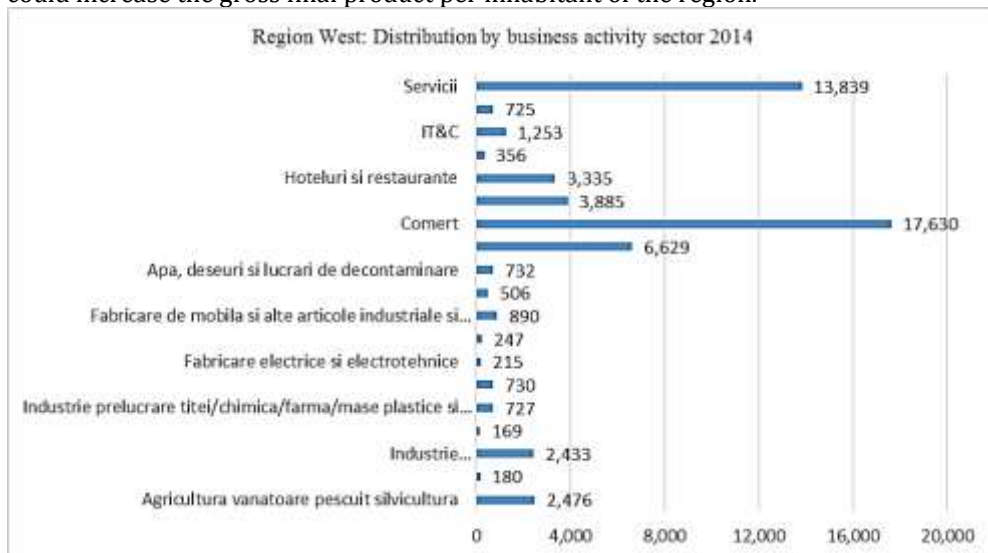


Figure 10. Distribution of SMEs on sectors in W Region 2014
(Own processing using the data of NIS Romania)

The Operational Program for the Development of the Regions 2007-2013 had a real success in the West. 788 projects were brought and 430 of these were also developed. The total amount absorbed for these projects was in excess of 850 million euros. One of these projects was "City Business Development Center" in Timisoara, where over 18 new SMEs were supported and over 450 new jobs were created. The beneficiary of this

project was S.C. Modatim Business Facility S.A. The final result was the development of a business center in Timisoara, which includes 5 conference rooms, 11 offices and 121 new parking spaces. The whole value of the project was in amount of over 71 million lei. Another such project, funded by European funds, was the new micro-company ArtFactory, a photo and video studio. Figure 12 shows a summary of the development of the newly established companies in Timișoara in the period 2008-2014.

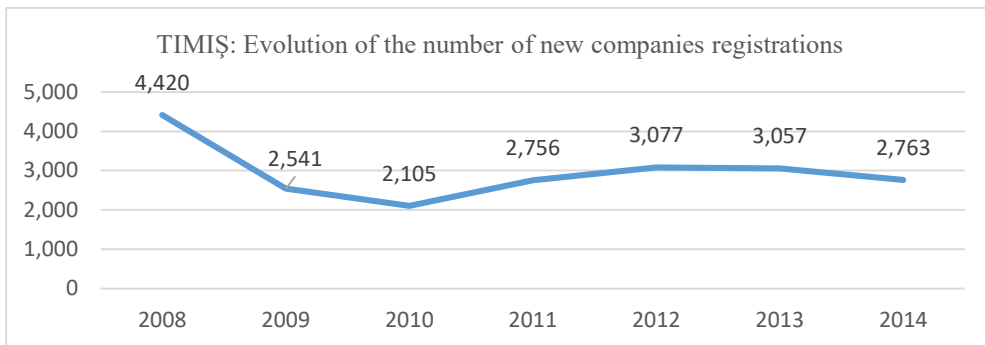


Figure 11. Development of the newly founded companies between 2008-2014, Timis
(Own processing using the data of NIS Romania)

The number of employees who have participated in training during working hours is much higher among companies in the west than in other regions. (Over 50% of the staff). This has a direct relationship with the number of employees during the economic crisis and their evolution:

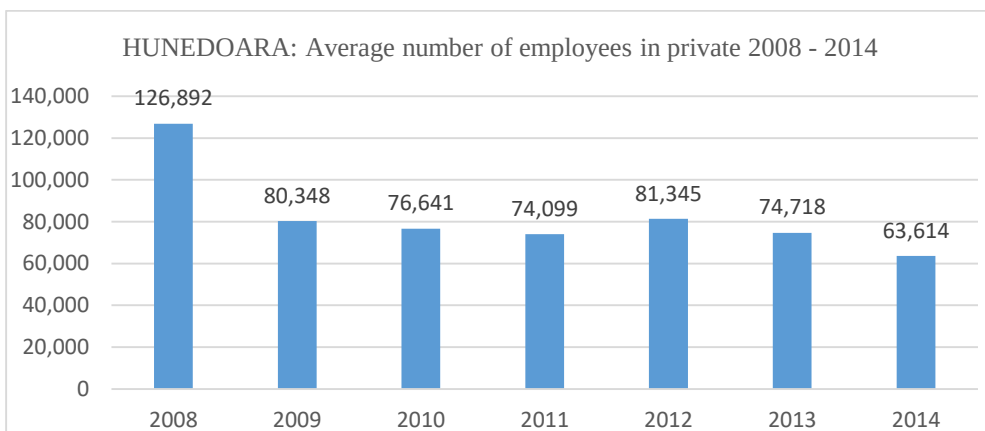


Figure 12. Average number of employees in SMEs 2008 - 2014
(Own processing using the data of NIS Romania)

Arad is a place that has developed a great deal even during the crisis. Both the leadership of the district and the entrepreneurship of the population have helped Arad. For example, there is an online platform created especially for entrepreneurs: www.imm-arad.ro, but also many projects such as Academia de Antreprenoriat, Lean Romania, Networking for Entrepreneurs etc.

A total of 14 major projects are underway for the small and medium-sized enterprises coordinated by Consiliul National al Intreprinderilor Private Mici si Mijlocii din

Romania, Filially Arad. The activity of this organization helps the business environment to create new businesses or better develop existing ones.

At the national level, Arad County ranked in 11th place in terms of sales of local companies in 2013.

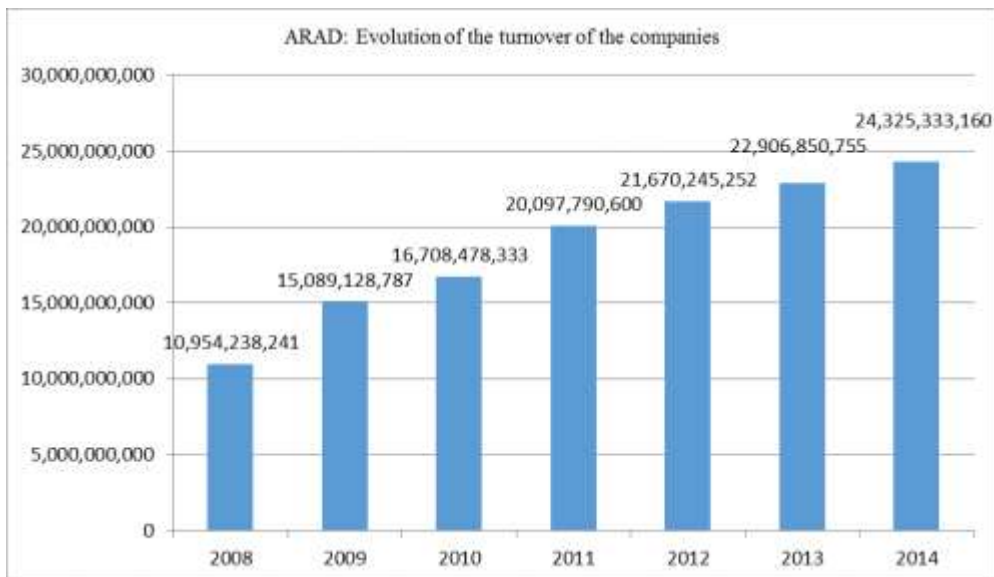


Figure 13. Development of the sales of SMEs in Arad
(Own processing using the data of NIS Romania)

The Central Region

The Central Region is right in the middle of the country, within the great bend of the Carpathians. With an area of 34,100 km², which means 14.31% of Romania's total surface area, the Central Region ranks 5th. Due to its good geographical position, this region has contact with 6 other regions of Romania. The region includes the following districts: Alba, Brasov, Covasna, Harghita, Mures and Sibiu (CNIPMMR, 2009).

With a population of 2,530,486 inhabitants, the region concentrates 11.7% of the population of Romania. If it was at the beginning the core of the economy of mining (gold, silver, coal and salt), now the main sectors are the processing of metals, chemicals, all branches of light industry and food industry. Agriculture is also very well developed in particular the Industrialplantenkultur, potato culture and livestock.

59.9% of the population lives in the urban areas that comprise the 57 cities of the region. There is a high level of urbanization in Braşov (74.7%) and Sibiu (67.6%), while in Harghita the rural population is dominant (55.9%).

Gross domestic product per inhabitant in 2009 was in the Central Region of 10,700 euros, which is 46% of the average of the European Union, but almost 97% of the average national GDP / inhabitant. There are 11 industrial parks in the region. Seven of them are public property, three privately owned and one in private-public partnership. The total surface of these parks is 436.75 hectares. In the region there are still 5 business

incubators, one of them was founded with European money. District Alba knew a real development and one could observe this also in the gross domestic product of the circle. Growth began in the third quarter of 2009 and from the moment, it rose repeatedly.

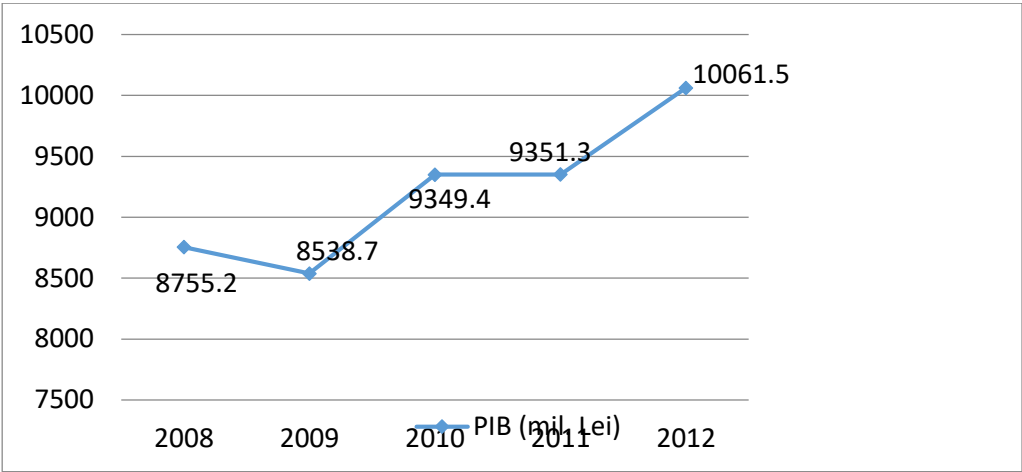


Figure 14. Development of GDP Alba between 2008 – 2012
(Own processing using the data of NIS Romania)

In 2013, there were 7,321 active companies in Alba county, about 200 more than in 2012. The number of insolvent companies fell by 54.72% in January 2015, compared to the same month in 2014. One notes That, in comparison with other counties, Alba has a higher number of companies that exist in the tourism sector.

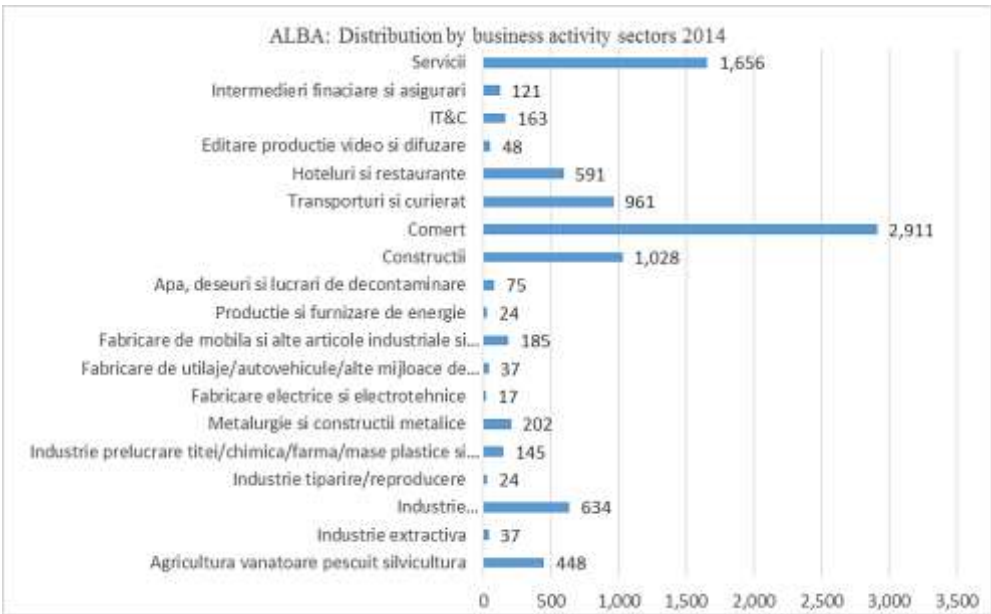


Figure 15. Distribution of SMEs on sectors, Alba, 2014
(Own processing using the data of NIS Romania)

In the Covasna district, the trade and industrialists organized some workshops in the period 2010-2014 with the aim to support and encourage new entrepreneurs to start new businesses. Unfortunately, these trainings have not had the desired effect and the number of newly formed companies has declined more and more. Perhaps, better programs and projects for the circle's entrepreneurs were more helpful to the business environment.

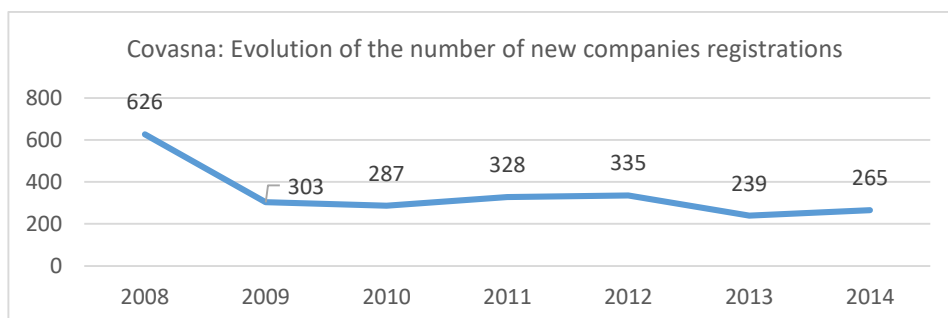


Figure 16. Development of the newly founded companies between 2008-2014, Covasna
(Own processing using the data of NIS Romania)

At the end of 2008, there were 8,585 active companies in Harghita, 87.8% of which were micro-enterprises, 10.1% small businesses, 1.8% small businesses and only 24 large enterprises (0.3%). It is predominantly the companies, the main activity being trade (more than 35% of the total number), processing industry (19.6%) and the real estate sector (13.6%).

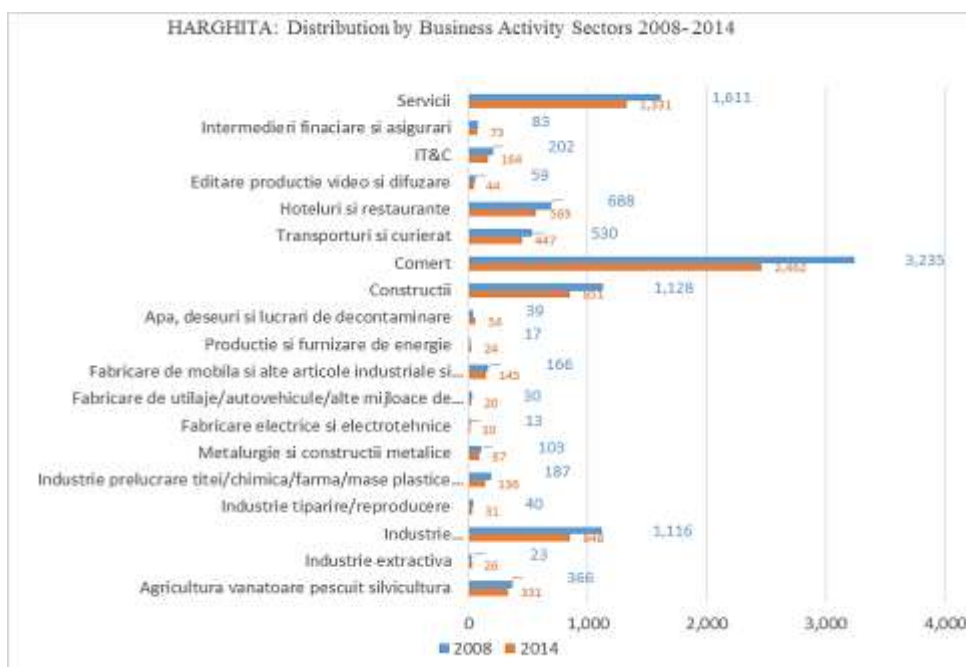


Figure 17. Distribution of SMEs on sectors, Harghita
(Own processing using the data of NIS Romania)

The total turnover of local companies reached in 2008 in Harghita nearly 8843 million euros. The trade contribution was over 37% and that of the manufacturing industry about 35%. Gross capital expenditures at the county level totaled 1200 million euros in 2008, most of them in the broadcasting industry.

The most developed circles from the Central Region are Sibiu and Brasov. Sibiu ranks second in the degree of urbanization between the Romanian counties. The existing SME's have developed a lot in recent years and have even absorbed European funds, but also money from the state budget through the 14 programs that are for the demand of small and middle-sized companies. The program best known in Sibiu is the program for the stimulation and development of micro enterprises for the beginners in the business level.

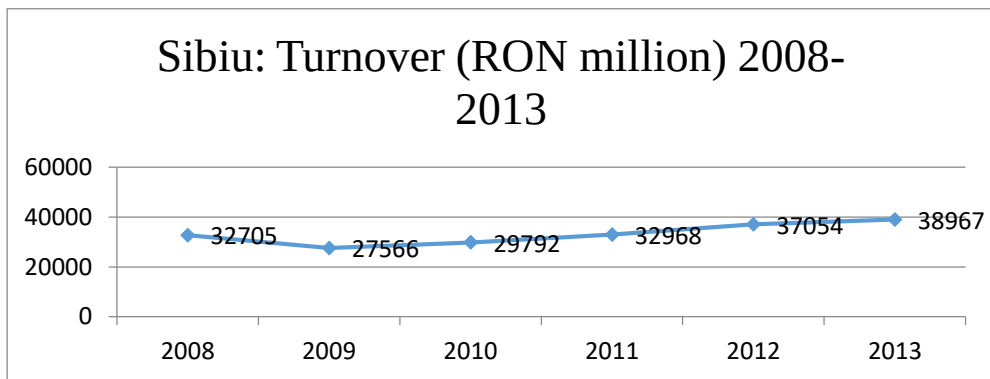


Figure 18. Development of SME sales, Sibiu
(Own processing using the data of NIS Romania)

It can be clearly seen from Figure 20 that, except for the period 2008-2009, when the economic crisis began, the turnover of SMEs has been steadily increasing. Sibiu and its leadership have repeatedly organized conferences on economic issues, but also many information campaigns on the main funding programs. For example, the last major conference was in April 2016 with the theme "Regândirea unei politici moderne pentru IMM-urile europene": these events help small and medium-sized enterprises to develop further and encourage young people to take a look at this environment too.

Another proof of the development of Sibiu County is the construction of a new industrial park on the outskirts of Sibiu. Thirty-one halls are being built there and this investment comes as a result of the constant development of the small companies from Sibiu who have greatly increased their productions over the past year.

The project "Structura de sprijinire a afacerilor destinata IMM-urilor si microintreprinderilor Sibiu-Vest" aimed to develop the business environment in Sibiu and raised 19.7 million lei.

In June 2015, Brasov was in fifth place at the national level with the number of SMEs at 1000 inhabitants. Only Bucharest, Ilfov, Cluj and Timiş have bigger indicators. The national average is from 24 to 1000 inhabitants, while in Bucharest it is 36. Just like Sibiu, Brasov also has a wide variety of conferences for the promotion of state programs with funding for start-ups or how to allocate European funds. One of the most important

events of this kind is "IMM ReSTART". The effect of these meetings can be seen in the next picture.



Figure 19. Distribution of SMEs on sectors, Sibiu
(Own processing using the data of NIS Romania)

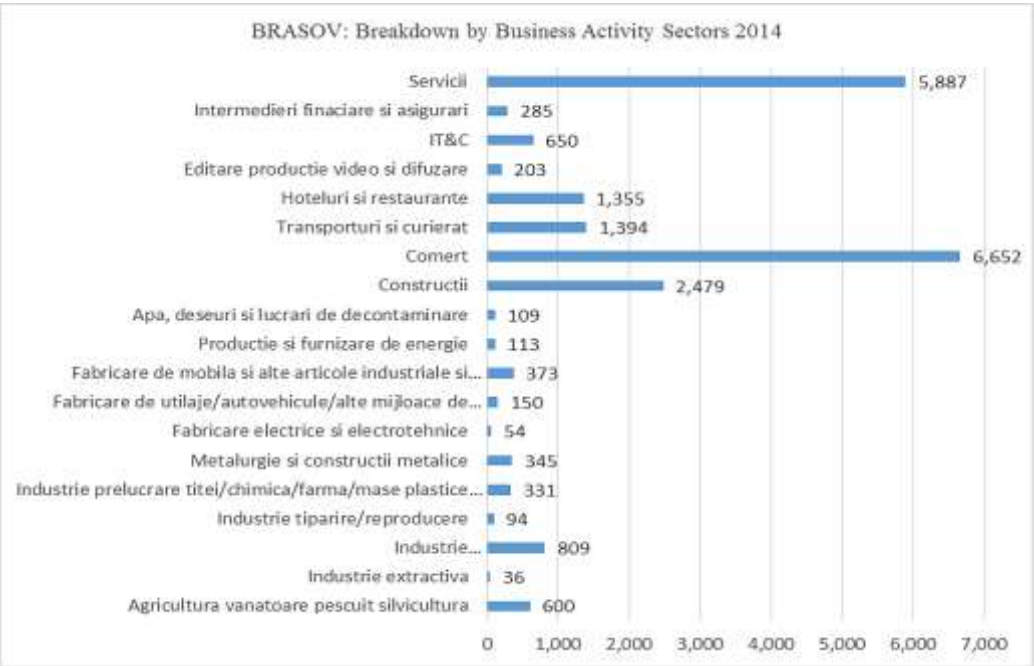


Figure 20. Distribution of SMEs on sectors, Brasov
(Own processing using the data of NIS Romania)

Although the leadership of the district tried to promote the SMEs, they attracted few funds from the state budget and could not reach the same level as in 2008 after the economic crisis. 99.6% of Brasov companies are SMEs. Between 2008 and 2014, the number of SMEs fell by more than 13%, from 25,176 to 21,919 small and medium-sized enterprises. However, the most important sectors continue to be commerce, services, hotels, restaurants and construction.

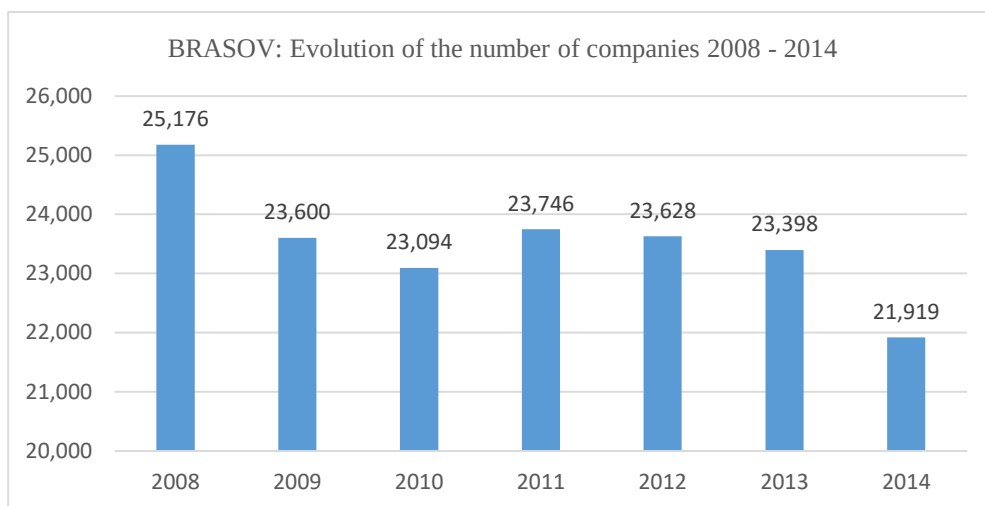


Figure 21. SME development, Brasov
(Own processing using the data of NIS Romania)

Conclusions

Nowadays, in 2018, it is well known that small and medium-sized businesses are one of the most important parts of a healthy economy. In comparison with the perception from 20-30 years ago, things are changing a lot nowadays and the sector is constantly developing. The SME sector now has a very well-defined structure.

It stands clear that Romania needs to invest in this area for a long time and that it is currently at the beginning. The number of active SMEs is a good indicator that there is still plenty of room for development here. But the SME confidence indicator in Romania also shows good prospects for the development of the business environment. A stable government must acknowledge these problems and continue to build programs for the promotion of SMEs.

The economic crisis has widely damaged the economy. In Romania, the effects came fast and significant, as can be seen from the case study. Thousands of SMEs suspended their activity and others were completely eliminated. Economic growth was eased and the most visible effects were in the area of jobs and volume of sales. One of the key reasons why SMEs did not grow was that people were scared to buy goods or invest in something. Securing the necessary funding, borrowers' congestion, high levels of fiscal strength, higher commodity prices, inflation and delayed payments were other reasons that had an impact on the business environment. According to a study by the Consiliul National al Întreprinderilor Private Mici si Mijlocii din Romania, in the period 2011 -

2014, nearly half of the SMEs surveyed had limited workload, 42.99% have worked in the same access parameters and only 7.3% have had an expense trend.

In 2017, the indicators that may have a negative impact on the activity of SMEs are: the global economic crisis (55.85%), the evolution of the legal framework (43.71%), corruption (42.25%), the inadequate Capacity of Parliament and government to avoid the effects of the crisis (33.16%), the bureaucracy (28.51%), the policy of the Romanian banks against the SMEs (16.65%).

At national level, the number of companies/1000 inhabitants in working age is recovering after the wall recorded due to the effects of the crisis but has still not reached the 2008 pre-crisis levels. The same effect is recorded for the unemployment rate which is on a descending trend but has still not reached the 2008 level. Alarming is the fact that the number of newly established SRL-D companies, a clear indicator of the entrepreneurship propensity is decreasing at the final part of the analyzed period.

As far as the regional perspective is regarded it is obvious that one can identify at least two large areas with two different development speeds. On one hand there are the West, North West and Center areas where the high level of economic development is visible in all analyzed indicators, and on the other hand there are the lagging regions of South-East, South and East.

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BETWEEN MOTHERHOOD AND ENTREPRENEURSHIP: INSIGHTS ON WOMEN ENTREPRENEURS IN THE CREATIVE INDUSTRIES

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Abstract. *This paper aims to provide an insight into the current state of mompreneurship in the creative industries in our country. After a synthetic overview of the most important theories in the literature of entrepreneurship, the paper will present a brief secondary analysis of data based on the most relevant statistical research on entrepreneurship in general, conducted by European and Romanian institutions. The conducted empirical research will consist of two qualitative studies that had a complementary role in building a more comprehensive picture of the phenomenon: the self-portrait of entrepreneurial mothers, and the institutional support provided to mompreneurs.*

Keywords: *entrepreneurship, motherhood, creative industries, mompreneurs, women entrepreneurship.*

Introduction

The number of studies regarding female entrepreneurship over the last 30 years has drawn attention to this group of entrepreneurs. Within this group, over the last decade, a subgroup has crystallized: that of entrepreneurial mothers. Although this is not a new phenomenon, it is a new concept that requires a theoretical framework and empirical validation. Although this socio-cultural and economic phenomenon of mompreneurship grew globally, it has not been approached yet by scholars in the Romanian space. For this reason, this paper aims to provide insight into the current situation of entrepreneurial mothers in the creative industries in the country.

The transition to maternity, for most women, changes choices, priorities and career preferences. Mothers' orientation towards entrepreneurship is a growing phenomenon in Romanian space, and its complexity needs to be studied through exploratory empirical research, especially since studies show that mothers build their entrepreneurial identity differently from the rest of the entrepreneurs.

The paper aims to present the main theoretical and practical aspects related to the delimitation of the mompreneurship as concept, as ways of manifestation, the motivations and the processes involved in the decision to start a business, the identification of the favorable factors and the obstacles encountered in the exercise of the double parent-entrepreneur role, as well as the study of this phenomenon in the socio-cultural and economic context of Romania. The purpose of the paper is to identify the main characteristics of the mompreneurship in the creative industries in our country, in the context of the growth of the economic and social role of the creative industries in the last years in Europe in general, and in Romania in particular.

Conceptual delimitation of entrepreneurship. Entrepreneurship in Romania

Schumpeter defines the entrepreneur in terms of the revolution he generates through innovation and “destructive creation” (Schumpeter, 1934, p.156). He is the first who associates the entrepreneur with the innovator (Leovaridis & Gavra, 2013, p. 76). For a specific but syncretic delimitation of entrepreneurship, Robert Paturel uses the definitions of several economists and identifies a set of keywords describing entrepreneurship: risk-taking, uncertainty, innovation, opportunity, the emergence of an organization, the combination of new resources, creating value, creating jobs; he also proposes an own definition: “starting from an idea, entrepreneurship is the exploitation of an opportunity within an organization, newly created or taken up in a first stage, receiving a new impulse through the activity of a single person or a team for which it represents an important change in life, through a process that leads to the creation of a new value or to the saving of the excessive consumption of the existing value” (Paturel, 2007, p.28). Synthesizing the different approaches in international literature, Verstraete and Fayolle (2005, p.44) delimit the research field of entrepreneurship through four paradigms: detecting or exploiting a business opportunity, creating an organization, creating value and innovation.

Over time, schools of thought have been formed to investigate entrepreneurship from different points of view. Thus, six models of entrepreneurship have emerged associated with six schools of thought grouped into four categories of themes (Ciocchina, 2013, pp.45-47). Viewed as a whole, these schools of thought provide a global picture of the entrepreneur and his qualities: charismatic, innovative, motivated (the School of “Big People” in Entrepreneurship and the School of Psychological Characteristics), a person who sees opportunities and can capitalize on them (Classical School of Entrepreneurial Thinking), a person who efficiently allocates resources and whose actions and style describe the pattern of a leader (The School of Management in Entrepreneurship and The School of Leadership in Entrepreneurship), a person who constantly adapts (The School of Intrapreneurship). The importance of these schools of thought lies in the overall vision of entrepreneurship that they offer through the complementarity of the angles of interest and the themes approached by each. The main implications of entrepreneurship are divided into four categories: job creation and participation in economic growth; increasing competitiveness towards accelerating productivity; developing individual potential and fulfilling societal interests. The increased interest in the attainment of *entrepreneurial society* describes the favorable attitude towards entrepreneurship and the “valorization of entrepreneurship as a way to achieve social and societal goals” (Leovaridis & Gavra, 2013, pp.79-80).

Many studies on entrepreneurship conducted in our country raise the problem of accessing funds (92% of the entrepreneurs), of the lack of support by the Romanian legislation (58%), the lack of a fiscal environment favoring entrepreneurship (73%), the lack of cooperation between the state institutions, associations and the education system that should support entrepreneurship (87%) (Ernst & Young, 2013). However, according to *Eurobarometer 354*, most Romanian respondents who do not work on their own consider entrepreneurship to be a desirable situation for them (58%), compared with only 37% of Europeans (European Commission, 2012a, p.5). Women show a lower entrepreneurial spirit, preferring to a greater extent to work as employees (63% compared to 53% of men), while men are more inclined to entrepreneurship: 42% of men would like to open a business, compared to 33% of women (European Commission, 2012b, p.5). The research conducted by national experts comes in support of these ideas, presenting an optimistic entrepreneurial framework, in which they measured the courage and intent to start a business: more courageous are young men (25-34 years) from urban area, with higher education and high personal incomes, at the opposite end being women, elderly or low-income people, who have less enthusiasm about the intention to start a business (360insights, 2013). Another recent study conducted by Ernst&Young, *Romanian Barometer of Startups 2016*, confirms that a Romanian start-up entrepreneur typically is 25 to 35 years old, works 10 hours a day, is at the first entrepreneurial initiative, wins below 1000 euros a month and goes at least once a week to a networking event (Ernst & Young, 2016a, p.4). On the other hand, *Romanian Barometer of Entrepreneurship 2016*, based on questionnaires applied to 350 businessmen from Romania, showed the following characteristics of the "local entrepreneurial ecosystem": the experienced Romanian entrepreneur is around 40 years old, he works hard (about 9.6 hours a day) and takes risks for the success of his business (Ernst & Young, 2016b, p.4). This profile matches the European entrepreneur, only with a broader age spectrum (25-49 years old, compared to 25-40 years old for Romania) (European Commission, 2014, p.17). The same study shows that 62% of women entrepreneurs in Europe are aged between 15-49, being on average slightly younger than men entrepreneurs aged 15-49 (60%) (European Commission, 2014, pp.17-18).

Reasons for starting a business are the desire to have a higher quality of life and to achieve financial independence. The main barriers to entrepreneurship are the chosen career path (21.2%), the unfavorable socio-economic context (14.6%), the lack of training or skills required by an entrepreneur (14%) (Lițoiu & Negreanu, 2012, pp.17, 42). The effort of institutional discourse in recent years to stimulate investment and involvement of Romanians in various training programs in this direction is showing result within a positive attitude of Romanians (78%) who consider entrepreneurship as an excellent career alternative compared to the European average of only 58%, doubled by the high percentage of Romanians who believe that entrepreneurs have a privileged status in the society (74%) (GEM, 2012).

Creative industries - theories, models, economic and social role, entrepreneurship in creative industries

In the last few years, different definitions have been developed to describe the specific features of the creative industries, where notions such as the "creative sector", "creative industries", "cultural industries" or "creative economy" refer to a wide range of activities involving the commercial exploitation of creative and artistic work. Some European

official institutions (European Commission, 2010, pp.5-6) make a distinction between terms such as “cultural industries” - those industries that produce and distribute goods or services that have specific attributes, uses or purposes that represent or transmit cultural manifestations, irrespective of the commercial value they carry (theatrical arts, visual arts, cultural heritage, film, DVD and video, television and radio, video games, digital media, books, music, and the press) and “creative industries” that use culture as a resource, giving a cultural dimension to the products, although the results of their work are mainly functional - architecture, graphic design, fashion design or advertising. Throsby's concentric circle model (as cited in Connor, 2010, p.56) places creative ideas in the pool of mainstream creative arts where, in the form of sound, text and image, these ideas are diffused outward through a series of “concentric circles” that delimit the cultural and commercial proportions, the decrease of cultural content being directly proportional to the distance from the center, the movement towards the outside being in a specific order: central creative arts (literature, music, performing arts, visual arts), followed by cultural industries (film, museums and libraries), wider cultural industries (heritage, publishing, audio, television and radio, video and computer games), related industries (advertising, architecture, design and fashion).

Considered one of the most promising areas in developing economies, the creative industries benefit from both a diverse mix of consumers and creative resources that drive growth in other sectors (Ernst & Young, 2014, p.4). In other words, the creative and cultural industries contributed in 2012 to 4.2% of Europe's GDP. This economic sector is the third largest employer in Europe, following the construction and food industry related services. More than 7 million Europeans are employed directly or indirectly in creative and cultural activities - 3.3% of the EU's active population. Of these, the theatrical arts (1,234,500), the visual arts (1,231,500) and the music (1,168,000) employ more than 1 million people each, followed by advertising (818,000), books (646,000) and film (641,000) (Ernst & Young, 2014, p.10).

Some authors (Marco Serrano, Rausell-Koster & Abeledo-Sanchis, 2014, pp.81-91) have shown that there is a significant bidirectional causality between regional prosperity (GDP per capita) and employment intensity in the cultural and creative industries, concluding that there is a “virtuous circle” fueled by these industries. In some European countries, creative industries report a higher level of innovation than non-creative industries: for example, in the UK over 40% of creative industries report internal use of R&D resources, over 20% report use of design and almost 35%, innovations in marketing; each of these percentages is greater than that of non-creative organizations (Bakhshi, McVittie & Simmie, 2008, pp.21-22).

Due to the dense population, its cultural market, its cultural heritage, and the highly talented creative class, Europe has long been a source of organizational leadership in creative industries, whether it's about renowned international corporations or just small avant-garde startups (Ernst & Young, 2014, p.18). These businesses take on the pioneering role in various fields, from music, where Universal Music Group is the leader, to television - Endemol, to publishers - Pearson and Hachette Book Group, to video games - Ubisoft and Supercell, and advertising - WPP and Publicis. Europe becomes more than an innovation hub, creating and developing new business services and models, such as the Swedish Spotify and the French Deezer (Ernst & Young, 2015, p.45). Colette Henry (2007) encourages the use of best practices in finding solutions to maximize the potential of creative industries in the global economy; it focuses on how

investors and entrepreneurs can work together to create new spaces for “entrepreneurial energy” within the various creative industries in these times of rapid digitization. David Rae (2004, pp.492-500) also explores how entrepreneurial abilities and identity are learned in the creative industries and media, proposing a conceptual framework of entrepreneurial learning in the creative and media sectors, based on social learning.

A study called “The attractiveness of the creative professions and entrepreneurial orientations of young people in creative fields” (Moise, Jderu & Cristea, 2012, pp.2-14) presents the results of qualitative research on the preferences of young Romanians for creative professions and their entrepreneurial orientation. Thus, in the top of the most attractive creative professions among young people, the first positions are occupied by the journalist (12.2%), the photographer (11.8%), the architect (10.9%), followed by IT programmer (9%) and fashion designer (8.3%). Moreover, 70% of young people would choose the first profession option as a creative profession. The degree of notoriety of these professions influences the perceptions of young people and maintains their desirability for these choices, which is why architecture is considered one of the most popular creative professions in society. Of the young people who mentioned the creative industries as their first job option, 57% say they would open their own firm in the chosen field if they had the necessary material resources. The preferred professions of those oriented to entrepreneurship are photographer, architect, fashion designer, IT programmer and journalist. As for the preferred business field, 26% of them say they would invest in hotels or restaurants, 22% would focus on creating online stores (online shopping sites), 10% would invest in agriculture, 9% in construction, 7% in transport, and only 6% in creative industries such as music recording studios, publishing houses, advertising etc.

Female Entrepreneurship in Romania. Mompreneurship

Towards the end of the 1990s, “female entrepreneurship” became an independent research area and was a popular topic in the media and for the political debates on economic markets and employment. In addition to the characteristics and professional achievements of female entrepreneurs, research has now extended to health, maternity issues (Williams, 2004, pp.467-485), family positioning, lifestyle and work-life balance (Schindehütte, Morris & Brennan, 2003, pp.94-107). Increased attention was paid to the study of women-led businesses that covered topics such as growth and performance, management style (Brush, 1992, pp.5-31), financing, human capital, labor markets (Bird & Brush, 2002, pp. 41-65) and social entrepreneurship (Carter et al., 2003, pp. 15-17), among others. Although important steps have been taken in the study of female entrepreneurship, this field is far from being exhausted, with a variety of extensions and further investigations to be made (Minniti, 2009, p.620).

Naudé (2010, pp.1-12) aims to explain the gender gap in business initiation in countries with similar economic development levels, taking into account non-economic factors such as culture and institutions. The authors are particularly concerned about the impact that “gender institutions” or “gender culture” have on the decision of a person, whether male or female, to start a new firm. In this context, both a post-institutional approach based on economic studies and organizational theory seem promising (Reskin & Bielby, 2005, pp.80-86), as well as other approaches in the sphere of the economy that

integrate tools and methods from fields like anthropology and ethnography (Chamlee-Wright, 1997, pp.20-25).

The field studies developed in Romania provide a socio-demographic profile of the local female entrepreneurs. First, there are the potential entrepreneurs (not having their own business, but involved in activities to start a business) have an average age of 42 years and work experience for about 15 years, half of them (49%) have studies in management and business management; the men in this group of potential entrepreneurs are of similar age but have a lower work experience (12 years), most of them (55%) having management experience. Female owners of newly established firms (up to 2 years old) have an average age of 37 years and a 10-year work experience, most of them (73%) having studies or training in management and business management; in comparison, the men in this group are one year younger, have one year less work experience and 55% of them have management experience. In addition, more men than women have entrepreneurial examples in their families, and these examples are mostly masculine for both men and women (Driga & Gonzáles, 2009, p.12). "The main motivation women invoke for their involvement in entrepreneurship is the opportunity to improve their quality of life, followed by the possibility of earning money, and therefore to be realized on a personal level, unlike men, for whom the main entrepreneurial motivation is the opportunity to earn money, followed by the improvement of the quality of life and only for the last place they take into consideration the personal level" (Leovaridis & Gavra, 2013, pp.94-96).

In our country, of the total number of company owners (1.2% of the total population), 75% are men, so only 25% of women. Of these, 36% are aged 35-44, 32% between 45-54 years and 18% between 25-34 years, the rest being under 25 or over 55 years old. Of the self-employed (35.1%), only 28.7% are women, compared with 71.3% men. Of these, 21.9% are aged 35-44, 20% between 45-54%, and 17% aged 65 or over, with the remainder being between the 25-34 and 18-24 (National Institute of Statistics, 2017, pp. 128-132). The "Global Entrepreneurship Monitor" evaluates women entrepreneurship in Romania as being "out of necessity" rather than "seeking the opportunity". What it means is that instead of being motivated by the existence of opportunities - 20% of respondents, most women (50%) said that they would not have made it otherwise. The other 30% mentioned both variants, "being able to fit into a push-pull model, where the necessity and identification of opportunities were the entrepreneurial mobiles" (GEM, 2010).

The idea that women are more averse to risk has been a topic that has long been studied in recent decades, and studies by Rutterford and Maltby (2007) seem to confirm this: "women are more inclined towards risk-bypass behaviors and tend to take more moderate risks than men" (Ivan, 2013, p.128). The metaphorical naming of the phenomenon, *nesting instinct*, is not accidental. In their study on women's relationship with business-related risks, especially regarding investments, Rutterford and Maltby (2007, pp.315-320) stressed the existence of natural, biological precaution of women in terms of risk, protection and care of the family, but also a fearful behavior towards risk, since all interactions present a certain degree of uncertainty. "As most of the economic and entrepreneurial interactions have an above-average level of uncertainty and involve assuming risks, we can associate the concept of *nesting instinct* with female entrepreneurial behavior. If risk aversion is a biological component, innate, specific to women, with obvious adaptive valences, we can wonder to what extent a society may

want more female entrepreneurs and women involved in investment rather than in saving plans creation" (Ivan, 2013, p.128).

Davis and Shaver (2012) complement those previously written from a mother's point of view, which seem to be more prone to risk than women in general, with a desire for growth and a much higher motivation than men or women entrepreneur. Lewis and colleagues use the theory of borderless careers as a perspective to explore and analyze the moment of transition in careers for women, and specifically the event of maternity in connection with the transition from employment to self-employment (Lewis et al., 2015, pp.21-37). Introduced by some as "the new feminism", the new rapidly growing phenomenon – *momprenneurship* - is an impugnable and disputed subject. The article raises the question of whether such transformations in working practices (incorporated in the figure of a *momprenneur*) have the potential to offer more options for working mothers, or if they allow the reappearance of inappropriate expectations and arrangements within families (Ekinsmyth, 2013, pp.1230-1248).

In addition to this article, Kochman (2014) lists five reasons why mothers have the chance to be successful entrepreneurs. The author begins his argument with describing the resemblance between growing a child and growing a business, where the necessary skills intertwine, arguing that motherhood not only provides the right business training but, as other studies show, venture capital companies led by women typically earn higher earnings by 12% and start with a three times lower capital. In addition, women-led companies are more resistant to financial crises than their male-led counterparts. His question is why only 10% of the founders of a business are mothers? Professional barriers to networking, limited access to funding, and lack of models to follow can be some of the reasons why they are more reluctant, but the real reason is that most fear that they cannot combine maternity with intense entrepreneurial life. The author claims that mothers acquire many of the skills that are essential, as entrepreneurs. These include working under pressure, bargaining skills, creativity and the ability to combine the most appropriate resources, controlling pride and pursuing a greater purpose, long-term thinking, motivation to continue despite bad situations and so on. While entrepreneurs have the choice to quit their business, a mother will never be able to give up a child. This feeling of challenge and triumph regardless of obstacles turns mothers into heroines, and furthermore, in successful entrepreneurship.

Regarding gender inequalities within the creative and cultural industries (CCIs), these were insufficiently explored. Global research that has studied gender inequalities in various industries has revealed that there are patterns of women exclusion based on their social class, race or ethnicity. These inequities are amplified by the precariousness, informality, and requirements of program flexibility, general features describing work in contemporary creative industries. Moreover, women, and mothers, in particular, are disadvantaged by the interconnected boundaries between home - job roles, unpaid work – paid work, by new social pressures built around self-identity, sexist attitude and gender pay gap. Understanding the specificity of women's work in the creative industries in the neoliberal economy involves understanding their problems in regard to gender differences (Conor, Gill & Taylor, 2015, pp.5-20).

Although it is not a new phenomenon, *momprenneurship* is a new concept that is still looking for a theoretical framework and empirical validation (Lewis et al., 2015, pp.21-23). Studies show that women build their entrepreneurial identity either through

resistance to gender differences or by assuming and embracing femininity (Richomme-Huet, Vial & D'Andria, 2013, pp.254-260), but entrepreneurial mothers overcome these stages guided by their natural and biological instinct called metaphorically the “nesting instinct” by researchers (Ivan, 2013, p.128).

In Romania, a key issue in the discussion of women's savings versus investments trends is the 'financial literacy', namely their education in this respect, both at the level of their competencies and knowledge, as well as in the level of confidence and interest towards knowledge in the financial or economic area, since gender-differentiated schemes are also closely related to this. The value context and the cultural-religious space play as well a particularly important role in building the environment in which these entrepreneurial programs develop. In some countries, “working with money” is considered to be especially the men's job, a “dirty” action that dishonors the woman, so financial literacy programs are facing real challenges (Ivan, 2013, p.134). These aspects of culture are reflected directly in the small number of women entrepreneurs, both in Muslim religion countries, where the percentage of female entrepreneurs is only 5% and in countries that strongly adhere to paternalistic values: Romania, Russia, Latvia, where gender roles indicate rather an association between the financial power and the masculinity (GEM, 2010).

“Mompreneur” is a neologism made up of the terms “mother” and “entrepreneur”, and starts to have its own place in the dictionary of the researchers interested in the contemporary aspects of entrepreneurship. The “mompreneur” embodies the transition from offline to online in the era of digitization, US News & World Report attempting to dismantle the myth of “mothers with ideas working from home” on the grounds that any innovative idea sells, putting mothers among first-time innovators (Palmer, 2011). Creating associations to support this trend was inevitable. Pioneers from Canada started what now became the largest online resource website, *Mompreneurs*, with the purpose of providing support, education and national promotion to all mother entrepreneurs. This online community has become a milestone in the world of mompreneurship through its many projects and events, including the Mompreneur Awards, an event that rewards successful mothers, or the Mompreneur Momentum, the nonprofit organization dedicated to helping mothers access resources. The core values of this association are collaboration, integrity, unconditional support, inclusiveness, trusting community and empowerment.

In Romania, there are two such communities: Happy Moms and Mamprenoare. The purpose of Happy Moms association is “to offer support in the harmonious and healthy personal and/or professional development of pregnant women, mothers, children and family in general” (see Study B). By creating the *Business Mom* program, an entrepreneurial school of mentoring and motivation addressed to mothers, a large community of entrepreneur moms was created. They are participating in conferences (M.A.M.A.), educational training, personal enhancement groups or free courses available to them for personal and professional development as entrepreneurs. Moreover, they are encouraged to participate in the business ideas contest developed with the purpose of sharing resources through an incubator of start-ups for entrepreneur-mothers.

The Mamprenoare community is created as a sub-company supported by Level up Vision, a training firm in the areas of branding, communication, public speaking, and leadership. Its mission is to “provide support, education, and inspiration to

entrepreneur mothers, and to be there in their first steps towards entrepreneurship in a business environment” (see Study B) by providing a unique platform where mompreneurs connect and promote their businesses in Romania. The founder herself offer strategic business advice, by organizing meetings periodically and locally with entrepreneur-mothers to exchange views and get support from the community, by providing ideas and solutions to promote themselves with a small budget and last but not least, by organizing courses, seminars and conferences on various business-related themes. Among the most well-known events of this community are the “Successful Mother and Entrepreneur”, an event that takes place regularly in the big cities of Romania, but also “Children and Money” a financial parenting workshop which helps mothers juggle with their finances for both their businesses and their children.

Besides the above-mentioned communities, a WAHM Romania networking community was created as part of the global Work at Home Moms phenomenon, as “social initiative to support active mothers and make them aware of their vital importance within the family”. From the very first few days since the launch of the idea, the community grew remarkably thanks to the hundreds of interested mothers who enthusiastically joined the Facebook page dedicated to Work at Home Moms. The project then crystallized by setting up the Work at Home Moms Association. “This association aims to support creativity and innovation by defending intellectual property rights” (see Study B). The group relies on creating a community where mothers can communicate and can provide support to each other, where they can collaborate, discuss work ethics or the legislation in place, organize seminars or meetings on various business-related themes and prepare mothers for the competitive market.

Field research on mompreneurship in the creative industries in Romania

Research methodology

In choosing the research methodology we took into account the specificity of the investigated topic and the questions we want to answer. Being an unexplored field in the scholar literature in Romania, our study focuses on investigating systematically a new area of interest regarding female entrepreneurship to serve as a starting point for further quantitative studies. The decision to choose qualitative methods, with their limits and advantages, was encouraged by our desire to explore a newly formed socio-cultural and economic phenomenon, rather than measuring the intensity of its manifestation. The choice of research tools thus proceeded from the nature of the selected methods and techniques. To conduct in-depth exploratory interviews, we have built a semi-structured interview guide for entrepreneur mothers and another semi-structured interview guide addressed to representatives of institutions involved in creating the socio-cultural and economic context for mother entrepreneurs. Data collection was done using face-to-face interviews with previously prepared interview guides. Each interview lasted between 60-90 minutes and the responses were noted on the spot by the interviewer. Interviews with the first group of subjects took place between April 5-30, 2017 and with the second group of subjects, between May 2-15, 2017.

The overall objective of this study is to outline the profile of mompreneurs in the creative industries in Romania and to identify the main characteristics of mompreneurship in this sector. In fulfilling this objective, the research was divided

methodologically into two different studies, complementary to compiling a more comprehensive picture of the phenomenon: the self-portrait of entrepreneur mothers (A) and institutional support for mompreneurship (B).

The empirical data of the first study (A) was collected through in-depth exploratory interviews addressed to a number of 21 entrepreneur mothers working in the creative industries in Romania. The goal was to discover the experiences and challenges faced by them in balancing the double responsibility of maternity and business leadership. A respondents' selection strategy was adopted, in which participants were recruited by searching for different networks and clusters, articles and blogs about mompreneurship, provided they were entrepreneurs in the creative industries. The subjects of the first part of the research were selected from different localities, age groups, levels of education, and having different businesses as seniority and specificity. Their businesses vary from decorative arts, architecture, branding and communication consultancy to fashion design or francophone publishing. Their age ranges from 27 to 55, the level of education between high school and masters. Most women are married (17), some are in a second marriage (3), and the rest are single mothers. The 'age' of business varies from 6 months to 17 years. Mothers' locations cover areas of interest in Romania and extend from Bucharest to Cluj, from Constanta to Iasi, Brasov, Suceava, Barlad, Deva, Craiova and others. The specific objectives of this study (A) were: 1. To identify the grounds and factors that have led mothers to establish a business in the creative industries. 2. To identify the favorable factors and barriers to business development. 3. To explore the characteristics of the mother's status in relation to the launch of the business. 4. To explore the opinions on governmental, social and cultural support to entrepreneur mothers.

The second study aims to analyze the situation of the mompreneurs in terms of institutions recognized as having an important role among entrepreneur mothers (LevelUp Vision, Happy Mom - Business Mom, Work at Home Moms), or entrepreneurs in general (Start Up Nation, Chamber of Commerce, Directorate of Entrepreneurship and Programs for SMEs). Semi-structured interviews aimed to identify the characteristics of the mompreneurs from an external perspective to their group, thus guiding the discussion towards the role of mompreneurs in society, as well as vice versa - the influence of society on the development of this subgroup of female entrepreneurs, all from an objective point of view, external to the group. For this part of the survey, we interviewed 5 representatives of private and state institutions: Start-Up Nation, Level Up Vision, Happy Moms, Chamber of Commerce, Directorate of Entrepreneurship and Programs for SMEs. The specific objectives of this second part of the research are 1. To identify the main characteristics of the entrepreneurial mothers in the creative industries. 2. To analyze the external factors that influence mompreneurship in starting a business. 3. To identify the measures taken to support this subgroup of female entrepreneurs.

Research Results

A. The self-portrait of mother entrepreneurs. Analysis of data obtained through interviews with entrepreneurial mothers

By pursuing the specific objectives, the study begins with the analysis of the motivations, aspirations, and factors that encouraged mothers to start a business in the creative

industries sector. For a more in-depth analysis, we grouped the answers into pull and push categories. As defined by the authors Schjoedt and Shaver (2007), push factors are elements specific to the field of necessity, such as inadequacy of family income, lack of job satisfaction, difficulty in finding a stable job, need for a flexible program due to family responsibilities. Pull factors refer to the desire behind an action, like the desire for independence, the need for self-fulfillment, the desire to become an entrepreneur, the desire for social status and financial prosperity.

The study on entrepreneurial mothers revealed that the main motivation, and the most often cited (14 of 21 possible mentions), is the desire to turn passion into a source of income, or simply to turn a hobby into a business. This is followed closely by push factors such as *"the desire to have a flexible program tailored to the needs of children"* (P.O., 34, Constanța), the desire to work remote, the freedom to choose clients and the freedom to influence the direction of the business, as well as the education of their children (*"I did not want to raise my children with a babysitter..."* (B.P., 36, Iași). Other mompreneurs mentioned that they are highly motivated by their clients - receiving positive feedbacks from happy customers makes them want to grow the business, evolve, do what they like and work for themselves in order to acquire financial independence. We find that there is a balance between the need and the desire to start a business, and although the pull factors seem dominant, financial interest is the cornerstone of the development of any business. The specificity of creative industries has an important role for entrepreneur mothers in terms of their freedom of expression, opening up the market and increasing demand in recent years for various products and services in the sector.

The study also aimed to identify those factors that encourage and facilitate the start of a business by mothers. The responses of entrepreneurial mothers were related mostly to the help of the partner and family, proof of the mentality change regarding the role of a woman in the house. Other encouraging factors include high demand in the areas in which they operate, opportunities for online promotion (especially Facebook) and previous experience in the field.

We studied then the obstacles and barriers that entrepreneurial mothers have encountered in creating or developing businesses. The challenges faced by mompreneurs have varied origins and reflect, on the one hand, the old-fashioned mentality and, on the other hand, the lack of preparedness and support from the state. The main obstacles faced by entrepreneurial mothers are the lack of institutional or government support (and hence the lack of capital), the bureaucracy - which is very complicated and difficult, high taxation and the lack of organization of legislative services (*"I stood for 2 hours at number 2 counter, where I was guided after spending another half an hour on the queue, to find out that in my case the problem could only be solved at the number 1 counter, because only that person was competent"* (I.A., 29, Râmnicu Vâlcea). Another challenge for mothers is the copying of business and the unfair competition. A specific reason mentioned by one of the mothers - *"the home area (rural area), where I have internet only through a router that is very slow [...] and the nearest courier company is at 30 km"* (A.B., 27, Suceava) - draws attention to the need to develop an infrastructure that allows the development of the phenomenon of mompreneurship (and not only) in rural areas as well.

An extremely important barrier to starting a business as a mother is the lack of credibility on the market, as a consequence of a mentality that cancels the woman's role

outside the home. *"We face a hostile environment"* (S.T., 38, Sibiu), *"with stereotypes and old-fashioned thinking - condemning us that instead of taking care of the children and the husband who brings home money, we are looking after businesses and money, not after the saucepan"* (A.B., 27, Suceava). Moreover, *"although many businesswomen are mothers, this is not brought forward, on the contrary, it is diminished in order not to show weakness"* (E.A. 33, Bucharest); *"The general attitude is a suspicious one and a little discriminatory..."* (M.A., 46, Bârlad); *"Mother entrepreneurs are often confused with people who do something funny while the baby is asleep to feel useful"* (N.I., 31, Alexandria); *"I would like to convince the world that entrepreneur mothers are responsible, serious women, that deliver quality products and services"* (L.T., 40, Bacău).

Exploring the characteristics of the motherhood status in relation to the launch of the business was a key point of this study. According to the data, mother entrepreneurs started their businesses no sooner than 6 months after their birth, but this time varies for each mother, as some mothers have started their businesses only after their children have grown up. Often the idea of building something on their own started on prenatal leave, either because of the desire to experience something new, either due to an attempt to *"fill up the free time which I was not used to"* (P.F., 28, Deva).

In our attempt to study how mompreneurs relate to entrepreneurial success, we included in the research questions related to business specificity, number of employees, legal form. Our research revealed that mompreneurs are especially dedicated to small businesses or medium-sized businesses because they can thus fulfill their family-work responsibilities this way. They have between 2 and 9 employees. Each entrepreneur has its own perception of the importance of success. Some look outward, measuring success through traditional business parameters (income, customer satisfaction, loyalty etc.); others use qualitative criteria that reflect self-esteem. However, mothers measure success differently from men (who rather think about job creation, profitability) because of their motivation, as we find out in our study, it is not purely economic, but personal: such as the desire for independence, to follow their passion, the desire for self-fulfillment etc.

Entrepreneurial success, according to the interviewed mothers, consists in the freedom to support yourself from pursuing a passion, trusting your road to success, work, perseverance, innovation (*"high-quality products, customer satisfaction, impeccable execution, fair prices, and customer satisfaction are factors that ensure long-term success"*, L.I., 39, Timișoara). Mothers are recognized for their involvement in the delivery of services or products (*"I dedicate myself to every client as if they were my only client"* - P.F., 28, Deva), succeeding where many big companies do not: an exceptional customer service. Self-confidence and work satisfaction are also important parameters in measuring success. Another important part of success is building relationships with customers, community members, and other businesses. Networking between mother entrepreneurs is also a source and a resource for them. Community support is very important to mothers, it is the place where *"you can affirm yourself outside the business, within a community"* (E.B., 48, Miercurea Ciuc).

Furthermore, the researchers wanted to identify the extent to which entrepreneurial success interferes with success as a mother, which is why we have emphasized on the exercise of this double role. Interviews with entrepreneurial mothers revealed that success is subjective and that although they are interested in financial profit, this is not

their main purpose, but the balance between the roles is crucial. From mothers' answers, we could identify three main factors that help balance the dual role: the family - the help of partners, grandparents, uncles, aunts; the community of mother entrepreneurs (*"I have no one, but to the online community of mothers"* (L.T., 40, Bacău), and factors that derive from personal skills (*"Balance comes from the fact that I am a very well organized person, who knows how to prioritize their activities very well"* – N.M., 31, Buzău; *"Balance comes from chaos, if you're struggling with chaos means you're doing something"* - D.L., 29, Gherla).

The following questions aimed to identify the internal and external factors that might influence the mompreneurs community. Internal factors refer, first of all, to the affiliation of entrepreneurial mothers to groups dedicated to them, to participation in conferences or training addressed to them, but also to building their image within the group through the specifics that the role of mother brings to the status of an entrepreneur. External factors portray the external image reflected in society, the social perceptions, and thus the advantages or disadvantages they face because of the status of mother entrepreneur. We look back at the internal factors and note the particular importance that affiliation to the entrepreneur mothers' group has on these women: *"Yes, with the help of the Work at Home Moms community I can say that we have found real help in networking especially through real and constructive feedback we give and receive from each other"* (I.B., 55, Bucharest). The activity of the mothers in these groups includes networking, promotion within the group, mutual support, exchange of opinions and feedbacks related to products or services, or simply advice for various situations that might arise. However, many mothers admit they are not affiliated with these groups, or that they do not participate in training addressed to them because *"until recently I did not even know about the existence of these groups"* (L.I., 39, Timișoara).

The views on the socio-cultural context and the opening of the market to the entrepreneurial mothers are of a positive overall tone, and the hope of a prosperous future is dominant: *"I think we are mompreneurs at the right timing, culturally speaking, and I trust that things will get even better in the future"* (P.O., 34, Constanta); *"I think that society is beginning to be more open in this regard and to support as much as possible the mother entrepreneurs by promoting them and buying the products they make"* (N.M., 31, Buzău); *"We have some advantage when we have clients who will be future parents or have children already because they can empathize with our efforts"* (B.R., 40, Bucharest).

In terms of financing modalities and the role of state institutions in business development, entrepreneurial mothers prefer to use their own economies and self-finance themselves, believing that *"the Government has no contribution in supporting entrepreneurs, the bureaucracy is burdensome and the tax measures are inappropriate for starting a business: the taxes are too high... I really understand the mothers who want to work "underground" ... it is almost impossible to sustain your business, at least in the first year..."* (L.T., 40, Bacău); *"Although I filed financing requests, my projects were all rejected. The reason: reticence towards art as a prosperous business. The government has no contribution to our success... cannot count on it even for free advice..."* (M.A., 46, Bârlad); *"I prefer to call on specialists to teach me to grow my business because I do not trust government or European funds at all"* (E.B., 48, Miercurea Ciuc).

Although there is an upward trend towards supporting female entrepreneurship, the legislative measures are yet inexistent. The proposals of mothers related to changes in

legislation are varied and most of them concern the economic area: *"I propose the creation of a special legal form, with free of charge establishment and free of taxes for one year; it would be like a probationary year in which you can test the market, invest money in promotion, advertising, in events that make you known..."* (D.L., 29, Gherla); *"Mompreneurs could be supported by granting special credits, for example"* (P.O., 34, Constanta); *"Legislation that allows exposure of creations (products) without the imposition of a legal form would give a greater chance to increase the community of entrepreneur mothers"* (I.B., 55, Bucharest); *"A lower tax on profit would also be helpful"* (N.M., 31, Buzău); *"The state should provide us with the possibility to authorize us more easily, provide the option of submitting requests/ necessary documents online, provide free counseling for mothers, and some tax incentives for the first year of activity..."* (B.P., 36, Iași); *"First of all, I would try to boost entrepreneurship among mothers by providing benefits, cutting taxes, facilitating discussions between institutions in this sector because a state-supported mother could produce as much value as 10 employees"* (B.R., 40, Bucharest). An important step would be *"to set up NGOs to support mother entrepreneurs and address the legislative issues on their behalf"* (E.B., 48, Miercurea Ciuc).

By asking them to define themselves as mompreneurs, the participants in the interview defined mompreneurship as *"a fulfilled dream", "the proof that dreams come true", "the chance to work out of passion and to teach the children to be independent", "a challenge", "a quest of originality and perseverance", "a lifestyle", "a woman fulfilled on all plans", "the courage to do something for the family"*.

The recommendations of entrepreneurial mothers to future entrepreneurial mothers put emphasis on this quality of being a parent before being an entrepreneur: *"we shall not forget that children are more important than any business. A business can be replenished but the time we do not spend with our little ones cannot be recovered"* (N.I., 31, Alexandria), but also highlight the efforts that come with this dual role – *"At this moment, the mompreneurship for me is, on one hand, the joy to spend time with my little girl, and on the other hand, the many white nights of work. There are times when I'm thinking about giving up, just imagining myself knocking on a multinational company's door, but then I remember that this is the only way to have time for my little girl"* (B.P., 36, Iași).

B. The institutional support provided to the mompreneurs. Analysis of data obtained through interviews with representatives of some organizations in the field

For a complete picture on mompreneurship, we added a second field research to the study, having as interviewees with the representatives of some of the institutions involved in the development of this subgroup of entrepreneurs. The importance of this study is given by the objective, external perspective on the group of entrepreneurial mothers, exploring how their role in the society is seen from the outer world, as well as their importance in the creative sector. Also, the study aims to identify the measures taken in the Romanian space to encourage them.

The first part of the interview addressed to institutional representatives covered the subject of the increased interest in the creative industries and the factors that encourage women to start their businesses in this sector. Although Romania is still in its early stage of development of creative industries, *"changing the focus of funding programs from agriculture to creative industries has an important role in opening up to the international*

markets" (Start-Up Nation). Women are particularly encouraged to apply because these industries benefit them: *"the times when entrepreneurs were encouraged to have technical knowledge, especially from the real sciences have fallen, not that I imply that women are not good in this field, not at all - we have some great women engineers, hats off to them... but all of the business ideas from this sector were overwhelmed by heavy production, physical effort, and industrialization... Let's work with our heads as well"* (Chamber of Commerce). Among the factors that encourage women to build start-ups in the creative industries, the respondents named previous experience in the chosen domain, the desire to have a self-made career, the possibilities of self-financing, and the opportunity to call experienced consultants and trainers: *"Anyone can succeed, the market is prosperous, opportunities are everywhere... all we have to do, culturally speaking, is to get rid of this "we know them all" attitude and call on specialists when it's the case. If the Romanians learn to make long-term strategies and seek specialized help, a large part of the bankrupt companies will be saved"* (Level Up Vision). The major impediment, on the other hand, would be the *"tangled, confusing and unclear bureaucracy"* noted the representatives. Happy Moms Association draws attention to psychological factors such as the fear of failure, common among women who are prone to think this way regarding economical endeavors because of early socialization of their role in society.

The following questions explored the differences between female entrepreneurs and entrepreneurial mothers, and therefore the recognition and confirmation of the existence of this subgroup of female entrepreneurs in society. The representatives of the institutions take into consideration the statistics that show an *"increase in the birth rate, which leads to an increase in the number of mothers, which logically leads to a sabbatical period and implicitly to a professional reinvention and changes in the field of interests regarding the family/children versus the career relationship"* (Happy Moms). Also, the *"increased interest in documented parenting (reading blogs, books, attending courses and workshops) entails greater involvement of parents in family life, especially of mothers, who want to be with their children through their most important moments of their lives, to give them all the necessary attention for a better development, all reasons for which they are no longer interested in selling their time and energy to a corporation. Investing in a business that allows both time flexibility and consistent revenue seems the right choice for them at the moment"* (Level Up Vision).

The socio-demographic profile of mompreneurs as a distinct group of entrepreneurs, as described by the interviewed representatives, is the following: women aged 29-40, with higher education, urban, with a career of at least 5 years old, who already have a domain they can exploit in their own business development, who are open to the online environment for both business growth and promotional purposes (unlike men, for example), especially concerned with health, culture, parenting, well-being, interested either in developing businesses in the crafts area of handmade products creation in the north-west of the country, and in creating businesses in the service sector, in the southern area of Romania.

Exploring the phenomenon of mompreneurship in the Romanian space from the perspective of its institutionalization, we found that *"there are three tendencies among mompreneurs: (1) the copying, when the mothers stubbornly start a business without having an idea, a mission or purpose, just because they saw other mothers succeeding in the field; (2) the investments, a reckless action characteristic to mothers who just quit their*

corporate job, who have a certain amount of knowledge and a higher level of resources, which is why they engage in businesses that require large amounts of capital for initiation, risking large debts without market testing or experience in business management and (3) businesses that start from passions, from their own values, hobbies - these are the authentic ones who have a stable, organic growth" (Level Up Vision); "The phenomenon of mompreneurship is not yet recognized as such, but considering the avalanche of news, reports, programs, articles that have appeared in the past few months, it becomes more and more popular, shaping and strengthening the public image and the profile of the mompreneurs" (Happy Moms); "I think it is a more controversial phenomenon in urban areas, I believe that rural areas are completely lacking the culture of mompreneurship" (Chamber of Commerce); "Although not yet recognized as such, the advantage of this subgroup, from the client's perspective, is important - moms are regarded as responsible, empathetic, involved business people, warmer and nicer than traditional firms adopting a more masculine, colder culture and style. However, the size of the phenomenon is increasing, although there is greater coagulation in Cluj, signs of development begin to appear all over the country" (Level Up Vision).

The study addressed to representatives of the various institutions interested in the entrepreneurial mothers' group revealed an *intermediate* way of measuring business success: the ratio between economic profitability and familial success.

The involvement of institutions in the development of this phenomenon was a key point of this study. The questions were derived from a specific research objective, namely to identify the measures taken to support this subgroup of female entrepreneurs from a socio-cultural and economic point of view. Among the activities to facilitate the process of setting up a business by encouraging their entrepreneurial spirit, we found interesting initiatives, such as the launching of projects that prepare them for the competitive market. Take for example the *"Entrepreneurial Mothers School, which provides training, mentoring and advertising services. In 2 years, we grew 10 businesses and we have already started our third edition in March"* (Happy Moms-Business Mom). Also, organizing motivational conferences or networking sessions for mothers is an important aspect to their success: *"Our goal is to simplify the process by which anyone can access these funds. We provide information, support, counselors, financial support in our programs, mentoring, even moral support by encouraging ideas [...] we are open to everything new and mothers turn out to be a breath of fresh air in this business area"* (Start-Up Nation). Level Up Vision offers specialized business and branding consulting services, from documentation preparation to business or communication strategies: *"Our help contributes to organic business development through intervention on production and promotion, but that is not all that we do. Our goal is to leave a footprint. We are working on building the "Mamprenoare stamp" for the products so they can be easily recognized (inspired by the Made in Romania example), a symbol to draw attention to this subgroup of entrepreneurs dedicated to both businesses and children, who want to provide education and a prosperous environment for their families and communities [...] anyone can empathize with this, and we believe in the success of this project [...], but there is a need for consensus and clustering of groups to promote state support and interest to this phenomenon"* (Level Up Vision).

Conclusions

The purpose of this paper was to create a profile of mompreneurs and to identify the main characteristics of entrepreneur mothers from the creative industries in Romania, by investigating the motivations of starting a business, the favorable factors and the obstacles they've encountered, as well as the economic and social context in which they find themselves. The two studies we undertake had a complementary role in building a more comprehensive picture of the phenomenon: the self-portrait of entrepreneurial mothers (A), and the institutional support provided to mompreneurs (B).

The context of the research has amplified the need to study this phenomenon at an early stage. Although the number of women starting a business is much higher than any demographic group, and the number of mompreneurs is steadily increasing in the Romanian space, research on entrepreneurial mothers is still limited. Our study aims to identify the characteristics of entrepreneurial mothers as perceived inside and outside the group in order to outline the main aspects of the phenomenon, from the social and economic perspective, as well as from the cultural perspective. And, most importantly, prepare the ground for future research that targets this subgroup of female entrepreneurs.

The objectives of the first study aimed to create the self-portrait of entrepreneurial mothers by identifying the reasons for starting a business in the creative industries, the favorable factors and barriers to business development, by exploring the characteristics of the mother's status in relation to the launch of the business, as well as the opinions on government support, and the social and cultural context. In relation to the specific objectives, our study revealed that women face a higher degree of complexity when making career decisions after childbirth as they try to balance childcare activities with work and home care. Under the conditions of exercising these multiple roles, their limits translate into space and temporal limits, and the consequences of choices in social and economic constraints. For this reason, the influence of the socio-cultural context is also reflected in their motivations as it influences the values and attitudes of the mothers, their self-confidence, and ultimately affects their interests and their choices. The push and pull motivations and factors that have triggered a business launch in the creative industries lead to different perceptions of success. Our results show that mompreneurs' perceptions on entrepreneurial success derive from family background, from the values to which they adhere, their social experiences, and are tied to their motivations to start a business. As our lot was comprised by a small number of entrepreneurs to support our qualitative research, a quantitative analysis could help get more complex responses to the phenomenon.

One of the most important factors in starting a business is, according to our studies, the influence of family and society in general on women who want to open a business. A family that understands the economic value of entrepreneurship will encourage mothers to be interested in pursuing this endeavor. The community also has an important role to play in starting a business and in developing entrepreneurship by delivering benefits, feedback, inspiration, and networking among moms. However, entrepreneurial education must not be neglected. This has a special role to play in developing entrepreneurial skills and competences. The effectiveness of training programs, counseling or motivation conferences has been demonstrated by the results presented by the institutions participating in the research.

The perceived barriers are primarily related to financing, taxation, and bureaucracy. In the first phase, mompreneurs have a greater chance of developing their business in an informal context, free of taxes or administrative rules that limit the social capital needed to develop the business. Socio-cultural factors are important not only in motivating entrepreneurial mothers to start a business but also in removing the social and cultural barriers they face. These include the lack of market credibility, mentalities that do not support gender equality, and traditional customs that focus on the role of mothers for taking care of the family and home.

The second study has contributed to shaping a more comprehensive picture of entrepreneurial mothers by investigating the external points of view on this group of entrepreneurs, namely belonging to the representatives of the institutions that support mompreneurship. The specific objectives were to identify the main characteristics of the entrepreneurial mothers in the creative industries, to analyze the external factors that influence the entrepreneur mothers in starting a business and to identify the measures taken to support this subgroup of female entrepreneurs. Unrecognizing the group of mompreneurs as such, underestimating them or canceling their entrepreneurial qualities because of the “mother” status they have, are attitudes often encountered by entrepreneur mothers. However, the growing interest of the institutions supporting this group of entrepreneurs, their involvement in promoting the image of mompreneurs, encouraging and facilitating actions aimed at educating mothers to start their businesses redirects the socio-cultural discourse and economic goals. Moreover, the media and the educational system play a particularly important role in creating the image of entrepreneurial mothers and can avoid the formation of negative attitudes in the future.

Although the group of mompreneurs is part of the homogeneous group of Romanian entrepreneurs, our study revealed that the neutral reporting of the state to this subgroup of entrepreneurs is not beneficial. Decision makers and experts should consider evaluating alternative policies for tolling small and medium businesses, modifying the design of an application for funding projects, as well as providing technical support and ensuring a healthy business environment based on equal opportunities. National policies play an important role in business development and have a critical role in facilitating success or in business failure. Under the obsolete legislation and taxation of our country, an interesting subject to study arises: how would the Romanian entrepreneurial mothers in the diaspora relate to entrepreneurship in the creative industries, eliminating the economic or socio-cultural barriers specific to the countries with a lower tradition in entrepreneurship, such as Romania. Moreover, as the socio-demographic data presented by the representatives of the institutions that participated in the study reveal, the mompreneurs are mainly from the urban area. It would be interesting to study why this phenomenon does not spread in rural areas, especially that as we have seen in previous studies, mother's qualities can greatly prepare entrepreneurial skills.

The complementarity of the studies has allowed a thorough analysis of the phenomenon through a comparative analysis that complemented the image of entrepreneurial mothers, first as they perceive and describe themselves, with the understanding of the motivations and the correlation between the expectations and fulfillment regarding

their double role, and secondly as viewed by the representatives of the institutions in the field from outside the group.

Thus, after analyzing the collected data, we aimed a comparative interpretation from the two undertaken studies, delineating the main characteristics of the entrepreneurial mothers from the creative industries in the Romanian space. This comparative analysis served as a base for outlining the profile of the mompreneurs as it resulted from the research. The first step was to delimit this subgroup of entrepreneurs through socio-demographic characteristics: 25-40-years-old, urban area provenience, generally women with higher education and careers in diverse areas - banking, human resources, medical, advertising, marketing, psychology etc. This information lead to a broader area of interests and skills of the mothers: professional experience in managing clients, understanding the needs in the sectors they have worked in, orientation towards the creative industries in terms of increased interest in health, culture, parenting, wellbeing, online marketing. Regarding the specifics of their business, the studies show that mompreneurs from Transylvanian and northwestern parts of the country are more focused on the production businesses: handicrafts, handmade products, Romanian products, personalized products etc., while those located in the southern area prefer businesses in the services sector: therapy, consultancy, various services focused on child development or parenting (for example, financial parenting coaching or baby sleeping counseling), event planning, make-up or styling courses etc. Next, we analyzed the phenomenon of mompreneurship from the perspective of the lifestyle assumed by the mothers, the psychological, emotional and behavioral characteristics deriving from this status. In this context, entrepreneurial mothers describe *mompreneurship as a lifestyle, a state of freedom they are fortunate to have* (compared to past generations), a phenomenon that emphasizes the *family life-professional development balance, a dream came true, an accomplished woman on all levels, a phenomenon with a growing network, the opportunity to do what you want, or the best choice for mothers*.

This study aims, on one hand, to create a fresh theoretical framework, both by creating original correlations between the studied basic concepts and by implementing new ways of analyzing this phenomenon from a social, cultural, economic point of view. On the other hand, this paper initiates the bases for future studies on mompreneurship through insights and results. Quantitative studies at the national and European level are expected to be undertaken in order to analyze, validate or extend our observations. Another purpose of this study is to draw the attention of authorities in the field to encourage and support the businesses belonging to mothers in the creative industries, taking into account the results of our study when creating new public policies for childcare support, maternity leave, or when implementing new financial regulations over small and medium enterprises.

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ROMANIAN PUBLISHING INDUSTRY – DEAD-END OR CROSSROAD. SOME NUMBERS AND POINTS OF VIEW

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Abstract. *Culture and, above all, cultural industries are the first to be affected by economic crises and changing the taste of the public. The book market in Romania has always been at the edge of the interest of state people, either by disinterest or through regulations that hinder the development of the domain. Do you need Romanian authors alive? Or only translations? "Bestseller" - a noun that came worldwide directly from English, is the magic word of the book industry. For some Romanian publishers, of course, the bestseller means the first print run of 100 copies, for others, large numbers mean four or five zero at the end. The development of digital printing has allowed books to be printed in small prints at reasonable prices for any customer, whether publishing house or individual (independent author). The main question both authors and readers ask is whether we still need publishers. There are already commercial companies in Romania that provide editorial services on demand. On the Romanian market, some important actors in online book distribution are struggling, with three of them having a top position, detached from the rest of the platoon, made up of smaller companies, the sites of important bookstore networks, or even the publisher's personal websites. By comparing the statistics provided by the Cultural Consumption Barometer and those of the main market actors (publishers and book fairs) for the Romanian side to those of other European and international markets (from the specialized publications) we will find the situation of the market of the book in Romania. I will try to identify the potential problems and potential solutions for stabilizing and eventually developing the book industry. Between the lack of interest in reading and the development of functional illiteracy at an extreme and the rapid technological development at the other extreme, the Romanian book market is still in the search for a faithful public and methods to approach the written text no matter how it is presented - printed book or e-book and regardless of how it is published or distributed.*

Keywords: *Publishing industry; Publishers; Bookstores; Library; Print-run; Readers, Authors.*

Introduction

Culture and, above all, cultural industries are the first to be affected by economic crises and changing the taste of the public. The book market in Romania has always been at the edge of the interest of state people, either by disinterest or through regulations that hinder the development of the domain. A simple example would be the Law of the book that was still discussed without any finalization.

Massive translations have not been able to support the industry themselves by promoting in-flight package with manuscripts. The presence of a name on the cover and just so, sublimely induced the idea of a character located somewhere far, inaccessible, eventually disappeared from the real world.

The lack of a coherent policy that encourages Romanian authors - both classics and living - those who could have acted directly as actors in promoting the sector generated an enormous opaque curtain between authors and readers. I have often heard the phrase - *We still have Romanian authors in life?*, and the answer through the physical presence of the authors has not yet succeeded in convincing the Romanian public that it can be written at international standards and in Romania.

Where and what is the market today? A few numbers

Romania currently has about 12,000 registered publishing houses, but only about 1000 are active on the market (WallStreet.ro, 2018) and 500 publishers participate (Gaudeamus.ro, 2017) in one of the main book fairs in the country - Gaudeamus International (in Bucharest each November). So in the summer at Bookfest. Romania currently owns about 160 physical bookstores and less than a thousand public libraries: in addition to 40 county-libraries, town and village libraries mostly do not have funds to purchase the book.

The count of titles published in Romania is based on the ISBN code-numbers given by the publishers (received from National Library of Romania). According to this statistics, there are about 50,000 new titles each year.

The development of digital printing has allowed books to be printed in small prints at reasonable prices for any customer, whether publishing house or individual (independent author). The Friendship Pattern - a form of self-publishing of pride has developed tremendously over the last 4 years, so anyone can publish about 1,000 lei, 100 copies of a volume of about 100 pages, with materials of good quality, then send them to friends. About the quality of the text - story, style, grammatical rules - no one remembers anything because the pattern has been democratized and accessible.

What is a bestseller?

"Bestseller" - a noun that came worldwide directly from English, is the magic word of the book industry. For some Romanian publishers, of course, the bestseller means the first print run of 100 copies, for others large numbers means four or five zero at the end. There is no objective definition of the term, its relativity being generated by each national or linguistic market in part.

But a book sold well or extraordinary is a good book?

Frederic Rouvillois (2013) in the volume "A History of the Bestseller" quotes Carlos Ruiz Zafon who believes that "success is a guarantee of quality"; so a bestseller is a "good book". But it continues: "In reality, literary success and value - quality and quantity - are not a deflection in binding relations. Very large books were resounding failures, while others, including the incontestable masterpieces of the human spirit, have glorified their very first appearance, just like some kind of easy or two-talented novel about which, retrospectively, we ask how they have he could have liked so many people. A best seller can be a sublime book - and so good a mediocre or even exuberant: everything is possible. In terms of quality, success means nothing. So if we want to define the bestseller, we need other criteria: the number (copies sold), the time (of which success

needed to take place) and the place (the bestseller's history showing that success has always ignored the borders)." (Rouvillois, 2013, pp.13-14).

With deep frustration I would add: the language (in which the manuscript was written and the first edition of the book appeared). Many times the theoreticians of the world book industry have analyzed situations, have written and published articles with volumes in high-circulation languages: French, English, German, Spanish, Italian, Russian, the languages of the great empires of the Middle Ages, The Renaissance, the Seasons of the Light and the Technological Revolution. In a still low-lived and somewhat illiterate Europe, at the edge of the empires, the small number of readers could not hold a consistent book market until the second half of the nineteenth century.

Brief history of the bestseller

Specialists believe that the appearance of *The Pilgrim's Progress*, signed by John Bunyan, in 1676, was one of the first bestsellers in English in history (Owens, 2003, p.xiii): "The book has never been exhausted. Numerous editions have been published and translated into more than two hundred languages."

Let's not forget that at that time the pattern was made exclusively by hand and implicitly the time required for printing a volume was particularly long. Rouvillois states: "More than circulation, the sales figure is impossible to calculate precisely: what shows the success of a book (at that time authors note.) is the number of editions, possibly translation. That's why, for some, "the first bestseller of world literature" was a book that was taken out on January 16, 1605 in just a few hundred copies, in Juan de la Cuesta's *Madrigal Printing: Don Quixote* by Miguel de Cervantes. And that's because "ingenious Hidalgo" generates a general enthusiasm, first in Spain and Portugal, then across Europe." (Rouvillois, 2013, p.32)

Nowadays situation in Romania and worldwide

The Romanian market

On June 11, 2018, Afrodita Cicovschi publishes an article (on the *Adevărul* blog) titled: "The Romanians are returning to reading. The book market reaches the maximum of the last 7 years." Without completely sharing the author's enthusiasm, especially since the text appeared at the same time as Bookfest 2018, in the new pavilions at RomExpo and the figures seem slightly brushed, I would choose two quotes that offer an up-to-date picture of the Romanian publishing industry (Adevarul.ro, 2018):

"According to KeysFin estimates, the turnover of publishers and book traders in Romania will exceed the level of 1.11 billion lei this year, by 16.2% above the 2012 level. Against the backdrop of business consolidation, publishers and book sellers have optimized their spending, so the sector's profits have doubled from 2012 to the present, from 51.3 million lei to over 100 million lei, a figure projected for the evolution in 2017. Business Radiography in this area shows that the number of companies has remained constant during this period, around 1000 publishers and 350 merchants. (...)"

"Top of the most profitable book business (...) The top book editors are headed by the Art Publishing Group, with a turnover of 38.2 million lei, followed by Group Media Litera SRL (26.6 million lei), Tarsago Romania SRL (25.3 million lei), POLIROM SA (23 million lei), Humanitas SA (19.3 million lei) and Lotus Publishing SRL (17.2 million lei)."

KeysFin data show that the top 10 players in the market achieved 36% of total turnover in the publishing market, estimated in 2016 at 585.3 million lei. In the bookstores' top, the most important player is Direct Client Services SRL (Cărturești), whose turnover of 87.1 million lei accounts for almost one third of the turnover of book traders in Romania. The top is completed by the Bookstores Company Bucharest SA (45.6 million lei), Blor Retail SA (Diverta) (45.6 million lei), Libris SRL (27.4 million lei), SedcomLibris SA (19.7 million lei), One Distribution Company SRL (18.2 million lei) and Humanitas Bookstores SA (17.5 million lei). "

Some comments are needed regarding the quotes above. The first would be to mix publishing publishers with books and especially those who only trade editorial products. A simple example: Lotus Publishing appears in some materials as a glossy magazine editor, and 11 ebooks are all on the eMag website (eMag.ro, 2018), all edited abroad and in foreign languages. You will also have a similar surprise if you come to Tarsago's website (Tarsagomediagroup.com, 2018). Which means that if we remove firms that import magazines and books or complementary products (cars and trains or others) for sale at kiosks, their own national book production is much smaller. However, the above turnover in the euro is about 120 million. My estimation, of course empirical, proposes a figure of approximately 80-90 million euros for the Romanian book production.

Another issue that needs to be clarified is that of sales of bookstore chains. Let's not forget that there are all sorts of handicrafts, teas, and there are terraces where you can eat - I am not at risk of saying that they are managed by the same companies. There is also a lot of imported goods. In addition, most bookstore networks sell stationery and related products - gifts, crafts, drawing and painting materials, leather goods, DVDs, etc. So I think we cannot have a clear picture of the book market in Romania.

Another statement makes me nervous in the text above. The number of players on the market estimated by analysts at KeysFin at approximately 1,000 publishers. The figure seems to be removed from my hat because it does not even approach the figure advanced by, for example, the Gaudeamus Book Fair (one of the most important or even the most important editorial event in Romania) - 300 participants or the one offered by the National Library of Romania - a much larger figure we will come back to. In conclusion, the data is quite unclear and unsafe.

However, for a picture of the place that the book occupies in today's Romanian society see table 1 presenting information from the Cultural Consumption Barometer (2017, 2018, p.185)

Table 1. Frequency of reading in Romania

<i>In the past 12 months, how often have you read books (generally)?</i>	
The national sample	The sample on Bucharest
- 42% never; - 27% less; - 10% several times a year; - 9% monthly; - 7% weekly; - 4% daily.	- 29% never; - 29% less; - 14% a few times a year; - 13% monthly; - 11% per week; - 3% daily.

As expected, book use in urban areas is much higher, the category never fluctuates from 29% in the national sample to 29% in the Bucharest sample. However, if we collect *the*

professionals - those who read weekly and daily - the differences are not very high: 11% at national level compared to 14% in Bucharest. Unfortunately, the research does not specify the relationship between the fiction book and the non-fiction book, because I have often encountered reputable readers who say openly and without remorse: *Dear, I have no time to read novels or poems, I read just what I need for school (or job).*

The other markets

According to *Statista.com*, in 2015, the main players on the book market are: the US with 25.99 billion euros, followed by China, Germany, United Kingdom and France.

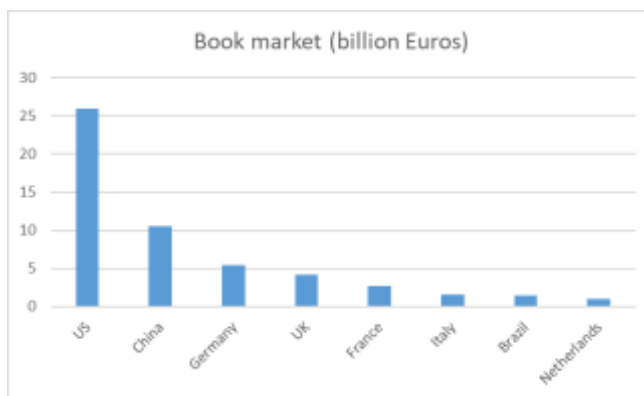


Figure 1. Top book markets. Source: Statista, 2015

After *Publishing Perspectives*, the material provided by the StatShot Annual Report - announces for the year 2017 a figure of \$ 26.2 billion for 2.7 units (children's paper or e-products) traded, a figure continuing a slight trend downward trend of the last five years - from \$ 27.07 billion in 2013, for the US Publishing Market (Anderson, 2018). A slight decrease in adult fiction and a significant increase - 4.4% for adolescent fiction (YA). A last observation: the paperback volumes (on paper!) Dominate all categories - over 1 billion units sold.

On another scale, in Europe, we chose to present the figures from Lithuania after the latest material made available by the officials of that country: The Latvian Book Market. (The Latvian Book Market, 2018, pp. 6-7)

A 2004 EU member country with a population of 1,931 million (less than Bucharest!) presents the following data:

- the number of publishers (who publish at least one title per year): 475,
- new titles per year: 2146,
- average print run for a title: 1263 copies,
- average book price sold in bookstores: 12.07 euro.

And two other important information:

- 12% VAT for books and 21% for electronic publications;
- 150 bookstores and 1671 libraries (impressive figure for a country with 2 million inhabitants)

Finally, the percentage of people who read at least one book a year: 57%.

Motivations associated with the book industry

The most important questions that the book industry goes through today from authors to publishers and then to readers are:

Why do Romanians write so much?

Why do Romanians read very little?

Why do Romanians read more translated Foreign Books?

Why do I read the Romanian authors?

May I earn enough money for leaving from rights of published books?

Let's see some examples

A top set by Forbes Romania in 2011 (adevarul.ro, 2011):

1. Mircea Cărtărescu;
2. Gabriel Liiceanu;
3. D.R. Popescu;
4. Andrei Pleșu;
5. Nicolae Breban;
6. Neagu Djuvara
7. Augustin Buzura
8. Nicolae Manolescu
9. Dinu Sararu
10. Radu Paraschivescu

Since then, some places may be slightly modified because recent years have brought literature closer to readers. Especially after coming back in recent years. I am convinced that the volumes of Professor Lucian Boia could bring him to this top. Without joining them I want to be content about the content of the writings, and without any comment, I think of at least a few other names that appear (at least from the editors and librarians' declarations) to come to the forefront: the volumes of Irina Binder Fluturi, Butterflies), then the diptych ... Suffer by Andrei Ciobanu, the historical thrillers signed by Igor Bergler, the volumes of Mr. President Iohannis, and perhaps there would be other examples. All report figures in the tens of thousands of copies. Personally, it seems to me that some of the figures are much swollen, but I have no argument to support this statement.

There may be some people - 20 or 30, or even 50 who have earned a lot from writing. A comparison with the Western market would be pointless.

Therefore, all the others who publish – we are mainly referring to fiction - hope in a miraculous enrichment through immense circulation or just aspire to a local recognition among friends, colleagues, concitadins? We incline to believe that any creator has a very well developed ego, but enrichment depends on many more factors that are not and cannot be under the personal control of the creator. Many of them are in the editor's choice.

Solutions for a new type of market

The main question both authors and readers ask is whether we still need publishers. There are already commercial companies in Romania that provide editorial services on demand. An example is the Berg Publishing House (edituraberg.ro, 2018):

"PUBLIC

You wrote a book, and the friends who read it were impressed. It is time to publish the manuscript; we are here to support you.

In partnership with www.serviciieditoriale.ro, a registered trademark of the BERG Publishing House, we have prepared for you a set of rules that you are going to follow to ease the work process and the duration of your book.

Your book can be done in 4 easy steps. "

Of course, everyone has the right to manage their business as they think, and we have all the respect for Berg's leadership. The site is clear, simple, efficient, easy to understand for everyone. Our question is whether an author keeps sticking to the name of a firm that publishes the author's money? Or if the author still needs a publishing house? Or even simpler if you are turning to self-publishing - because ISBN code numbers can be released to individuals, so you can publish your own work yourself.

Editorial services (as Berg presents):

- Drafting / proofreading;
- Pagination (layout);
- Cover (cover);
- Publishing (I would have said the necessary publishing operations here, many of them: from the simple ISBN to the printing itself.)

The new paradigm: New media and the book market. Integrated LIBRIS model

On the Romanian market, some important actors in online book distribution are struggling, with three of them having a top position, detached from the rest of the platoon, made up of smaller companies, the sites of important bookstore networks, or even the publisher's personal websites. They are: elefant.ro, libris.ro and librărie.net. About one of them the article of August 10, 2018, signed by Ovidiu Vrânceanu (2017) in BizBrasov:

"Libris.ro, the largest online book retailer in Romania, grew by 40% in the first six months of this year and registered a turnover of 18.3 million lei.

The positive dynamics is due to the increase in visitors' conversion and return rates on the site, as well as the market and interest in popular or expected titles, such as Irina Binder or Sapiens, Short History of Humankind (Yuval Noah Harari).

The best-selling product categories are Fiction, Personal Development and Children's Books, which together generate over 80% of sales on Libris.ro. An interesting dynamic was also played by the books in Practical Psychology (+ 76%) and Child Growth (+ 67%).

Romanians' interest in the printed book is rising due to the increasing number of titles and promotional mechanisms that help the information to spread rapidly to numerous and well targeted audiences. For Libris.ro it was a very interesting first half of the year, we registered increases in all categories of books (...), "says Laura Țeposu, Development Director Libris.ro.

(...) Traffic from mobile devices has accounted for 60% of all visits to Libris.ro and generates 45% of sales, an increase of almost 80% compared to the first half of the previous year. The cities where most orders are placed are Bucharest, Cluj, Timisoara, Iasi, Brasov, Constanta, Ploiesti, Oradea and Craiova. In the first six months of this year, Libris.ro has sent over 250,000 orders to readers across the country. The average value

of an order placed on Libris.ro increased by 9% compared to the same period of 2017, up to the threshold of 72 lei.

(...) The first half of this year was marked by investments in three strategic directions: the new Libris deposit, optimization of site conversions and improved customer and visitor experience, as well as the #RespectYourself education campaign. Give your reading time, which encourages reading and presents reading as a form of respect for one's own person. "

It is important to note that Libris is not an exclusively online actor, nor has he emerged from nothing. One of the most important bookstores in Brasov - Șt. O. Joseph, excellent positioned on Muresenilor St., wore the first brand of Libris. Then there was a spring book fair that had already 15 editions and the Festival of Books and Music (summer in the Council Square) already has 10 editions. The Libris Cultural Association that organizes them also organizes a folk and a poetry festival. But Libris is stretching more and more because there is already a Libris Editorial with a production of several titles per year and partnerships or participations in Local Book Fairs (e.g. Alba - Alba Transilvania, together with the county library) or the Festival SIMFEST Târgu Mureș (documentary film and independent television).

Although I admit that I do not like monopoly politics and Libris Editorial's production seems rather heterogeneous, however, Libris is a serious and extremely powerful player in the entire book market. Incorporating all these activities under one big hat has the chance to harmonize the potentially critical moments of one or other of the components as needed.

Brief conclusion

Between the lack of interest in reading and the development of functional illiteracy at an extreme and the rapid technological development at the other extreme, the Romanian book market is still in the search for a faithful public and methods to approach the written text no matter how it is presented - printed book or e-book and regardless of how it is published or distributed. Target audience the main issue of the book market, need to read - remains an undisclosed puzzle in 2018.

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THE ADDED VALUE OF MAKING MUSIC ACCESSIBLE. FROM SERVICE TO PRODUCT AND BACK

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Abstract. *Technology is rapidly changing business models in the cultural-creative sectors, challenging the way availability, marketing and revenues work. From a business innovation perspective, the history of music distribution has always followed the trend of making it accessible but also profitable. Creative breakthroughs in software technology have made it possible for intermediaries to distribute music to huge crowds all over the world. The emergence of on-demand streaming platforms such as Spotify or Deezer has transformed the idea of purchasing music from a pay-for-song model to a payed subscription model, causing controversies on the sensitive topic of intellectual property rights and royalty payments. However, the benefits of streaming music using these platforms translate in increased usage and therefore, higher revenues on scale. This paper offers an overview of the innovative business models of the online streaming music industry, concentrating on the unique added value new platforms offer, namely transforming unpaid consumption into payed subscription. We start with a short background of the major developments of music as an art, from an elitist attribute to a large-scale available service. A short review of the innovations in music distribution in the last centuries is performed in order to make it possible to differentiate between the major services existing today. For the applied section of this paper, we look at the increased usage of interactive streaming platforms such as Sirius XM, Pandora and Spotify, and correlate the data with their global revenues. Authors also look at the data regarding music piracy in order to assess if there is a negative impact of the on-demand streaming platforms on piracy practices. Conclusions are drawn regarding the impact of on-demand streaming platforms on overall usage, with a focus on the need to further develop business models that make the music industry both profitable and sustainable in the long run while simultaneously allowing for world-wide accessibility.*

Keywords: *creative sectors; music industry; Spotify; Deezer; business innovation.*

Introduction

The history of music and especially music distribution is maybe one of the most fascinating stories there are. With historians estimating its appearance 35,000 years ago (Wilford, 2009), music has become an essential part of people's major life events in ancient Greece, and its primitive recording using reproduction instructions dates back to 1200 B.C in the Babylonian era (West, 1994). The so-called "modern tradition" of listening to live music has its origins in the European Middle Ages, where pipe organs were first used in Churches for Gregorian chants, and where later classical music developed (Zantal-Wiener, 2017). The idea of consuming music independently from an event and without somebody live-playing it appeared with Thomas Edison's 1877 invention of the phonograph, which made it possible to record music (Edison, 1878). This is when the original transformation of music from service to product first took place. Around 1890, once phonograph parlours appear, wealthy people could pay money to listen to a recorded-song, using a primitive juke box-like machine. Once the first record shops appear in the UK so did the practice of signing artists to record label companies, and thus, in 1909 the idea that royalties from record sales should be paid not to the performer, but to the music writer and publisher of the song (United States Congress, 1909), a practice used until today in the music distribution industry. Between 1914-1921 record sales had witnessed a 100% increase only to then fall dramatically once radio broadcasting of music had started (Morton, 1964). Radio already meant the return of music to the state of service, while continuing to be a product as well, once the vinyl became popular, followed by cassettes and compact discs. Radio never went extinct although it has gone through periods of decline in popularity. Radio kept coming back by leveraging the desire of consumers to discover and distribute new music, at first in analogue format, then digitally, giving people the advantage of not having to deal with storage issues, either in physical form for traditional media or in digital form for downloaded content. Pandora was born, combining the benefits of traditional radio with the personalisation features enabled by digital software technologies. The most innovative feature of internet radio was surely personalization and the possibility to use smart algorithms to figure out what each customer might enjoy listening to (Zantal-Wiener, 2017). Monetizing this "free" business model was easy, as ads were introduced in-between songs which led to the development of a customer base paying for premium ad-free accounts. What Pandora lacked, and it was mostly due to its marketing as a for-discovery platform, was the possibility to look and browse for a specific song. And this is what made room for the innovations brought forth firstly by the likes of iTunes or Google Play Music which offered the possibility to quickly look for songs and listen to them in exchange for money. The bigger innovation however came from Spotify, a platform released in 2008 which outranked most its competitors including Pandora (Geddes, 2016).

Based on this condensed history of music distribution we can identify a few major patterns. The first one is that music started as a service only to later transform into a product, as a result of the advancement of recording technology. Later on, new technologies have made it possible to stream music and develop new business models based on the sale of a service or an experience and not necessarily a music product. However, music as a product came back in the shape of iTunes to again switch to be distributed as a service using Spotify or Deezer. Most of these changes happened simultaneously and they did not exclude each other. Since old-fashioned vinyls have never gone extinct because they are still produced and bought by collectors and fans,

there is no hint that music's future is based on a service-type model. The other important aspect to be acknowledged is that the major breakthroughs in the music distribution industry were accompanied by innovative business models. We've started from paying the performer of the live music to paying music publishing houses for distributing song sheets (Voice, 2014), followed by decades of paying royalties to song writers and publishers either through national societies of composers, authors and publishers in the radio era or, paying directly to the music rights holders in the Spotify era.

Understanding the business models behind streaming services

Before discussing the strengths, benefits and weaknesses of the different business models that are used in today's music distribution industry, one should look at the rationale behind the most used services within the field. The most popular streaming services can be divided in three main categories (Marshall, 2015): webcasting or streaming radio, locker services and on-demand.

The first category ranges from traditional radio services that have moved to the virtual space to online-designated less personalized stations that can offer the possibility to choose specific genres or artists - such as SiriusXM - (What is SiriusXm?, 2018) to finely and thoroughly personalized content - such as Pandora, a platform available in the US only, which uses the Music Genome Project adding up to 450 musical attributes to each song (About The Music Genome Project®, 2018). As mentioned earlier in this paper, Pandora does not allow users to choose a specific song, which means it's non-interactive (Marshall, 2015).

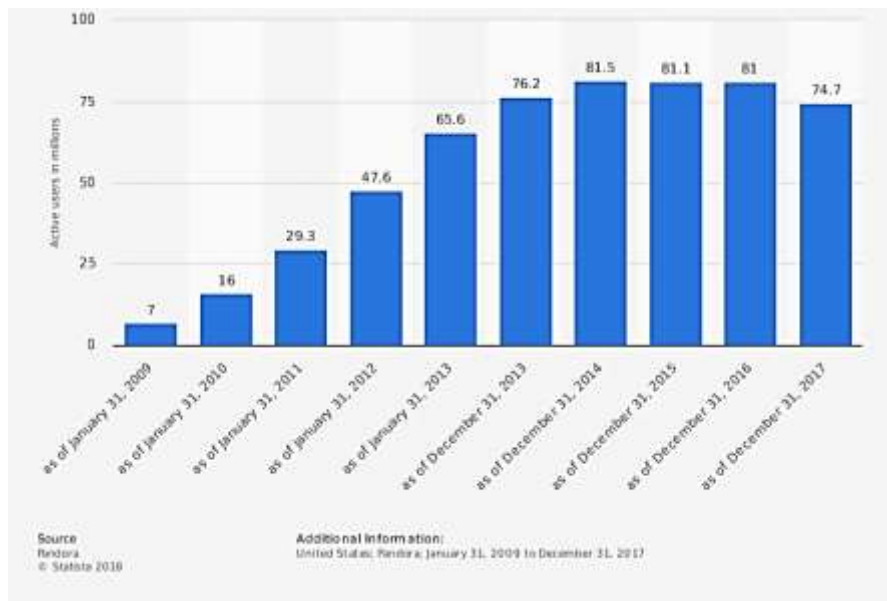


Figure 1. Number of Pandora's active users from 2009 to 2017 (in millions)

Figure 1 shows the evolution in the number of active users on Pandora. Although a 6 million decrease in active users has been recorded between 2015 and 2017, the continuous increase in revenues in the same period (Figure 2) suggests a growing interest in their paid services and an impressive transformation of free riders into

paying subscribers. Financing Pandora is mostly done through advertising – for the free accounts – and through paid subscriptions of \$9.99/month/user.

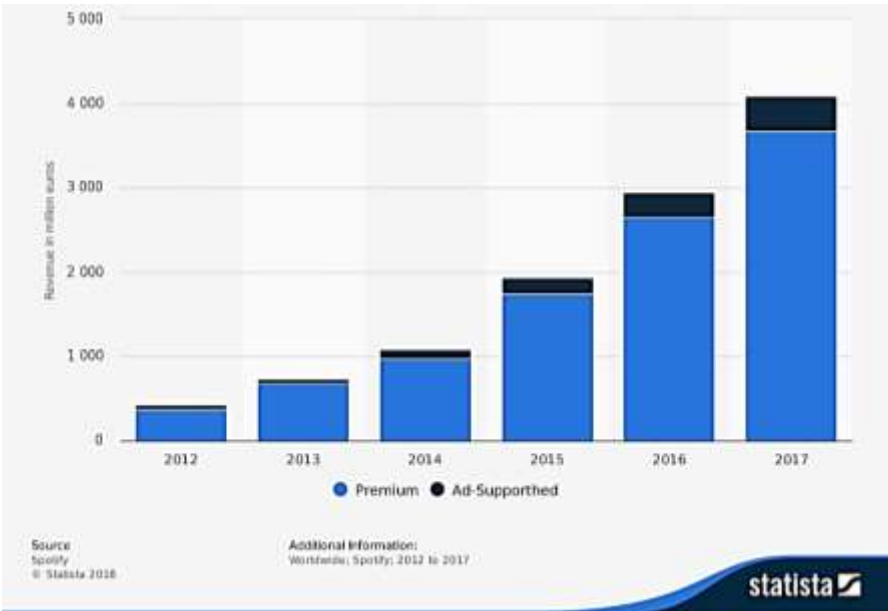


Figure 2. Pandora's revenue from 2006 to 2017, by source (in million U.S. dollars)

The latest announcement regarding the acquisition of Pandora by SiriusXM (SiriusXM, 2018) for \$3.5 billion could create the biggest audio entertainment company, outranking YouTube and competing with owned music in the share of audio time that American adults spend on different sources (Figure 3).

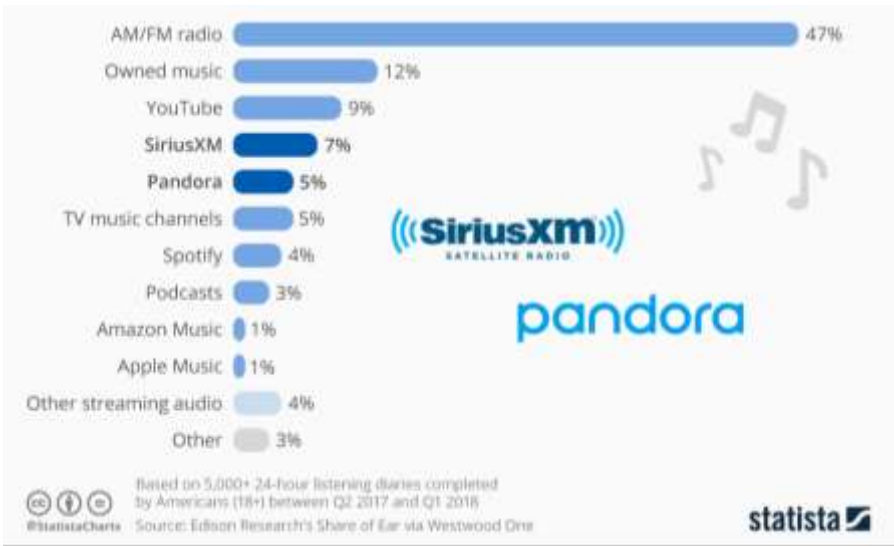


Figure 3. Share of audio time American adults spend with different content sources

The second type of streaming services described by Marshall (2015) are the so-called locker services provided by either iTunes, Google Play Music, Amazon etc. Although the

main innovation provided by these platforms is ease of access, as suggested in Figure 3, their share in time and usage is relatively small. This can be explained by the average costs of downloading a song which in 2011 was around \$1.29/song (Dediu, 2011). The third category, and the main focus of our paper, is made up of on-demand streaming services. Similarly to Pandora, they offer personalised content but also the possibility to choose what music gets played. Interactive platforms such as Spotify or Deezer have gained a lot of popularity especially because they have entered the global market, while Pandora and SiriusXM remained US-only. Spotify is funded through both advertising and premium accounts/subscriptions and the latter surprisingly outweighs the former (Figure 4).

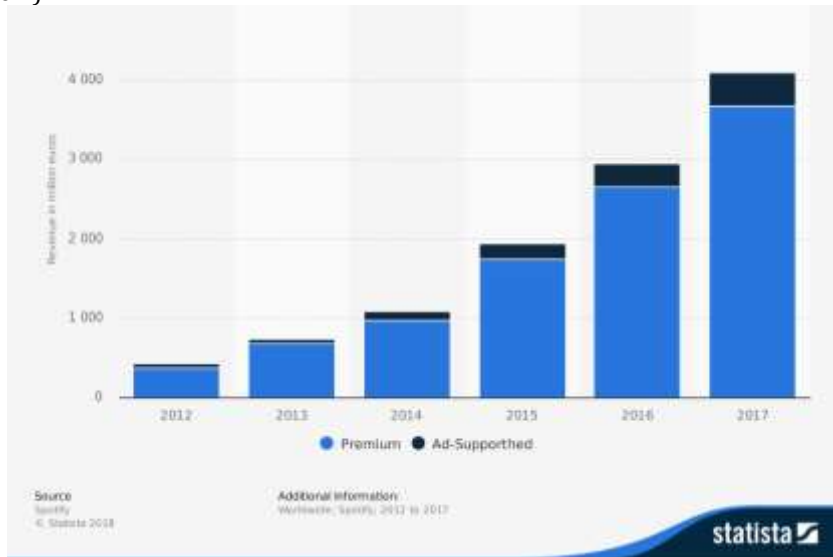


Figure 4. Spotify's revenues from 2012 to 2017, by segment (in million euros)

One of the smart business decisions undertaken by Spotify has been to establish different subscription prices for countries worldwide. Although available in 65 countries on all continents (Spotify, 2018), prices differ and are most-likely adjusted to the purchasing power of the individuals. Hence, prices for premium subscriptions range from \$2.42 in Indonesia to \$3.44 in the Philippines and from \$5.78 in Romania to \$11.18 in Sweden and \$9.99 in the USA (Peoples, 2018; Singers, 2014). Furthermore, for some countries such as Thailand a 1-day subscription can also be purchased (Peoples, 2018). As features, Spotify builds on existing technology, combining both the attributes of personalized for-discovery Pandora-like webcasting services through its song radio function, with the iTunes ease of access for specific artists and songs, all at reduced prices.

Literature review

One of the most discussed topics in the field of streaming research relates to the impact new streaming platforms have on sales. Derouzos' (2004) study demonstrates that radio airplay has a positive effect on music sales. Aguiar and Waldogel's (2015) study suggests that the Spotify and Pandora business models resemble terrestrial airplay stations as a result of their musical discovery feature. However, we would note that while terrestrial radio stations might determine the consumer's desire to buy an album after hearing it

on the radio, a digital app such as Spotify might influence the consumer to replay the song, which is something that changes the entire logic of their argument. Kretschmer and Peukert (2014) are arguing that the presence of an artist or band on YouTube increases the sales of their music, while McBride (2015) finds that sales decrease in areas where certain songs are not played. This can be explained using the marketing factor. If the majority of consumers listen to their music using a certain distributing source, then, the absence of an artist – especially a debutant – from that platform translates to lower reach and thus, lower sales.

Moving on to the impact of streaming on revenue, Aguiar and Waldfogel (2015, p.7) argue that:

„While sales stimulation is sufficient to demonstrate a positive impact of streaming on revenue, a negative impact of streaming on permanent sales - sales displacement - is not sufficient to demonstrate that streaming reduces revenue. Because Internet radio services pay rights holders for streams, the effect of streaming on revenue depends on the rate of sales displacement.”

From this perspective, streaming platforms that are appealing legal alternatives to piracy can incentivise consumers to pay the subscription and therefore, contribute to the artist's compensation. However, their conclusion is that while Spotify decreases piracy and increases revenues, the results are in fact offset through the decreases of sale-acquired revenues (Aguiar & Waldfogel, 2015). In our opinion, the results of the study don't imply a correlation between the two, as there are other factors affecting the sale of permanent downloads, such as the existence of more cost-effective alternatives that also allow for the discovery of less-known artists.

The controversy regarding on-demand platforms revolves around the problem of royalties and it involves the argument of decreased sales of records. Spotify's response to the controversy was that the royalties artists receive from Spotify are in accordance with the contract they have signed with their respective record labels (Marshall, 2015). Similarly to radio stations, Spotify pays distributors and not artists (Stahl, 2013). The problem in this case is not the relationship between the artist and Spotify but between the artist and their distributor/producer.

A model for understanding revenue streams

A great deal of data is available, in particular to service providers like Spotify, Deezer, Apple or Google which can be used to assess the transfer of customers, and revenue, between companies and distribution channels in general. The following is a description of a model used to determine potential revenues within the music industry more accurately. While our model is still susceptible to errors generated by overly-inflated estimates regarding losses to piracy that are usually circulated by recording industry associations, artists, and record labels alike, due to its usability at the level of individual artists we hope it will generate valuable results for business decision makers in the field. On an industry-wide level it has the potential to shed some light on whether or not actors in the music industry are behaving efficiently and intelligently by pursuing their best interests.

Methodology

The foundation of our model was a price differentiation mechanism aimed at maximising revenue on the global market. One such model is already employed in practice by Spotify, as mentioned previously, by charging different amounts for the same service depending on the country of residence of the customer. Rather than attempting to apply price optimisation to the prices of a music distribution service that already uses differential pricing, we looked at price differentiation and optimisation from the point of view of the music creators themselves. Doing this meant that we could not treat music as a homogeneous product, as Spotify does, instead we would also have to account for product differentiation. A similar model covering some of the aspects required for this kind of differentiation has already been developed by Gallego and Wang (2014) in their work on multiproduct price optimization and product-differentiated price sensitivities.

For the purpose of our study we assume that the quantity of music (Q_M) purchased globally is the result of a function of price and convenience, where convenience is not a coefficient but a score that can be used for ranking sales channels.

$$Q_M = f(\text{price}, \text{convenience})$$

By using a very simple function based on supply and demand we chose to express this function as:

$$Q_M = (1 - NRP) \times C \div p$$

where:

NRP – natural rate of piracy

C – convenience score

p – price

The music revenues generated by a particular artist are the sum of revenues obtained through the various distribution channels.

$$R_M = \sum_{i=1}^n Qc_i \times pc_i$$

where:

Qc_i = quantity sold through channel i

pc_i = price for channel i

By substituting quantity from the first formula into the second we can single out the convenience score as the determining factor for revenues across sales channels.

$$R_M = (1 - NRP) \times \sum_{i=1}^n C_i$$

As a corollary of the above we can also deduce that the convenience score should be computed as the amount of revenues generated by an artist from a particular channel weighted against the natural rate of piracy (NRP). The resulting formula can be used bidirectionally, to compute potential revenues and convenience scores based on actual revenues, depending on which data we have at our disposal first.

$$C_c = \frac{R_c}{(1 - NRP)}$$

where:

$$C_c = \text{Channel Convenience Score}$$
$$R_c = \text{Channel Revenues}$$

The formula in this form is only applicable to the sales of an individual artist due to product differentiation constraints.

The key component of our model, one whose computation proved to be extremely problematic, is the natural rate of piracy (NRP). We initially tried to determine the NRP based on a behavioural model (Gopal et al., 2009). This approach did not yield reliable results due to the lack of data on the matter and the high level of uncertainty with regards to the accuracy of the available data. People are simply inclined to misrepresent their behaviour when they are polled with regards to their potential illegal activities. The NRP was computed as a global coefficient based on data from the IFPI (2000, 2016) and RIAA (2015, 2016, 2017, 2018). To counter potential bias, the data was adjusted based on observations detailed in Smith and Telang (2012), and, in particular, in Andersen and Frenz (2010) and Hammond (2014).

The final NRP computation was done by using data points regarding global sales volume (GSV), average song price across all formats (ASP), and piracy rates (according to RIAA and IFPI) between 1999 and 2018. Our linear model provided us with a marginal rate of increase in sales, in relation to decreases in price, of 1.225. As part of our preliminary simulations we chose to estimate NRP for an ASP of \$0.00001, where NRP was 9.75%, and for an ASP of \$0.000001, in which case NRP was 8.91%. The minimum value of the rate of piracy was 8.9% which is the NRP we have used for the remainder of this research.

Finally, all components of the model benefit from increased accuracy when applied to a multitude of artists, as some factors, like the natural rate of piracy (NRP), are expected to fall within a set range, close to the one estimated for the entire industry above, even when they are computed for individuals.

Results and discussion

Through the development process of our methodology we were able to conclude that any determination of global revenue potential is highly dependent on the natural rate of piracy (NRP), or, in other words, how much music piracy would still occur if all music could be obtained for a price approaching \$0.

According to the IFPI Music Consumer Insight Report (2016) 35% of Internet users access unlicensed music content while 71% of Internet users actively consume licensed music other than radio. These figures are particularly interesting if we compare the percentages to the IFPI Music Piracy Report (2000) in which it was stated that “one in three recordings worldwide is pirate”. Although the language used by the IFPI is still strong and the percentages in the two studies set 15 years apart are similar it is important to realise that they show a completely different situation. Music piracy these days is declining continuously due to the proliferation of on demand streaming services. 35% of Internet users accessing unlicensed music translates to as little as 6% and no more than 18% of all music globally being pirated. That is a 50% decrease in piracy compared to the year 2000 even under the worst-case scenario.

To eliminate alternative explanations for these incredible developments in the music industry we hypothesised that they might be caused by an increase in global purchasing power or a decrease in the average price of music. Both of these hypotheses were quickly laid to rest. While global purchasing power has experienced significant variations, both up and down, during the timeframe, these variations were much smaller in amplitude and did not correlate with the decrease in music piracy over the same period. The average price of music has actually increased by a factor of 3 (Oxenford, 2009). We found the overall data, and a few high-variance subsamples, to confirm the relationship between music consumption and convenience.

We were able to obtain channel-segmented revenue data from 5 song writing artists whose music is available on Youtube, iTunes, Spotify, Soundcloud, Deezer, in stores, and through radio, TV and cinema deals, brokered by the relevant composer representative bodies in their respective countries. Not all 5 artists were present on all 6 channels. Based on these we were able to compute convenience scores as follows:

Table 1. Singer / Song Writer – Distribution channel convenience scores (Source: authors' own research, 2018)

Convenience Convenience							
Artist	YouTube	iTunes	Spotify	Sound Cloud	Deezer	In Store	Radio & TV
A1	289394	7388	167489	1239	2455	4638	
A2	288300		147723	2394			141244
A3	290001	8929	163992	1445	3499	12927	34099
R1	278002	3776	99212			281	673
R2	283734	8877					721

All the artists that took part in our research have music on YouTube, which makes sense as YouTube is by far the most convenient distribution platform, bringing the most revenues to artists showcasing their work. The convenience scores for YouTube were also the most homogeneous, which is probably explained by the YouTube monetization mechanism. Spotify comes in second in terms of convenience for the artists, with relatively homogeneous results for 3 of the 4 artists using it. The significant difference in the case of the fourth is probably due to geographical / market reasons. The three artists with higher convenience scores for Spotify are from the same country in Western Europe whereas the other two are from the same country in Eastern Europe. One artist had a very high convenience score for the Radio, TV, and Cinema distribution channel. This outlying result is due to the use of one of their songs in a motion picture.

A surprising discovery was that the convenience scores of iTunes were far inferior to those of YouTube and Spotify while being relatively homogeneous. In addition to that, based on information from the artists, we identified a link between the availability of an artist's music in stores and its availability on iTunes, where in store distribution appears to be a precondition of the music being listed on iTunes.

Sound Cloud and Deezer, although in the same "on demand" category as Spotify, are far less interesting in terms of convenience scores, most likely due to the platform's monetisation scheme. This shows in the more limited adoption of these platforms by artists, although another important take away from our results is that artists do not optimise their use of distribution channel based on objective criteria.

Conclusions

Wide-spread, fast internet connections and the latest developments in music streaming software have challenged the status quo within the processes of music creation and distribution. Streaming services such as Pandora or Spotify have adapted to the consumer's preferences, inventing a business model that is both sustainable, accessible and profitable. However, controversies and resistance did not hesitate to appear, bringing into the public eye the issue of funding the artist, an old problem that becomes more prominent when the revenue structure changes as a result of new human behaviour combined with innovative technologies.

A system that makes it appealing for individuals to buy access to an incredibly extensive song database makes it less effective to pirate copyrighted content. Convenience is key when it comes to reducing piracy to a minimum, but it is a mix of convenience for the customers and convenience for the artists themselves that pushes the business models and the industry in the right direction.

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DEPENDENCIES MODELS ON INNOVATION AND ECONOMY INDICATORS IN THE EUROPEAN UNION

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Abstract. *In the past decade the business field has encountered a shift towards knowledge economy and a change of principles in the direction of sustainability, wealth and innovation. Although the innovation level of a region overall is difficult to assess, indicators, such as patent applications or enterprises introducing an innovation with environmental benefits offer a measurement tool for this aspect. The present study estimates first a panel regression model with patent applications to the European patent office as dependent variable in connection to other economic and research and development factors between 2010-2014 for the selected European Union member states. The second part of the study focuses on a regression for 2014 having the enterprises that introduced an innovation with environmental benefits obtained within the enterprise as a dependent variable and economic independent variables also in the case of certain selected European Union countries. Therefore, the present paper inquires two types of dependent variables regarding innovation and proposes to offer dependencies models between innovation and economic indicators based on regression models. The results indicate a relationship with expenditures on research and development on regional level, as well as enterprises development for the selected countries of the European Union. While innovation is mostly treated as a separate independent factor in the economic system, a systematic approach of innovation is significant for it to be designed and created, in order to ensure the basis for further innovation stimulating policies. From a statistical point of view, a main current issue is represented by the selection of relevant indicators measuring innovation levels on a regional level, most indicators being more qualitative and subjective than quantitative. The relevance of the study lies in the fact that the subject is a novelty in terms of scientific literature, as these indicators have not been tested throughout other regression models before.*

Keywords: *innovation; research and development; patents, economy; environment*

Introduction

As the pressure towards knowledge economy and technology development increases, the issue of generating innovations in numerous sectors of activities has become. Generating innovation has become a main factor for the long-term efficiency and development of enterprises and organizations globally. If until two decades ago bringing small improvements to existing products or bringing new versions of products and services would have been competitive features of a company, today the need for essential innovations, especially in terms of sustainability, technology, organization and not only are imperatives in order to be able to maintain one's own position on the market and further grow.

Innovation and its measurement indicators have been studied by several authors and organizations, that have endeavored efforts in order to find optimal systems of indicating the innovation level, as well as the factors, that lead to innovative behavior. Innovation is frequently associated as a term with "invention" although the literature disputes often their use as synonyms, as innovation is considered by some as a new product or technology created using novelty and being marketable, or introduced into production, management and other activities, while invention refers to a progressive novelty new for the organizational systems (Manuylenko et al., 2015). Schumpeter (1982) was one of the first to define innovation as utilizing new combinations of existing productive forces to solve the problems of business (Kogabayev & Maziliauskas, 2017). According to OECD (2005) innovation means "the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations". Innovation has been linked to value creation for stakeholders as more authors mention (Špaček & Vacík, 2016; Kanten & Yaşlıoğlu, 2012; Hsu & Fang, 2009).

Currently one main strategic issue referring to innovation is represented by finding appropriate measurement indicators to determine the degree and efficiency of innovation on organizations, countries', regional level and factors, that could influence these innovation indicators. Three of the most frequently used indicators in measuring innovations are patents, patent citations and patent applications, however several other factors can be measurement units for the degree and efficiency of innovations (Information Resources Management Association, 2018).

The main objective of the present study was to estimate an OLS panel regression model, that reveals a connection of a main innovation indicator, namely patent applications to the European patent office by priority year to four independent variables: national public funding to transnationally coordinated research and development (R&D) in Million Euros, business expenditure on research and development (R&D) in Million Euros, job-to-job mobility for ages 25-34 years in thousands, high-tech patent applications to the European patent office by priority years (total number) for the period 2010-2013. Furthermore, further tests are performed in order to determine the most efficient model, including the Durbin-Wu-Hausman test. The joint test and the Wald test are further implemented. The second part of the practical analysis referred to another OLS regression model having enterprise innovation with environmental benefits as a dependent variable in connection to the independent variables: transnationally coordinated research and development (R&D) in Million Euros, business expenditure on

research and development (R&D) in Million Euros and high growth enterprises by 10% or more and related employment. The results of the study revealed that factors such as job-to-job mobility and national funding to transnationally coordinated research and development can have a significant impact on the indicators selected for innovation measurement.

Literature review

As a main key factor for economic growth innovation has become one of the main contemporary strategic issues of organizations, countries and regions globally. Simultaneously with the increased dynamics of competition and technology development, customer changing preferences and the development of innovative products on a high scale, the term of innovations itself has become a main strategic issue overall in the business field, as well as all the other sectors of activities, in order to maintain the possibility of expansion and development for the future. Several authors have inquired the subject of innovation and have provided several definitions.

The main definition of innovation was given however by Schumpeter (1982), who defined the term "innovation" as utilizing new combinations of existing productive forces to solve the problems of business as mentioned in the article of Kogabayev and Maziliauskas (2017). Other authors have confirmed practically in their studies this definition of innovation given by Schumpeter (1982). According to Cingula and Veselica (2010) innovation is the use of new knowledge to offer a new product or service that customers want and thus, not only the invention itself is essential in the case of innovations, but also their trading on the market. Brătianu (2011) defines the term innovation as "to create a new entity and to bring it in its final market form".

Regarding the types of innovation, Tanțău and Staiger (2018) mention the following main types:

- a) product innovation or introducing new, redesigned or essentially improved products or services;
- b) business model innovation, such as changes of the value proposition or other components of a business model, that ultimately create value for the organizations;
- c) process innovation, referring to incremental process improvements, that could have as main objectives, time or costs decrease, improved financing or coordination (Davenport, 1993);
- d) organizational innovations and marketing innovations, such as new marketing channels or new marketing concepts (Doyle and Bridgewater, 1998). Zawawi et al. (2016) describe another main type of classification of innovation as technological and administrative or managerial, as described in Figure 1, the combination of the two bringing significant contribution to the organization's competitiveness potential.

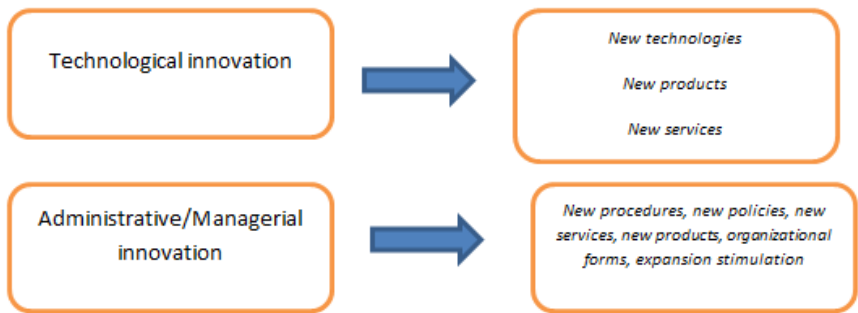


Figure 1. Dimensions and components of innovations
(Afuah, 1998; Yang, 2009; Zawawi et al., 2016)

In order to be successfully implemented and accepted by the public innovations have to be economically reasonable and thus, their practicability on a micro-level is a key factor in their introduction in a market economy as mentioned by Bock and Hasenkamp (2013). Referring to the general approach of the innovation process, Tohidi and Jabbari (2012) offer structure of this process, as illustrated in Figure 2:

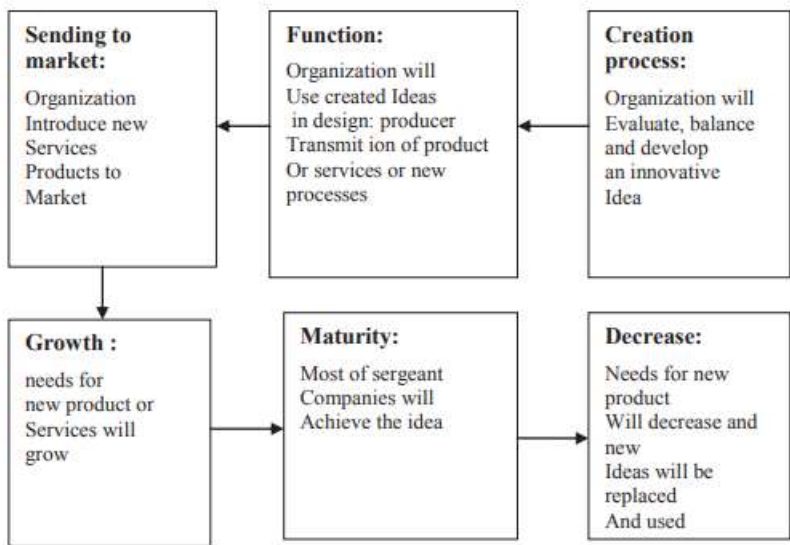


Figure 2. The innovation process
(Source: Tohidi and Jabbari, 2012)

Dan et al. (2011) mention that innovation is linked to knowledge and may be described as "also described as a part of a management process that may need to draw on other organizational resources that creativity does not". A main issue regarding the innovation development is represented by the measurement of innovation. While many refer to innovations generated in several fields, the measurement of innovation and the selection of appropriate indicators for the measurement remains a challenge for the management of organizations, as well as on a regional level. The main general indicators, that measure development in terms of innovation are currently considered as: the

patents (or patent applications) and patent citations, described as indicators measuring the investments output into new knowledge and technology (Information Resources Management Association, 2018), new products or services and process innovations. Although patents and patent citations are considered main indicators for innovation other types of indicators are also accepted for measuring innovation development, such as number of trademarks, increased customer loyalty levels, awards and honors for innovations, inventions suggestions, disclosures as to measuring rates of ideas generation within organizations, research and development expenditure, high-technology exports, researchers in research and development activities (Phen, 2013; Maradana et al., 2017).

As more types of innovations are emerging in time also measurement indicators are expected to expand and diversify.

The interconnection of innovation to economy and economic growth has been researched by more authors and has been confirmed through numerous studies. For example, Ulku (2004) proved through a panel model for 20 OECD countries and 10 non OECD countries for the period between 1981-1997, that innovation has a positive effect on GDP per capita, while research and development expenditures increased the level of innovation. The strong connection between innovation and economic growth has also been confirmed by the study of Peece et al. (2015) for the case of Poland, Czech Republic and Hungary between 2000-2013 through estimation of a regression model. Maradana et al. (2017) emphasize the bidirectional system of innovation causing economic growth, as well as economic growth leading through more innovation creating a circle of development and growth regarding both factors.

The present paper offers another perspective of influencing factors on innovation through the ordinary least squares regression models and testing in order to emphasize new independent variables in connection with the selected innovation indicators.

Methodology

In order to perform the empirical analysis of the present study, we selected one dependent variable, namely patent applications to the European Patent Office (EPO) by priority year, as well as four independent variables: business expenditure on research and development (R&D) in Million Euros, national public funding to transnationally coordinated research and development (R&D), high-tech patent applications to the European Patent Office (EPO) by priority year, job-to-job mobility age (between 25-34 years old) in Thousand for the case of the following European Union countries: Belgium, Bulgaria, the Czech Republic, Denmark, Germany, Estonia, Greece, Spain, Croatia, Italy, Cyprus, Latvia, Lithuania, Hungary, Malta, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden, United Kingdom.

The patent applications to the European Patent Office refer to the requests for protection of an invention directed either directly to the European Patent Office (EPO) or filed under the Patent Cooperation Treaty and designating the EPO (Euro-PCT), while the indicators refer to the number of applications per country (Eurostat, 2018a). Business expenditure on research and development is expressed in million Euros.

National public funding to transnationally coordinated R&D (Mil. Euro) refers to the total budget financed by the government (state, federal, provincial), as measured by GBAORD directed to transnational public R&D performers and transnational public R&D programs according to Eurostat (2018b). High-tech patent applications to the EPO by priority year refer to patents in the high-tech sector. The term “patents” reflects a country's inventive activity, as well as the country's ability to exploit knowledge and transform this into economic gains as mentioned in Eurostat (2018c). Thus, patent statistics are broadly used to evaluate the inventive performance of regions. Contrary to general beliefs that patents generally refer to technology patents, the high-tech patents account for only a quarter of the total patents. For example, in 2012 high-technology patent applications to the European patent office accounted for approximately 23,9% of the patent applications made at the European patent office, while the rest of the patent applications were related to other fields (Eurostat, 2018d). Job-to-job mobility age (25-34 years old) in Thousand refers to the movement of individuals between one job and another from one year to the next (Eurostat, 2018e). Personnel fluctuation can have an impact on costs and innovation levels of the institutions and enterprises, as it can impact negatively the level of employee or team's creative initiatives and the overall level of innovative and financial progress of the organization.

The source of the statistics indicators is Eurostat, while we estimated a panel regression model for the analyzed period was 2010-2013. The Stata software was used for analysis of the econometric models described in the Findings and analysis section.

Based on the previously mentioned variables we first estimated a panel regression model, that determined the impact of the independent variables on the patent applications to the European patent office by priority year (PAE), namely:

$$PAE_{it} = \alpha_i + X_{it} \times \beta + \varepsilon_{it} \quad i = 1 \dots N, t = 1 \dots T$$

where X refers to the the explanatory variables, the i refers to the country and t refers to the year or the time series perspective.

Secondly, we performed the random effects and fixed effects OLS panel regressions and then we tested with the Durbin-Wu-Hausman test which of these was more efficient in our case. Furthermore, the joint test, Waldman test were performed, as well as an OLS panel regression with lagged variables, implying the effect of the independent variables in the previous year on the current year dependent variable.

Another inquired OLS regression was done for 2014 for another selection of variables, namely: the dependent variable, enterprise innovation with environmental benefits and three independent variables: national public funding to transnationally coordinated R&D (Mil. Euro), business expenditure on research and development (R&D) and high growth enterprises by 10% or more and related employment. This was performed for the European Union states with the available data for 2014 from Eurostat. The statistics available on Eurostat referred only to this year. This OLS regression analysis was done, as enterprises innovation with environmental benefits is another significant innovation measurement indicator and refers to enterprises that introduced an innovation with environmental benefits obtained within the enterprise (Eurostat, 2018f). High-growth enterprises by 10% or more and related employment refer to enterprises with a

turnover growth of over 10% and related employment as the growth is measured by turnover or number of employees (Eurostat, 2018g).

The present research offers a new approach on innovation, as previous studies have not inquired the relationship of these variables on this main indicator of measurement for innovation.

Findings and analysis

Innovation is a broad concept, that has always represented a challenge for measuring in the sense of its development and effects on different levels, such as on company level, regional, national, international level. Roos and O'Connor (2015, p.67) mention the recommendation of using multiple indicators to measure efficiently innovation, such as research and development expenditure, patent counts and citations, new products and other variables. For the panel regression model we have selected as mentioned in the Methodology a dependent variable for measuring innovation the patent applications to the European patent office by priority year, while the independent variables were: national public funding to transnationally coordinated research and development (R&D) in Million Euros, business expenditure on research and development (R&D) in Million Euros, job-to-job mobility for ages 25-34 years in thousands, high-tech patent applications to the European patent office by priority years (total number) for the period 2010-2013. The selected 25 countries from the European Union, for which data could be found on Eurostat (2018h).

Table 1. Ordinary least squares (OLS) panel regression with random effects 2010-2013 European Union (Authors' own research based on Eurostat data (2018h))

Dependent variable: Patent applications to the EPO by priority year (PAE)	Coef.	St.Err	t-value	p-value	Sig.
Independent variables: Business expenditure RD (Mil. Euro)	0.1835	0.0338	5.43	0.000	***
National public funding to transnationally coordinated R&D (Mil. Euro)	2.7196	1.5110	1.80	0.072	*
High-tech patent applications to the EPO by priority year	3.2067	0.2697	11.89	0.000	***
Job-to-job mobility age (25-34 years old) in Thousand	-5.1284	2.1210	-2.42	0.016	**
_cons	43.5568	240.1721	0.18	0.856	
Mean dependent var	1909.3900		SD dependent var		4467.1500
Overall r-squared	0.9782		Number of obs		100
Chi-square	405.2631		Prob > chi2		0.0000
*** p<0.01, ** p<0.05, * p<0.1					

The results of the performed econometric analysis indicated that job-to-job mobility by age in the sector 25-34 years represents a significant determinant of patent application

to the European patent office as shown in Table 1: an increase of 1000 in job-to-job mobility (25-34 years) will involve a decrease of the patent applications to the European patent office by 5.12, when all other variables are constant, so this factor will impact indirectly proportionally the inquired dependent variable. The job-to-job mobility, implying the mobility of individuals from one job to another from one year to the next (Eurostat, 2018e) is a demotivating factor for innovation, as it implies costs, losses and less long-term involvement of employees in innovative processes within organizations.

High-tech patent applications to the European patent office also seemed to be influencing significantly and positively the patent applications to the European patent office (EPO) by priority year, namely an increase of one in the number of high-tech patent applications will lead to an increase of approximately 3.2 patent applications to the European patent office by priority year. This could be explained by the high-tech innovations, as having an important impact in the innovation levels overall. The other independent variables also involve an increase of the dependent variable, namely a 0.18 increase in patent applications at the European patent office at an increase of 1 million Euros of the business expenditure on research and development and a 2.71 increase of the dependent variable at an increase of 1 million Euros of national public funding to transnationally coordinated R&D.

The four selected independent variables explain in the amount of 97% the dependent variable of patent applications to the European patent office by priority year, as the overall R-squared is 0.97. We assume that country-specific effects are not correlated with the independent variables.

Furthermore, we estimated the fixed effects for the OLS panel regression for 2010-2013 for the same selection of European Union countries. We test for the effects which are not dependent on time, but on the country itself. The omitted variable bias is caused due to the country-specific effects with the independent variables. These country-specific effects are hidden. We estimate the fixed-effects in order to correct for the omitted variable bias. The OLS assumptions (constant variance) make it compulsory that the errors for each entity or country in our case are not correlated over time. This will be tested at a later point through the modified Wald test. The coefficients found in the fixed-effects differ because the effect for each country on the dependent variable has been removed from the coefficients and practically it is the same as adding an equivalent dummy variable for each country.

Table 2. OLS panel regression with fixed effects 2010-2013 for the European Union (Source: Authors' own calculations based on Eurostat data (2018h))

Patent applications to the EPO by priority year	Coef.	St.Err	t-value	p-value	Sig.
Business expenditure RD (Mil. Euro)	-0.1271	0.0305	-4.17	0.000	***
National public funding to transnationally coordinated R&D (Mil. Euro)	1.2374	1.0228	1.21	0.230	
High-tech patent applications to the EPO by priority year	1.0313	0.2219	4.65	0.000	***

Job-to-job mobility age (25-34 years old) in Thousand	0.0207	1.8030	0.01	0.991	
_cons	2117.0466	170.9396	12.38	0.000	***
Mean dependent var	1909.3900		SD dependent var		4467.1500
R-squared	0.5663		Number of obs		100
F-test	23.1802		Prob > F		0.0000
Akaike crit. (AIC)	1240.6891		Bayesian crit. (BIC)		1253.7149
*** p<0.01. ** p<0.05. * p<0.1					

In order to test which of the fixed-effects or random effects models will lead to a more relevant result we apply a Durbin-Wu-Hausmann test, where the null hypothesis is that the preferred model is the random effects versus the alternative fixed effects. In our case, as Prob>chi2=0.000, thus being below 0.05, we reject the null hypothesis that the unique errors are uncorrelated with the variables and thus, this is an indication that there is a strong fixed effects model.

Table 3. Durbin-Wu-Hausman test (Source: Authors' own calculations based on Eurostat data (2018h))

Patent applications to the EPO by priority year	Coefficients (b) Fixed	Coefficients (B) Random	(b-B) Difference	Sqrt(diag(V_b-V_B)) S.E.
Business expenditure R&D (Mil. Euro)	-0.1270818	0.1835434	-0.310625	0.0416872
National public funding to transnationally coordinated R&D (Mil. Euro)	1.237351	2.7196	-1.482249	0.9810698
High-tech patent applications to the EPO by priority year	1.031279	3.206712	-2.175433	0.2829068
Job-to-job mobility age (25-34 years old) in Thousand _cons	0.0206619	-5.128436	5.149098	2.363735

Whether time fixed effects have to be added we can test with a joint F test if the dummies for all years are jointly zero. The result of the F-test let us conclude that time fixed effects do not have to be included. Prob>F < 0.05 to reject the null hypothesis that time fixed effects should be included.

Table 4. JOINT TEST (Source: Authors' own calculations based on Eurostat data 2018h))

F test that all $u_i=0$; F(24, 68)=93.05 Prob>F=0.0000
Testparm _lyear* (1) _lyear_2011=0 (2) _lyear_2012=0

(3) _lyear_2013=0
 F(3,68)= 4.35 Prob>F=0.0073

Finally, we perform a modified-Wald-test for panel data sets to test whether the errors have constant variance (homoscedasticity) which is a basic assumption of OLS holds for the fixed effects model. The null hypothesis can be rejected and to obtain efficient estimators an OLS panel regression with robust standard (also known as Huber White estimators) have to be estimated. The null hypothesis is $\sigma(i)^2 = \sigma^2$ for all i . Sigma denotes the variance. Applying a χ^2 distribution the test statistic is $4.7e+07$, while the $\text{prob} > \chi^2 = 0.000$. The null hypothesis can be rejected by a 5% significance level.

Table 5 presents results of the OLS panel regression with robust standard errors. The variables Business Expenditure R&D and the number of high tech patents are significantly associated with the total number of patent applications respectively negatively and positively.

Table 5. OLS panel regression with fixed effects with robust standard error 2010-2013 for the European Union (Source: Authors' own calculations based on Eurostat data (2018))

Patent applications to the EPO by priority year	Coef.	St.Err	t-value	p-value	Sig.
Business expenditure R&D (Mil. Euro)	-0.1271	0.0610	-2.08	0.048	**
National public funding to transnationally coordinated R&D (Mil. Euro	1.2374	1.3310	0.93	0.362	
High-tech patent applications to the EPO by priority year	1.0313	0.3727	2.77	0.011	**
Job-to-job mobility age (25-34 years old) in Thousand	0.0207	2.9072	0.01	0.994	
_cons	2117.0466	286.7296	7.38	0.000	***
Mean dependent var	1909.3900		SD dependent var		4467.1500
R-squared	0.5663		Number of obs		100
F-test	4.1790		Prob > F		0.0163
Akaike crit. (AIC)	1238.6891		Bayesian crit. (BIC)		1249.1097
*** p<0.01, ** p<0.05, * p<0.1					

Table 6 illustrates the results of the OLS panel regression with lagged variables. Model 1 estimates a current dependent variable, patent applications to the EPO by priority year in connection to the selected independent variables from the current year as well, namely independent variables business expenditure, national public funding to transnationally coordinated R&D, high-tech patents and job-to-job mobility.

Table 6. OLS Panel regression with lagged variables for the European Union (2010-2013) (Source: Authors' own calculations based on Eurostat data (2018))

	(Model 1)	(Model 2)	(Model 3)
Dependent variable (Patent applications to the EPO by priority year)	T=0	T=-1	T=-2
business_expe~d	-0.127**	-0.170***	-0.092***
	(0.061)	(0.031)	(0.021)
national_publ~g	1.237	-0.206	-0.016
	(1.331)	(0.352)	(0.568)
high_tech_pat~s	1.031**	2.317***	1.284
	(0.373)	(0.256)	(0.754)
job_to_job_mo~y	0.021	3.096**	1.850***
	(2.907)	(1.364)	(0.596)
_cons	2117.047***	1848.976***	1823.836***
	(286.730)	(116.304)	(242.808)
Obs.	100	75	50
R-squared	0.566	0.797	0.672
Fixed Effects	Yes	Yes	Yes
Robust Std Err	Yes	Yes	Yes
Standard errors are in parenthesis			
*** p<0.01, ** p<0.05, * p<0.1			

Model 2 implies, that the job-to-job mobility from a previous year is positively associated with the amounts of patent application to the EPO by priority year in the current year. For example, in model 1 the regression model refers to patent applications to the EPO of 2012 for the European Union countries with independent variables business expenditure, national public funding to transnationally coordinated R&D, high-tech patents and job-to-job mobility in 2011 and the same principle applies for the other years taken into consideration for the study. The amount of high-tech patents in the previous year is significantly associated with patent applications to the EPO in the current year.

Model 3 is the estimation of the current value of the dependent variable patent applications to the EPO by priority year to the selected independent variables from two years ago. The results are that the job-to-job mobility from two years ago is positively associated with the amounts of patent applications to the EPO in the current year. Because coefficients of model 3 are lower, this means the effect of the independent variables of two years ago is less strong on the dependent variable from the current year than the effect of the independent variables one year ago on the dependent variable from the current year. Estimations are controlled for fixed effects and robust standard errors are applied.

Table 7. Ordinary least squares (OLS) regression for the period 2014 in the European Union (Source: Authors' own calculations based on Eurostat data (2018h))

Dependant variable	Coefficients	Std. Error	t	p> t	
Enterprise innovation with environmental benefits					
Independent variables					
National public funding to transnationally coordinated R&D (Mil. Euro)	19.06258	4.836198	3.94	0.001	No of observations=24 F (3,20)=253.46 R squared=0.9744 Prob>F=0.0000 Adj. R squared=0.9705
Business expenditure on R&D (Mil. Euro)	0.490576	0.0769413	6.38	0.000	
High growth enterprises by 10% or more and related employment	0.3693516	0.2117083	1.74	0.096	

For 2014 we also estimated a regression for enterprise innovation with environmental benefits as a dependent variable in connection to three independent variables: national public funding to transnationally coordinated research and development (R&D), business expenditure on research and development (R&D) and high growth enterprises by 10% or more and related employment, as shown in Table 7. The variable enterprise innovation with environmental benefits refers specifically to enterprises that introduced an innovation with environmental benefits obtained within the enterprise. We estimated the regression for 24 countries of the European Union, as for the rest this data was not available on Eurostat. The selected countries were: Bulgaria, the Czech Republic, Denmark, Germany, Estonia, Greece, Spain, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden, Serbia.

As one can observe in the table above the highest coefficient had a value of 19.06258, meaning that an increase of 1 Million Euro of national public funding to transnationally coordinated research and development can number of enterprises that introduced an innovation with environmental increase the benefits obtained within the enterprise by 19,06. This emphasizes the importance of funding to transnationally coordinated research and development programs for the increase of the number of innovations, as well as for stimulating enterprises to act in the sense of innovation.

The second coefficient of 0.490576 means that an increase of business expenditure on research and development of 1 Million Euro can lead to an increase of 0.49 in the number of enterprises that introduced an innovation with environmental benefits obtained within the enterprise, while an increase of one unit of High growth enterprises by 10% or more and related employment can lead to an increase of 0.3693516 in the number of enterprises that introduced an innovation with environmental benefits obtained within

the enterprise. As the adjusted R-squared is 0.97 it means that these three independent variables explain in proportion of 97% the dependent variable. It implies the regression model has a strong explanatory meaning.

Conclusions

As a conclusion a main result of the study is that the job-to-job mobility by age in the sector 25-34 years is a significant determinant of patent application to the European patent office for the selected period 2010-2013 in the sense of a higher job-to-job mobility decreasing patent applications, as less effort and time is invested within an organization contributes to demotivating innovation levels. Secondly, national public funding to transnationally coordinated R&D (Mil. Euro) can contribute to increasing the number of enterprises that introduced an innovation with environmental increase the benefits obtained within the enterprise as mentioned in the case of the regression model for 2014 having enterprise innovation with environmental benefits as a dependent variable.

Innovation is a challenge nowadays for organizations worldwide, involving tremendous efforts from the side of the employees, as well as employers and for funding programs. While the expenditures in the research and development initiatives and the longer periods spent within organizations seem to positively influence the innovations in the sense of patent applications to the European patent office, emerging factors connected to market dynamics and technology development are expected to bring new indicators influencing innovation levels. A main future objective of research is to analyze patent applications and enterprise innovations with environmental benefits in connection to new external factors, that will be imposed by future economic and technological developments in the coming years.

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FINANCIAL INTEGRATION IN THE CEE COUNTRIES

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Abstract. *This paper aims to analyze the level of financial integration for the new member states of the European Union from Central and Eastern Europe: Romania, Poland, Hungary and the Czech Republic. There was implemented an analysis of sigma-convergence and beta-convergence for different economic periods (recession or economic growth). The results were in line with the initial expectations. It has come to the conclusion that the level of financial integration for the capital markets of these countries increases in good economic times and decreases in times of crisis when the volatility in equity markets increases. It was also observed that Romania was the country that recorded the most important progress, both in terms of sigma-convergence (which captures the reduction of discrepancies) and in terms of beta-convergence (speed of convergence). Also, the past few years have come together with the highest level of integration in capital markets in CEE countries, mainly due to the strong recovery after the recession from 2008, but also due to the improvements that each country has made in the field of correlating its business cycle with Euro Zone. Further, the methodology can be extended in order to cover the forex market, the money market or the bond market.*

Keywords: *equity markets; integration; volatility; convergence; economic downturn; time-series.*

Introduction

The financial integration of the countries that have recently joined the European Union is a hot topic and an extremely difficult issue to quantify. It is widely accepted that financial integration should be analyzed in different market conditions at different times, because the behavior of financial market is different during times of crisis compared to normal market situations. The level of financial integration is decisive for the accession of these countries to the Eurozone, but also for the health of the Eurozone and for how the business cycles of these countries are correlated. At the same time, a strong correlation also brings disadvantages such as the more rapid transmission of negative shocks and, implicitly, of economic crises to all member countries.

This paper will analyze the level of financial integration for the countries from the Central and Eastern Europe (Romania, Poland, Hungary and the Czech Republic) taking into consideration the evolution of their capital markets. Thus, the level of convergence (sigma-convergence and beta-convergence) of the capital markets in these countries relative to the Eurozone will be analyzed. This paper will try to highlight some

differences between countries in terms of integration level, but also to highlight the time differences of the integration level. The analysis was carried out over 3 different periods: pre-crisis (2000-2006), crisis period (2007-2011), post-crisis period (2012-2018).

The novelty of this research is represented by the inclusion of Romania in the study, which is one of the newest members of the European Union. Another novelty element is represented by the division of the analyzed period into 3 sub-intervals in order to capture the evolution of the convergence in three different markets: exuberance before the crisis, panic during the crisis, and post-crisis caution. Having this division and applying the classical methodology revealed by the scientific literature, we expect to obtain results relevant to the desired approach. Thus, we expect the level of integration to decline in the period of crisis and to improve later, as volatility and market panic decrease. At the same time, we expect to have a higher level of convergence in the post-crisis period, given the fact that most of the countries considered for the analysis will be members of the E.U. for at least 10 years, and the integration should have been achieved to a large extent.

Taking all of these expectations and hypotheses into consideration, we will go further towards the study. In the end, we will try to identify ways to extend idea in a future research. At the same time, it is very important to recall the importance of this research and the importance of this current contextual theme in the European Union, having in mind all the talks on reforming the union. All these debates will pose a challenge for the integration of financial markets, leading to mistrust among investors, which could finally lead us to a decrease in convergence in the coming periods, accompanied by an increase in market volatility.

Literature review

Financial integration at the E.U. level has been an important and constantly debated issue in recent years in the relevant literature. At the same time, such a theme was the starting point for many papers published by the EC's economists, balancing both the costs and the benefits of higher financial integration. Such works could be based on Baele et al. (2004) or Agenor (2003) publications, which introduce quantitative concepts and qualitative measures to capture the level of integration and convergence such as price-based measures, quantity-based measures or news-based measures.

The level of financial integration can be studied together with another problem: contagion in the financial markets. In this regard, we can mention the researches of Egert and Koubaa (2004), through which financial market contagion is studied using GARCH (conditional heteroscedasticity) models. Syllignakis and Kouretas (2006), or Egert and Kocenda (2005), may also be reminded, as they focus more on the phenomenon of cointegration in the financial markets. They also brought attention to the usefulness of applying the Granger test for causality on the Polish capital market to highlight how it reacts to a shock on another market.

An extremely important previous work for our paper is that published by Babetskii, Komarek and Komarkova (2007), which addresses the issue of financial integration in the countries of the Central and Eastern Europe. This paper addresses the two well-known convergence theories from the relevant literature: beta-convergence and sigma-convergence. The analysis is very useful, because it was detailed and expanded at the

level of the economic sectors which are represented on the stock exchanges. Also, the same topic was analyzed by Babecky, Komarek and Komarkova (2013). They made a more recent research regarding the level of integration based on the sigma-convergence and beta-convergence, but this time they expanded it to other financial markets, alongside the capital market: the forex market, the money market and the bond market. Considering all these facts, they have been able to raise an important topic and have been able to draw a series of relevant conclusions regarding the level of financial integration in the countries from the Central and Eastern Europe.

The experience of the most recent economic and financial crisis has proven to us that markets can be atypical at times of tension and thus the level of integration may vary from time to time, depending on the overall economic situation. Therefore, the level of integration and stability of markets may be dependent on the economic situation, but there is a possibility that the situation may be in the opposite direction. We can also talk about a dependence of the economic conditions on the situation on the financial markets, on the stability of the financial markets. A paper addressing this issue is that of Mendoza et al. (2009), but the literature is rather poorly developed in this direction. Therefore, the present research will also highlight the variation in time of the level of integration and stability of the financial markets depending on the economic period, depending on the economic evolution.

The research will be continued by studying beta-convergence and sigma-convergence in accordance with the methodology proposed by Adam et al. (2002) and later extended by Babetskii, Komarek and Komarkova (2007) and Babecky, Komarek and Komarkova (2013). This methodology will be applied to countries from the Central and Eastern Europe (Romania, Hungary, Poland and the Czech Republic). Also, we will take into account the research of Mendoza et al. (2009) regarding the time variation of the level of integration and stability of the financial markets according to the economic conditions and we will try to emphasize how the financial integration can change over time depending on the economic conditions.

Methodology

Financial integration can be analyzed using two methods, based on the law of one price: a) price-based measures and b) news-based methods, but this paper focuses only on the first method. It may be extended in the future to take into account the news-based methods.

We are going to apply price-based methods in accordance with Adam et al. (2002) and Babecky et al. (2013), who described and used the concepts of sigma-convergence and beta-convergence applied for the financial markets, which is the case for this paper. Beta-convergence shows us the speed at which the differences between indices' returns are eliminated. A negative value for the beta coefficient reveals that the convergence is taking place. This coefficient has to be as close as possible to -1. The closer to -1, the higher is the speed of convergence.

The second concept is the sigma-convergence which reveals the dispersion between the yields of some asset classes or some instruments (in this case stock markets indices). The sigma-convergence takes place when the coefficient falls to zero. Hence, the value of sigma has to be as close as possible to 0.

In order to calculate daily returns we are going to use the following formula:

$$r_t = \ln\left(\frac{S_t}{S_{t-1}}\right)$$

Where r_t - is the return at moment "t", S_t - is the price of the index at moment "t" and S_{t-1} - is the price of the index at moment "t-1"

Based on these notation, we can use the following formula for quantifying beta-convergence as Babecky et al. (2013) did:

$$\Delta R_{i,t} = \alpha_i + \beta R_{i,t-1} + \sum_{l=1}^L \gamma_l \Delta R_{i,t-l} + \varepsilon_{i,t}$$

Where $R_{i,t} = r_{i,t} - r_t^B$ is a difference between the return for an index for a specific country "i" and the return for the benchmark index for the Euro Zone, all of them at time "t". L is the maximum number of lags taken into consideration for the analysis. In this paper we are going to use L=3. The last term, $\varepsilon_{i,t}$ is a white noise, an error term which is normally distributed with mean zero and variance 1.

The above regression is going to be estimated a few times for each country, for different sub-intervals, in order to get relevant values for the beta coefficient. As stated above, a negative beta coefficient reveals that the convergence occurs. The closer the value for this coefficient is to -1, the higher the speed the convergence.

Further, we need to present the methodology for sigma-convergence. Hence, we are going to use the following formula, as it was stated in a lot of scientific articles:

$$\sigma_t = \sqrt{\frac{1}{N} \sum_{i=1}^N (r_{i,t} - \bar{r}_t)^2}$$

Where $\bar{r}_t$ is the average return over time and N represents the number of countries taken into consideration for the sigma-convergence approach. For this paper, we are going to use N=2 in order to analyze the sigma-convergence over time for each country related to the Euro Zone (Euro Stoxx 50). As it was stated at the beginning of this chapter, the sigma-convergence appears when the value for this coefficient is getting closer to zero. Also, it has to be noted that it takes only positive values.

The paper will present the evolution of the sigma convergence for the 4 countries compared to the Euro zone, for three different time periods:

- 13/12/1999 - 31/12/2006 - the period before the economic and financial crisis;
- 01/01/2007 - 31/12/2011 - the period of the economic crisis and the sovereign debt crisis in the Euro Zone;
- 01/01/2012 - 20/09/2018 - the post-crisis period - the period of economic growth and stability in the financial markets.

For a more appropriate graphical illustration and in order to better capture the trend in financial integration from each sub-interval, we are going to use the Hodrick-Prescott filter with a smoothing parameter: $\lambda = 270,400$, as it was recommended by Babetskii et al. (2007) and as Babecky et al (2013) did.

The data

There have been used daily observations for the equity market indices for each country from the Central and Eastern Europe (Romania, Poland, Hungary and the Czech Republic) and the Eurozone.

Euro Zone: Euro Stoxx 50

Romania: BET index

Czech Republic: PX Index

Hungary: BUX Index

Poland: WIG20

Period: 10/12/1999 - 20/09/2018

Data for the equity market indices were processed in order to obtain daily returns, which were then used in identifying the two types of convergence: sigma and beta.

For a better knowledge of the datasets used, we are going to present further a few charts for the evolution of the equity market indices:

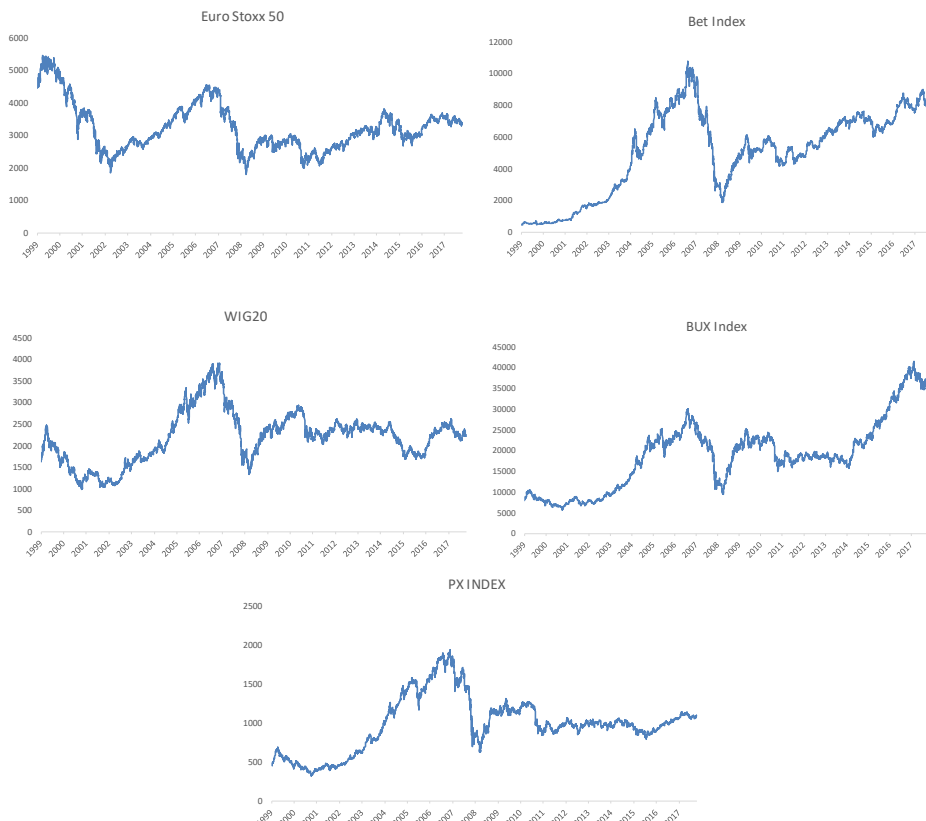


Figure 1. Evolution of the selected equity market indices: Euro Stoxx 50, Bet Index, WIG20 Index, BUX Index and PX Index
(Authors' own computation based on yahoo finance data)

Similar developments can be observed using these graphs, but also periods of divergence between the markets considered. A common and very easy to observe is the

impact of the 2008 economic and financial crisis on all capital markets, with a strong correction for each of the five equity indices. However, a simple comparative analysis of the evolution of the five indices cannot provide us with much information about the convergence of the capital markets in these countries. In order to deepen the discussion, it is necessary to move on to the analysis of daily returns to see how large the movements in these markets were in the chosen period of time.

Further, we'll look at the daily returns for the 5 indices. It can be noticed that there were two very high volatility periods: between 2001-2002 (dot.com crisis) and 2007-2008 (global economic crisis). During these periods there were daily returns ranging between -10% and 10% for 4 out of 5 indices. The BET index of the Romanian stock exchange registered the highest daily fluctuations ranging from -20% to 20% in the period 2001-2002. On the other hand, Poland's WIG20 stock index recorded the slightest fluctuations, with daily yields ranging from -8% to 8% for the entire period under review.

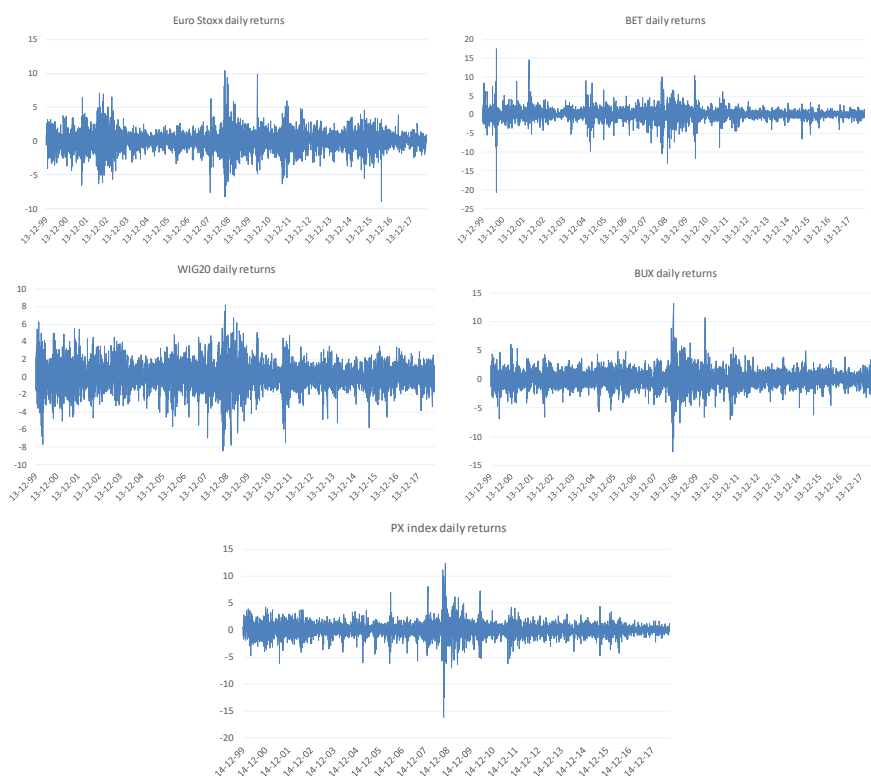


Figure 2. Daily returns of the selected five equity indices: Euro Stoxx 50, Bet Index, WIG20 Index, BUX Index and PX Index
(Authors' own computation based on yahoo finance data)

Results

First of all, we will present the evolution of coefficients for sigma convergence for each of the sub-interval for the analysis: (i) the period before the crisis, (ii) the crisis period (economic and sovereign debt crisis in Europe), and (iii) the post-crisis period in Europe. For a better illustration of the sigma coefficient trend in these periods it was used the Hodrick-Prescot filter with a smoothing parameter $\lambda = 270,400$, as specified in

the methodology chapter. We recall that the result of the analysis should be as close as possible to zero in order to achieve the sigma convergence.

Before global economic crisis – 13/12/1999 – 31/12/2006

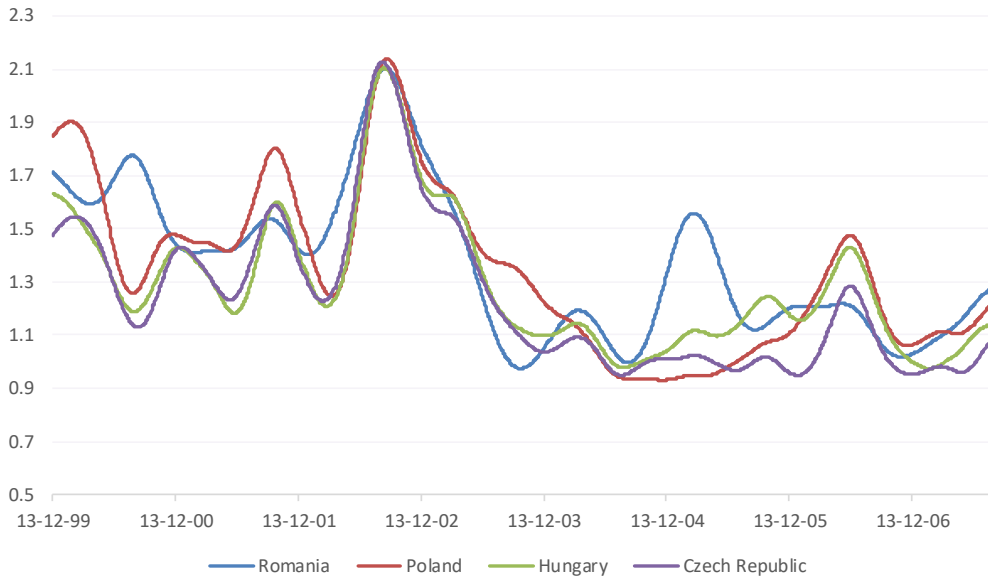


***Figure 3. Evolution of the sigma coefficients for Romania, Poland, Hungary and Czech Republic in the pre-crisis period
(Authors' own computation based on yahoo finance data)***

The results obtained show that in the period before crisis, but also in the period prior to the accession of these countries to the European Union, the level of integration measured by the sigma convergence was quite low, and the turmoil periods on the financial markets have reduced this convergence. This can be noticed by the significant increase of the coefficient in 2001-2002 (dot.com bubble on the equity markets). Subsequently, as the economic situation has improved and some of the countries have joined the European Union, the level of convergence has improved significantly. During this first period it can be noticed that Romania is the country that made most of the times the discordant note against the others, being the only one that had not yet joined the European Union.

Therefore, during this period, we noticed a dependence of the level of convergence and financial integration on the economic conditions, but also on the membership in the E.U. Romania was the most decorrelated country, being the only one that was not a member of U.E. in the analyzed period.

Global financial crisis period and sovereign debt crisis in Europe (01/01/2008 – 31/12/2011)

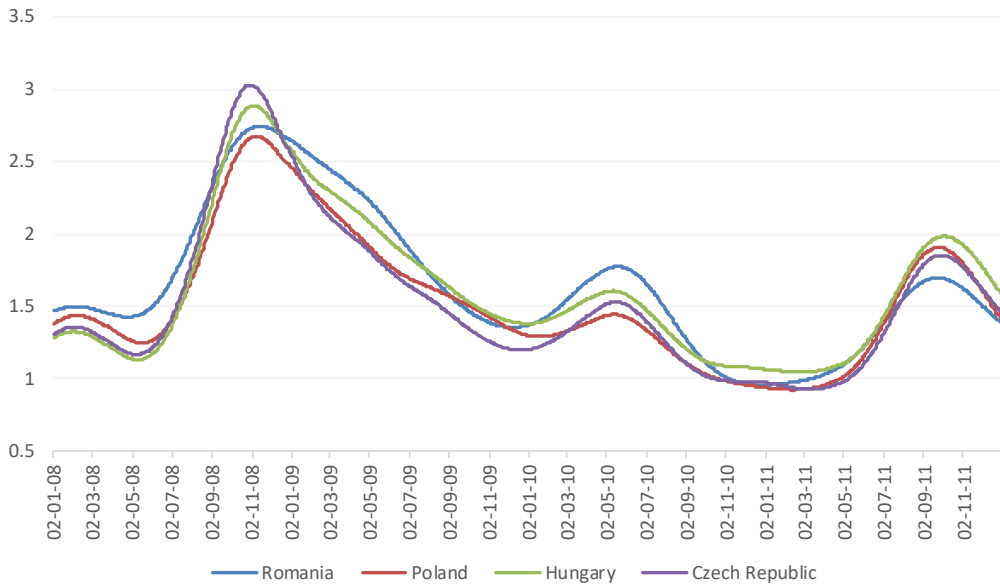


***Figure 4. Evolution of the sigma coefficients for Romania, Poland, Hungary and Czech Republic in the crisis period
(Authors' own computation based on yahoo finance data)***

As a result of the estimates for the second sub-interval (the crisis period), it was again confirmed that in times of turmoil on capital markets the level of integration decreases, reaching a minimum of convergence for all four CEE countries at the end of 2008. It can also be noticed that Romania registered again the biggest divergence from the Euro Zone equity market. As the effects of the economic and financial crisis dissipated, we saw an increase in the degree of convergence gradually towards the end of the period. On the other hand, a new downturn in integration has emerged in 2011 as the sovereign debt crisis erupted, which has again brought tension and nervousness to the financial markets.

Post-crisis period (01/01/2012 – 20/09/2018)

The last analyzed period was represented by the last 6 years, a period characterized by sustained economic growth in the countries of Europe and especially in the countries of Central and Eastern Europe. Thus, we have had a period of low tension on the financial markets, a period of low volatility, which has helped the equity markets from Romania, Poland, Hungary and Czech Republic to increase the degree of convergence with the Eurozone.

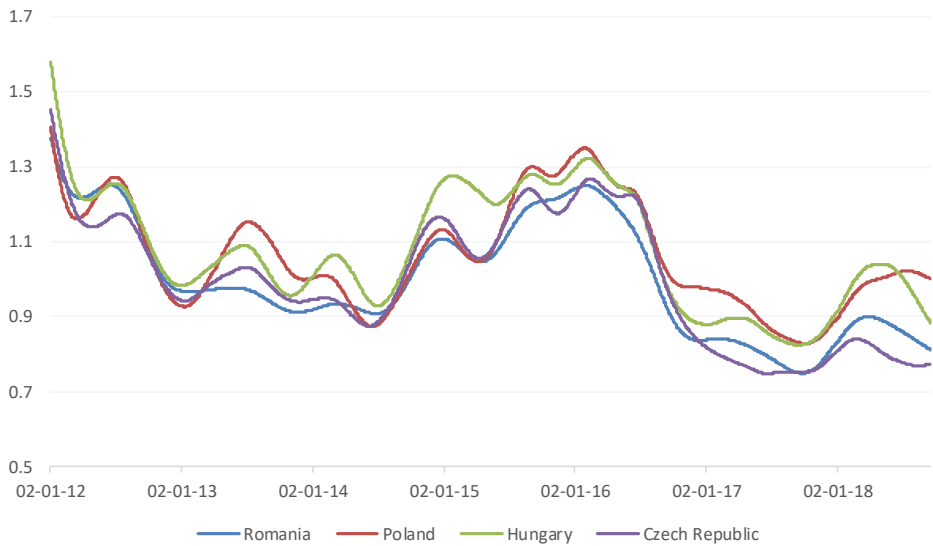


Figure 5. Evolution of the sigma coefficients for Romania, Poland, Hungary and Czech Republic in the post-crisis period
(Authors’ own computation based on yahoo finance data)

Initial expectations that the level of integration of financial markets in the Central and Eastern European countries is growing during periods of economic growth is also confirmed by this last figure. Thus, at the end of 2017 was recorded the lowest value for the sigma convergence coefficient over the entire analyzed period and we can say that the financial integration for these markets has increased significantly. Consequently, the sigma- convergence has been achieved to a good extent. Furthermore, it is worth noting that a significant improvement has been registered by Romania. For the case of this country there was registered the lowest value for sigma convergence in this last period, highlighting the most integrated and correlated equity market with the Euro Zone capital market in this period.

Further, the results obtained after studying the beta-convergence for the same sub-intervals are presented using the below table (Table 1):

Table 1. Beta Coefficient - speed of convergence
(Authors’ own computation based on yahoo finance data)

Equity Market			
	Sep 1999 - Dec 2006	Jan 2007 - Dec 2011	Jan 2012 - Sep 2018
RO	-0.71	-0.64	-0.84
HU	-0.82	-0.87	-0.88
PL	-0.87	-0.81	-0.86
CZ	-0.83	-0.76	-0.82

We recall that the beta coefficient must be negative and close to -1. It shows the speed at which the convergence is achieved for each of the four countries relative to the Eurozone (benchmark).

Based on the above results, we can see that for 3 out of 4 countries the convergence rate decreased during the crisis period compared to the pre-crisis period, so that it would return to similar or better levels later. The best performance in terms of increasing convergence rate was registered by Romania, where the beta convergence coefficient has improved from -0.71 to -0.84, being much closer to -1. Improvements have also been registered by Hungary, while Poland and the Czech Republic have returned to the beta levels similar to those prior to the post-crisis period.

Conclusions

This paper aims to highlight the way in which the level of financial integration in the Central and Eastern European countries relative to the Eurozone is changing. Thus, it was analyzed the evolution of integration level in three different periods on the capital markets of these countries: the pre-crisis period (2000-2006), the crisis period (2007-2011) and the post-crisis period (2012-2018). For these periods, two concepts were studied to quantify the integration level: sigma- convergence and beta-convergence.

Following the analysis performed using the sigma-convergence coefficient, a number of facts were observed:

- the level of convergence sharply decreases in times of crisis in times of stress on financial markets and in times of economic stability this level is improving;
- in the period before the crisis and during the crisis period, the lowest level of convergence was registered for the case of Romania;
- on the other hand, in the period prior to the crisis, Romania recorded the best level of sigma convergence, signaling a significant progress towards the pre-accession countries. and the crisis period.

Following the analysis of beta-convergence using the beta coefficient, we obtained a series of conclusions that lead us in the same direction:

- in times of crisis and tensions in the markets, the level of convergence is decreasing, so that it can improve as the economic situation stabilizes;
- the speed at which the convergence was recorded in Romania during the pre-crisis period and during the economic crisis was the lowest of the analyzed countries. Subsequently, in the post-crisis period, the situation improved significantly for Romania, registering the greatest improvement.

In conclusion, we have succeeded in highlighting that in recent years, in the post-crisis period, a large convergence has been achieved for the equity markets from Central and Eastern European countries. However, we cannot say that it is sufficient for financial market convergence. In order to complete the study and to get significant conclusions about the level of integration of the financial markets in these countries, it is necessary to expand this research in the future. Thus, a similar analysis is needed for the money market, the bond market or the foreign exchange market in these countries. Considering these three markets and the equity market, a deeper conclusion could be reached regarding the level of integration of the financial markets in these countries relative to the Eurozone and the EU.

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