

The Impact of commercial activity on the form and structure of the city – the case of Portuguese medium-sized cities

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The present document aims to sum up the first year of research in the on-going doctoral thesis, which dwells on the balance between commercial activity and city realm. Both these entities have lately witnessed new stages of evolution, which reflect themselves in changing variables and patterns. Initially, commerce was considered as an after-the-fact consequence of the urban form and structure pre-existence, but because it has the ability to change and adapt more rapidly than the city, as well as having large economic and social power, the flow of influence can be inverted. The research tends then to know whether the two entities are convergent or divergent in their patterns and what overlaps in their dichotomies, bearing in mind that, although evolving separately, they must have to some degree common variables that can be assessed for further understanding the urban realm, finding solutions for regulating and balancing estimated forms of distribution, proposing integrated political and technical mechanisms, and ultimately strengthening the use of commerce to reshape urban spaces. Aware that medium-sized cities are now at the core of a network-base territory, are synonyms of equilibrium, sustainability and innovation, and places of opportunity and (inter)national projection, the literature review focuses on four distinct points of view: city's, commerce's (three fronts: traditional retail, new commercial formats and web-based), citizen's and planner's (merging the above and finding research tools). The "thesis" that substantiates the research is then proposed. The last point presents the early makings of a working methodology, which presently is being developed.

Keywords: commerce; medium-sized cities; downtown-revitalization; urban morphology; consumer

1 Introduction

As is common knowledge, cities have evolved through time, symbolically, economically, morphologically, as they adjust to a new paradigm of sustainability and image(ability) in the network-oriented structure of regions. Yet, they still have to look to their midst, to their inner functions and to their inhabitants dispositions in order to fully fulfil the grandeur design of urban existence. The interaction created shapes spaces, dictates functions and determines physical form.

To fully grasp the city's meaning is impossible. Usually, achievable focused analyses on specific grounds are taken, but as of late integration is more pressing, as the awareness of an all-around relation between areas of expertise is more evident. Cities are not merely artefacts (Karaman, 2001), but organisms (Moudon, 1997).

Economic activities constitute a large slice in city-shaping. The power they possess to command physical development has many times surpassed planned development. Public-Private-Partnerships, incentive programs, or individual performances by promoters represent a fresher approach to the urban problem, in response to the declining power of the state, and ease the gathering of several areas of expertise in addressing these issues.

In the light of this, sooner or later, commercial activity must be taken into account, as connected to the formation and organization of urban spaces and street life, influenced by the private economic sector as well as being strongly connected to the individual and his choices, from the fulfilment of natural needs to the delivering of entertainment and pleasurable experiences, branded

before as one of the causes for the city's demise as well as being heralded, in present times, as one of its saviours.

Despite being largely studied, commerce's grasp is mainly economical, and its connection to the city is considered an after-the-fact, in a sense that consequences and statistical data are known, but not justifications. There are also few government strategies focused on commerce, and only occasionally has the shopper been treated as a part of the process. Interpreting physical (geographical and morphological), social, economical, political and historical variables, it may be understood whether commerce and city are convergent or divergent in their evolutionary patterns, and exactly what overlaps in their dichotomies.

Portugal presents a particular case, being prone to the new formats of commercial development, albeit with a strong retail tradition in downtowns, none the more than in medium-sized cities, unexplored markets for larger developments, which present new roles in the context of urban relations.

The understanding of the relation between commerce, city and consumer may further help the usage of commerce as an instrument of good urban planning, as well as to make a preventive approach, preparing cities for the estimated patterns of organization, that is, preparing and proposing urban policies to face the challenges ahead, always bearing in mind that integrated approaches are needed to succeed.

2 The Context – City's point of view

Cities evolve fitting, piece by piece, changes in their form (Lamas, 1989). This change, spontaneous (or organic), or according to a plan, is not random (Levy, 1999), and occurs at various levels (street, neighbourhood, territorial). Also there are constant elements that assure the formal continuity of the city (see Poete or Lavadon *cit in* Lamas, 1989). The analysis of these contexts, their relations, and the conditions (historical, cultural, social, economical) in which they occur constitutes the essence of a place. Karaman (2001) has divided the sense of a place in topology, morphology and typology. The interdependence between these aspects makes up the "language" or "imageability" of a place.

Taking into account the regeneration of form as an integrate part of the modern urban process, understanding form and structure of a city is understanding its morphological elements, and activity and circulation patterns in the "typology" component.

Urban morphology analyses the evolution of the city, the distribution of functions and the study of patterns and trends, identifying and dissecting its various components, supplied from a wide variety of disciplinary, linguistic and cultural backgrounds. Moudon (1997) defines it as the "study of city as a human habitat", which makes sense, as a city is materialized by the environment man has made for himself. The same authoress presents form, resolution and time as guiding principles. Robertson (1999) and Scheer and Scheer (2002) present other approaches. Growing concern for tools, digital and of town map analysis (Oliveira and Pinho, 2006) is also on the agenda.

The 20th century was marked mainly by three schools of urban morphology. The British owed its being to Conzen (1960, 1975) and presently the works of Whitehand can be cited (2001, 2007). Cozen's division of townscape in town plan, building fabric, and land and building utilization, has led British school to be essentially focused on cartographic representation, venturing eventually in

architecture and planning. The Italian schools is characterized by a more organic approach, fathered by Muratori and latter by Cannigia (and Maffei, 1993), defending that not only buildings are the product of a process of learning from the adaptations of previous building types, but that the built form is modified according to changing social and political-economic conditions as well. Finally, the French school is mainly architecturally-oriented, emphasizing the importance of built space for sustaining social practices.

Presently, these theoretical considerations are set up against the context of medium-sized cities. The definition of what can be considered a medium-sized city is yet not consensual and its role has changed accordingly, taking first a mere demographic connotation (see Marques da Costa, 2002), then a synonym of quality away from large cities. In the early 80s their intermediate role stood out, as able to correct regional unbalances and promote regional and economic development, but the view was still very hierarchically oriented (Almeida, Valença, 1995; Ferrão, Henriques, Oliveira das Neves, 1994). After the first programs to address medium-sized cities and induce their dynamics (PDMs, PROSIURB), the 1990s brought the focus to sustainability, and these cities appear as centres of knowledge and resources, attractive for investment. The disadvantages lie if they are not able to achieve a critical mass of economy, knowledge and infrastructures. Presently, programs such as POLIS XXI, IntelligentCities or CIUMED approach a network-based territory and medium-sized cities are (or aim to be) places of opportunity, innovation, specialization and globalization. It is proposed that their commercial understanding would constitute a major contribution and strengthen their performance at a territorial level, also aiding to a greater global cohesion, as their role in the global economy increases.

3 The Catalyst – Commerce's point of view

3.1 Evolution, changing formats and changing roles within the city

Commerce, one of the oldest activities in existence, has evolved with the city itself and gone through various changes. This historical time-line has only meaning in a time/space context, as the city and commercial forces weave each other according to existing frames that are constantly being updated. The evolution of commerce can be approached from the first early settlements to present day shopping centres, from trade in waterfronts to the development of shopping streets (Davis, Baxter, 1997), from the appearance of the first department stores to the suburban cult (Edge cities of Garreau, 1991). This historic frame is contemplated to its fullest in the ongoing doctoral thesis, but falls out of the range of this article. For the Portuguese case, the works of Fernandes (*et al*, 2000; 2003) or Sagueiro (1992; 1996) can be consulted, as well as Lamas (1989) as a connection of economic activities to the city's morphology.

Commerce has shifted its importance amidst the city realm. Slowly it progressed from a mere necessity, to the conveyor of knowledge and culture, to the catalyst of development, to the maker of economic value, to a social role, until today, where it may be considered to produce its own impact on the urban form and structure, surpassing the view that it was a mere consequence of existing phenomena. The growth of suburbs, the creation of ring roads and new city zones, the regeneration of derelict areas are all proves that commerce may lead urban processes.

Presently, the modern age of commerce has changed its perspectives. Based on Cachino (1994) four main aspects can be noted; (i) the concentration of capital (which creates a paradox because although there is more spending and more shop-floorspace, there are less shops at a neighbourhood level, and less people habiting each neighbourhood because of diminishing house aggregates, so capital increases globally but decreases locally); (ii) the changing type of establishments, as well as order and payment methods, leading all to specialize or increase their array of products (Borchert, 1998, notes, to stay in the middle is to die); (iii) the changing patterns of location (to be discussed ahead); and (iv) the alteration in the ambience of consumption, much dependent on the shopper, less specific and less conformed with the established order.

A choice was made to focus on three different categories of commerce: (i) (regenerated) traditional retail, more entwined physically and psychologically with the city (so with the most potential of influence), but lacking competitiveness and adaptability, having yet not found its place in the commercial hierarchy³⁶; (ii) shopping centres, with enormous attractive, economic and urbanistic power, and, supposedly, with strength to "pull" traditional commerce in its wave³⁷; and (iii) electronic commerce (e-tailing through web), as connected to the previous two³⁸. Other forms of commerce, physical or not, albeit important in their own sense, have less palpable impact in a downtown urban area, and so were discarded in this approach.

The Portuguese scenario denotes some interesting statements. Although its traditional heritage is enormous, it is also one of the European countries with most shopping centres per capita (there are more than 100 large scale and more opening presently), 43% of these in the metropolitan areas of Oporto and Lisbon³⁹ (leaving room for medium-sized cities). Even so, at local level, recent data (Mendes, 2004; OdC, 2002b) shows supermarket establishments (Lidl, Pingo Doce) increasing their share, beating hypermarkets. Although 12% of the Portuguese population buy solely in traditional types, only 4% do it solely on modern, so a settlement in between is reached. In terms of electronic commerce, around 40% of the population uses internet, and of these, 80% have purchased online and 70% have searched products online that they have consequently purchased at the store⁴⁰.

3.2 The geographical sense of commerce

The study of retail geography tackles the changing patterns of spatial organization and the dynamic evolution of commercial spaces. Although its theoretical basis are on the 60s and 70s, it has grown significantly with the use of GIS-based methodology, allowing for the assessment of spatial patterns with a visual pallet. There is a double edge-sword related to shop and space. Which came first and which influences the other? On selection depend, on one hand, the return of investment, which affects the economic equilibrium of regions and creates driving power for other investments (regeneration), and on the other, social habits, urban livelihood and morphological impacts. So the

³⁶ Robertson, 1999 and Hankins, 2001 discuss the commercial street in, respectively, more practical and theoretical approaches. The struggle of the Portuguese retailer can be seen in OdC, 2000a.

³⁷ Gillette, 1985 provides a good time-line. For Portugal see OdC, 2000b. Documents of the International Council of Shopping Centres can also be consulted.

³⁸ See Currah, 2002 or, in the Portuguese case, ANACOM, 2004; OdC, 2001 and 2002a.

³⁹ Diário de Notícias, 9th September 2009.

⁴⁰ The documents of the Observatório do Comércio can give further numerical insight, as well as INE, 2009; Pereira, Teixeira, 2008 for shopping centres, and, for example, Monteiro, 2009; ACEP, NETSONDA, 2009; or ANACOM, 2004 for data on electronic commerce .

retail location choice must not only generate impacts *after* commerce (in an economical choice by promoters) but *through* commerce (in an integrated choice using good planning).

Retail location selection rose as a discipline by Nelson's (1958) breakthrough book. The variables that affect location may drive from (Axenov *et al*, 1997; Hernandez *et al*, 1998) an external environment (politics, economics, technology), an internal environment (specifications of each place and of each company), the location mix (needs between companies and business opportunities), and the consumer exigencies. Clarkson *et al* (1996), debate the four major theories that constitute the background of current modelling: (i) the Central Place Theory (formulated by Christaller, 1933; debated its current use in Skogster, 2006; Krugman, 1998; Borchert, 1998), (ii) the Spatial Interaction Theory (where a trade-off occurs between distance and attractiveness), sprung by Reilly's (1931) and Huff's (1964) theories; (iii) the bid rent theory, and lastly (iv) the principle of minimum differentiation, which is related to clusterization. Besides these four theories, the disciplinary background of current location assessment relates essentially to statistic and mathematical modelling, to geography, to transport modelling and, of course, to empirical and traditional models. These theories also explain the hierarchical organization of a place in terms of their shopping disposition, from Proudfoot's 1937 and Berry's 1960 models (*cit in* Salgueiro, 1992; Cachino, 1994 or Davies and Baxter, 1997) to more modern updates. For example Proudfoot's divided the city's commerce in CBD, outlying business centre, principal business thoroughfare, neighbourhood business centre and isolated store clusters. Many of these models may be considered obsolete with new commercial formats and mobility and demand patters, but the truth is that cities still retain the heritage of many of them. More recently Shoumaker (see Fernandes *et al*, 2000), has abandoned the hierarchy system and focused on type of functions and commercial establishments, while Levy and Weitz (2006, *cit in* Burnaz and Topcu, 2006) only allow for three basic types of locations for commercial places: CBD, shopping centres or freestanding locations. Van Nes (2005) divided the shopping areas in Amsterdam in eight typologies, and GECIC (2005) presented the average geographical commercial pattern of the Portuguese medium-sized city. Local legislation on commerce also affects dispersion patterns.

Nowadays there are various techniques for assessing location planning, ranging from checklists to sophisticated algorithms, from simple analogy forecasts to very complex spatial interaction models with many exploratory variables, firstly only concerned with share calculations, moving later to assessing other variables. Articles such as Mendes, Themido (2004) or Yrigoyen, Otero (1998) present such models. In the literature review of the on-going research an attempt was made to summarize the most important models of the past six decades. The types of models studied were analogue-based, gravitational, analogue-based regression, discriminant analysis, multi-criteria decision analysis, genetic algorithms, Voroni Diagrams, GIS and other modelling tools, and lastly Space Syntax, based on Bill Hillier's theory⁴¹.

These location decisions aided by the models create geographical patterns, which should be presented statically (through maps as shown in Cachinho, 2002 *cit in* GECIC, 2005) or dynamically,

⁴¹ See Hillier, Vaughan, 2007, and other Hillier's works; Penn, Turner, 2002; or Ratti, 2004, for a debate upon the theory

through GIS or similar technology⁴². These methods must take into account a prior decision related to the creation of the working database, in terms of which variables to measure, which area to consider, and what type of commerce to dwell upon. Earlier extensive analysis of this kind are Guy's (1976), Lee and McCracken's (1982) and Kwan-yiu and Kong-sut's (1971).

4 The Dweller – Citizen's point of view

Whatever choice is made in terms of commercial location and format, it only works if the consumer is willing (presuming he has a choice) to shop at a certain place with a certain character. This act of shopping is (still) a search process, and presently the shopper wishes to make a right decision and derive emotional satisfaction from it, contradicting traditional principles of convenience, price or proximity (Sinha, 2003; Ziethaml, 1988; Tauber, 1972).

Every shopper will pass through a process where he searches (via internet, in store,...), sees, sometimes touches and feels the product, and then makes his selection. According to social, economic, location and other principles, the literature has presented several classifications of shoppers, from Stone (1954), Lesser and Hughes (1986), Sawicki (1989), to Sinha (2003). The social aspects have changed, the new consumer is unfaithful, demanding and time-maximizing, and the relationship with the store seems to be the most important aspect (Sinha, Uniyal, 2005). Zeithaml (1988) discusses different behaviours of the same shopper at different stores, and Sinha (2003) different attitudes towards the same product at different stores. Behaviour can also be influenced by surrounding shoppers (Amir, 1998; Belk, 1974). This can be connected to space syntax principles. In this regard, Sarma (2006) discusses the relation between social stratum of the Indian population and their shopping related movement.

Presently, studies (such as Melo *et al*, 2001) show that consumers are spending less on essential items (food and clothes) and more on health, cultural and educational types. Consumers also easily adapt to new experiences, so, as stereotype behaviours change when store contexts change (Otnes, McGrath, 2001), environmental-induced emotional states have positive association with in-store behaviour of shoppers which in turn impacts vice-versa (Tai, Fung, 1997).

Direct observation, interviews and manipulation in store variables to observe changes in sales patterns (see Sinha, Uniyal, 2005) are techniques that can be used to develop typologies and market oriented approaches, but also, and here is the rub, to mould shopper behaviours to suit the retailer's requirements, induce longer durations and increase spending.

The point of view of consumers is clearly non-hierarchical (Fernandes *et al*, 2000), they receive things at face value, so cognitive approaches should be taken. A shop should then fix the weight between merchandising, ambience, services and price, according to the behavioural segment of the shoppers it most wishes to attract (Sinha, Uniyal, 2005). The triangle made by the person, its behaviour and the physical environment (of the store), (O'Neill, 1992), is then the backdrop for decision making.

A report by the European Commission (Ipsos Belgium, 2009) presents consumer's opinions for the European space. In the Portuguese context, GECIC (2005) presents 18 variables to take into

⁴² As used in CASA research centre: <http://www.casa.ucl.ac.uk/>

account when tackling consumer's preferences and Melo *et al* (2001) compare attributes that are valued by shoppers according to various shopping types.

Varanda (2004) dwells on social networks, namely the relationship between actors and the structure of the global network as fundamental to the success of commercial projects.

5 Merging City and Commerce – Planner's point of view

5.1 Interpreting form and function in the urban structure

The city has been described as a place of many changes and interactions, balancing economic values, social perspectives and environmental issues through a series of planned or unplanned (market driven) choices by policy makers and economic empowered decision-makers. These, albeit planners and promoters' attempts at imposing certain trends, along with consumer's exigencies, have breathed a new life and a new pattern into commercial activity, shifting its focus on recent years. Current approaches fail to go fully beyond the economic perspective, fail to consider smaller retailers that go against modelling principles, and fail to see that the connections are not merely geographical, among other flaws.

Presently measuring form and function is neither easy nor consensual. Data is difficult to measure, calculate and quantify, its treatment is subjective and a compromise between precision and scale must be gained (Talen, 2003; Smith, 2007). Connected or not, commerce and city, evolve cyclically and continuously, and depend on an amount of forces impossible to quantify in their totality. Many ways of measuring cities have been proposed, from Jane Jacobs (1961), to Lynch (1981) to Tallen (2003) (this last one presenting the aggregate city, the geographical city and the elemental city). A choice must then be made, creating a model with an organic scale (social, economic and physical nature) and a temporal scale, balancing a demand side and a supply side, pushing the investigatory work beyond what is morphology and what is retail geography. The connection of both has been proved to work before (as in the case of regeneration of downtown areas through shopping centres in English cities – see Lowe, 2004, 2005), but the eagerness to developed has led often to commercial and urbanistic mistakes. Guy (2004) urges for the rethinking of the "town-centre fist, come what may" perspective, for a wider and integrated focus, shopper- and city-wise.

The current view of a viable and sustainable city engulfs many characteristics (of administration, planning, marketing, economic performance, etc) to which a commercial-related view can easily be attached, and, further still, be the most important instrument to achieve it. Recent Congresses of Urban Commerce have expressed just that, in documents as the Manifest of Barcelona in 2004 or the Memorandum of Oporto in 2006. Even so, few actions seem to result, and the burden of enlivening city centre commerce is all set in the politician's and planner's shoulders. But also the UACS report (2002) stresses that, for the Portuguese scenario, there is a lack of coordination at a higher level that needs to be overcome, as there is one department that regulates the city (and investment programs for the city, like POLIS), and another which regulates economic activities (and investment programs for these, such as PROCOM).

This being said, one may inquire whether there is really that a strong connection between commerce and city, and whether commerce may be an effective tool in the regeneration of urban

centres, or is it just an imposition that the literature wishes to obtain. But the literature so far reflects clearly that commerce may follow the city in a first stage, but city spaces may be more prone to survive depending on the success of their tertiary tissues.

5.2 The regeneration perspective

With the clash of new and traditional forms, city centres presented economic declines, characterized by falling turnovers, deterioration of physical environments and a rising of vacancies. But, as known, this demise led to new lucrative hypothesis and a wave of renaissance of the urban landscape, with higher functions claiming existing buildings and older residential areas for upper middle income housing and new forms of commerce (Roberts *et al*, 1999), promoting cultural diversity and specialized opportunities for economic growth.

The first response to the decline of commercial facilities in the inner-city was applied in relative isolation, with limited investment and limited business development. Instinctively, alternative forms (vintage, second-hand) also occupied city centres. Ultimately, the “regeneration thesis” (Whysal, 1995) appeared in the nineties (although based in US principles ranging from the 1950s – see Gillette, 1985 or Sawicki, 1989) with the simple notion that larger new stores could be used as catalysts for wider shop regeneration. Development schemes would (or should) be complemented with grants and private sector initiatives. Even so, Robertson’s (1999) study on small-city downtowns in America showed that strategies concerning commerce were poorly used and rated as methodologies of downtown-revitalization, surpassed by main street approaches, pedestrian improvements, office developments among others. So, is there sufficient memento to create spill over dynamics? Wysall (1995) and Bonneville and Bourdin (1998) think so, although it is not a question of number of shops, but range and mix. And, although more risky and influential to the centre of gravity of cities, downtown malls may bring economic, employment and even touristic advantages.

The European Congress on Commerce and City (see Balsas, 2001) presents three ways in which commercial development and urban regeneration processes can be launched, financed and implemented: (i) urban regeneration operations with a restructuring of a commercial area or a shopping centre, this one an anchor for pedestrian flows and activity (Lowe, 2004; Guy, 2002; Thomas and Bromley, 2002), although Guy (1994) himself and Monbiot (2000) present disadvantages; (ii) town centre management initiatives, enhancing attraction by stimulating anchor projects, easing access, improving environmental, cultural and leisure amenities and regulating restrictions over design and leasing arrangements and (iii) national programs to deliver partnership or funding arrangements, due to the long operational time frames and the high financial burdens (see Geste-Idev, 2000 or Balsas 2001). This should mainly focus around commercial development and preservation, in national programs for modernization, in the revitalization of old and historic centres, in the adjoining amenities and infrastructures (such as transport management), as well as on other social and environmental concerns.

On this regard, Portuguese urbanism always handled commerce as a second hand activity, just easing its normal functioning and presenting facts but never presenting propositions, or mechanisms of implementation or management. It was always a reaction, never a preventive approach, as noted by Fernandes *et al* (2000) or Salgueiro (1996). The PDMs (municipal plans) in

the 90s brought some, albeit few, concerns back to commercial planning, and it was only with the European structural funds that concrete actions were taken. The first QCA (Community Support Framework) had SIMC (System of Incentives for Modernization of Commerce), the second had PROCOM (a commercial urbanism program whose success was questioned – see Balsas, 2001) and the third had URBCOM, more successful, which introduced the necessity of decentralization in terms of aiding the applications of individual companies, the formation of management structures in city centres and in the support of actions of professional competence-gaining. Presently there are two programs, MODCOM and MERCA, both more attuned to small or medium-sized proximity enterprises. As the programs are very recent, there is not yet an analysis of their performance.

5.3 Assessing impacts

After analysing the evolution patterns of both city and commerce, it should be important to know how each type of commerce can impact on the surrounding environment, and the techniques that allow the measurement of such an impact. An example is the British, where despite the restrictions in the construction of malls, there still occurred the same problems of loss of population and vitality in the city centre. So the problem might as well not be in the shopping centres themselves, but in their location in the urban tissue (hence the importance of retail geography) or in the characteristics of the commercial mix (hence the importance of a planning for commerce).

There are several analysis on markets or shopping centres (see GECIC, 2005), but these are subjective and economical, and reveal very little in terms of real impact. Again, the English examples show impact assessments, because additional commercial and leisure space can only be constructed if proved not to harm the vitality and viability of existing town centres. But, although they aim beyond the mathematical approach, reports fall short, only making brief considerations on land use (seeing pre-existences and supposing how they can be influenced), on the impact on jobs, community, etc, but without the technical focus of economic impact. The report by the Pegasus Planning Group (2008) is an example of such. Studies on whether the new commerce space adds to diversity, to the improvement of functions, to the enhancement of consumer choices in a close to home location, to the increasing of attraction, and if they are a catalyst for investment, employment and regeneration are hard to measure and undertake, so seldom are seen.

In Portugal, both GECIC (2005) and Melo *et al* (2001) impact studies tried to go beyond the economic sphere. Both use a large array of variables, the first producing an “index of competition”, the second grouping the variables through a multi-criteria approach. The ones that most explain the system are the management units, the price range, the themes displayed and the flexibility. The more instable ones, that is, the ones whose variance most affects others and themselves, are the location, the anchor store, the consumer habits, the type of promoters/investors and the type of commercial distribution. Also, the variables whose influence is increasing are the flexibility, the type of promoters/investors, and the consumer’s habits and incomes.

5.4 Research tools – using space syntax

A Gis-based methodology allows the conjunction of the modelling power with visualization capacities, therefore a better understanding of the changing patterns of both cities and activities in time and

space. But through this approach the morphological properties related to clusters of commercial spaces may be understood but not the reasons for their chosen locations.

As of late, Space Syntax tools have been trying to prove that movement can largely account for the configuration of space itself and the land uses therein (Hillier, 1996), and so can help understand the reasons for retail geography, but also the potential for commercial developments in streets. Activities and land uses that seek and benefit from movement, such as commerce, gravitate to locations which the grid has made movement rich, locally or globally, or to the vicinity of such locations, while others will naturally seek low movement locations. But Hillier also notes that shops can attract but not change the integration value of the line, because this is unrelated to activity, so it is how the urban system is put together spatially that is the source of everything else.

Using syntax, Hossain (1999, *cit in* Sarma, 2006) saw that commercial spaces whose sales (movement) were generated by the own store had the tendency to be clustered together, although surviving in isolation. But functions with movement just attracted coincidentally are more dispersed, although in spatially strategic locations, and are affected very much by competition and changes in flows. Van Nes (2001, 2005) reached the conclusion that size of shops depended on the scale of the built environment, the street net and the compactness of the grid, and that location, variety and movement depend on the degree of connectivity to the vicinity, and the strategic, topological and metrical location in the area and in the city as a whole. Changes in the grid (as the construction of a ring road) would also affect values of integration, and so location of shops. Jingnan (2009) finds, in the Chinese scenario, that the city's commercial centre exactly corresponds with the city's syntax centre, the same thing happening at the local scales. Other findings stressed that almost all large-scale stores are directly located within the sub-local syntax centres, in places with high road local integration, that is, connected to roads and bus routes.

Even so, Ratti (2004) presents space syntax inconsistencies and Teklenburg *et al* (1994) only suggests its usage in a global phase of the design, only concerned with layout, because it gives information on accessibility, hence providing a smaller set of reference points. Lastly, Joosten and van Nes (2005) deny it when considering the dispersal of shops and cafes in Berlin. For them block typology is the only influencing morphological factor, as shops tend to be concentrated on areas characterized by high floor space index and build up street sides (full block typology areas).

Either through grid or block typology, the main theory of using such design principles centres itself on the fact that it is the morphology of the city that affects shopping activity and not vice-versa.

6 Formulating a hypothesis

6.1 Drawing conclusions from the literature review

Commercial activity has uncured in severe changes in the past decades. Changes in the supply side relate to the changing structure of retailing as an enterprise and changes in the urbanistic promotion of space. On the other hand, changes in demand relate to changes in consumer behaviours, but also to a dispersion and shift in urban form and structure.

The contextualization of these changes has so far been mainly perceived by analysing numerical data and location, which of late has been substituted by attractiveness. The quantification

and modelling of such variables requires choices not easily made, and may lead to the interpretation that it is the morphological realm and the people's choices which affect store location and not vice-versa. Yet there are vast examples that contradict this statement, and for these, known models fail. The literature review only tackles slightly economic and social impacts of regeneration schemes, and some impacts on land use and transportation. Approaching the problem on this perspective requires costs, integrated and continuous approaches, in the pursuit of a true "environment". The importance attributed by the political sphere, the continuous rise of modern formats, and the existing literature have proven commerce to be a fundamental economic motor, and a shaper of the urban realm. In order to use it to mutual advantage integrated political and technical mechanisms should be thought of. These must take into account the consumer, and the city should be structured in a hierarchy that maximizes commerce as a community equipment, favouring mix-uses, mainly commercial/residential. Integrating policies making public space more functional and attractive, including partnerships between actors, financial incentives and other measures, such as mobility issues, promotion and marketing, as well as city centre management, should also receive attention (UACS, 2002).

Filling the gap of lack of available information and using commerce as an instrument of planning can help strengthen the definition of medium-sized cities who aim ambitiously at balancing the territory, at the same time opening doors to an economical, social, cultural and technological integration in the European context, but still offer unharmed heritage and natural resources for an improved quality of life. So the approach to be implemented must take these perspectives into account: the variables (customer and promoter-wise) that allow the dispersion of shops (tackled by the models), the structural changes of the city itself (morphology), the after-the fact variables (which known models fail on assessing), and lay foundations for the junction of these perspectives, so that regeneration intents may be more efficiently pursued in urban spaces.

6.2 The Hypothesis

From one year of work in the doctoral research, and the conclusions above, two main strategic objectives can be presented, as the basis for the investigation to be pursued: (i) to know whether the two entities (commerce and city) are convergent or divergent in their patterns, and what overlaps in their dichotomies; and (ii) prepare cities for the estimated patterns of organization, namely finding solutions for regulating and balancing the forms of distribution, by proposing urban policies, tools and the proper interaction between actors that can do so, in order to face the challenges ahead.

A set of distinct guidelines can further be presented, as assumptions to approach these goals:

- Medium-sized cities are now at the core of a network-base territory, and are synonyms of equilibrium, sustainability and innovation, presenting themselves as places of opportunity and (inter)national projection;
- The evolution, location and type of commercial activity is linked to the form and structural changing patterns of the city, and both to the social realm;
- Initially commerce can be considered as a follower of urban form, but because it has the ability to change more rapidly than the city and more easily adapt to new conditions, as well as having large economic and social power, the flow of influence can be inverted;
- Commerce can be successfully used as an instrument of urban planning;

- Planning should not interfere with market logics, but only channel procedures for a more sustainable urban realm

And therefore, a question can be asked that sums up the present research, and serves as the catalyst for the work ahead: How can commercial activity (which is perceived to be not merely an after-the-fact consequence of the urban form and structure pre-existence) be interpreted beyond the economical scope in order to fully comprehend its measure of connection to said form and structure, bearing in mind that both entities evolve separately, but that they must have confluent patterns that can be assessed for the further understanding of the urban realm, and the proposal of integrated political and technical mechanisms?

The research hypothesis is then: Commercial activity dispersion is connected to a certain extent to city form and structure, there can be common ground in their evolutionary patterns and, if so, then commerce can present strength enough to revitalize and reshape urban spaces, through economic, social, physical and land-use impacts, that can be channeled to a set of planning guidelines supportive of decision making.

7 Presenting a working methodology

It is yet too soon to know for certain to which path the investigatory work may lead the researcher. Even so, choices narrow and one is aware of the measure of existing evidences and the potentialities they offer.

First an attempt was made to narrow down possible case studies. For that, first a demographic criterion was used, limiting Portuguese medium-sized cities between 20.000 and 100.000 inhabitants. Cities in the metropolitan areas of Oporto and Lisbon, as well as in the archipelagos were dismissed, and, on the other hand, a few cities which did not fit the demographic interval were considered, as they appeared relevant in a structuring and regional sense. These cities were then further characterized by their territorial frame in the regional plans, the presence of shopping centres and the European structural funds projects approved in their midst. Some 20 odd cities are now under scrutiny, for a selection of 4 case studies.

Consequently, a first reflection upon a way to consistently characterize the commercial sector was made. Six categories were chosen: (i) Type (whether traditional, shopping centre or connected to web); (ii) Integration (individual, shopping street, shopping block/area, shopping gallery, shopping centre, among others); (iii) Implementation in the city (through models of location, through regeneration approaches,...); (iv) Brand (individual, franchise,...); (v) Retail category (multipurpose, single isolated purchase,...); (vi) Specific characteristics of the store (share, size, workers, perks, ...). The division of the multitude of commercial types in retail categories seems the hardest task, and has been tackled by Guy (1976) or Eaton and Lipsey (1982, *cit in* Sarma, 2006).

After this, one needs to interpret the city in itself, that is, to know what exactly to measure to fully grasp how commercial spaces affect form and structure, what patterns flow together, which impacts or consequences they deliver to the urban realm and how these can be obtained, and in what form to mould the to be proposed policy measures, so that the capacity of their implementation is maximized.

So, how to proceed? One may look at the entire cityscape and fail to grasp its simple details. One may also focus on its details and fail to grasp the whole. To be focused on the relation alone of commerce and city is not simple, for both entail almost every other characteristic of the urban scenario. The boundaries have definitely been established, but the real measure of the form and structure of the city, the variables most likely to shift according to commercial spaces and that lead to regenerative successes of the urban realm, have yet to be determined, or better still, have yet to be quantified for the present work, from the vast amount of variables one knows that influence such cause. Hopefully, the next steps of the investigatory work will bring about these conclusions, and at this point an idea, more than a real definition, of a methodology is presented, as a seed to a work which is being constructed piece by piece, as it should not fail to be so.

But whatever is achieved, a space where commerce is performed will always have to deliver a dual experience: a place to socialize and a place to facilitate commercial interaction. The rest are just backstage manoeuvres to achieve good urban planning and good business.

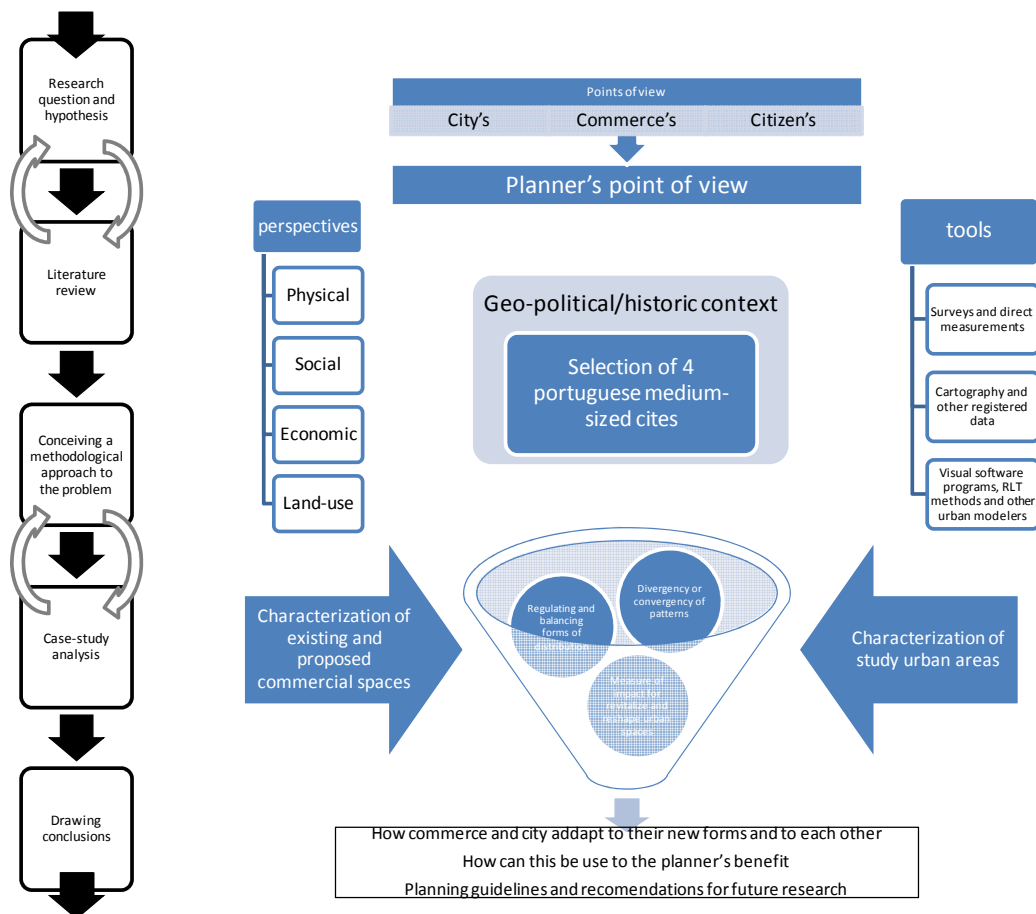


Figure 1. Working methodology.

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