The impact of controlled motivation on employee creativity: the context of Small and Medium Enterprises

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Dissertation Proposal
Master in Management

Supervised by
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2023/2024

Acknowledgments

First of all, I want to thank my family, especially my parents Narciso and Elisabete, my sister Filipa and my cousin Fernando, for believing in me, for everything they taught me and for everything they will continue to teach. Thank you for all the support and understanding and, above all, for being present in every moment.

To my supervisor, Professor Teresa Proença, for all the encouragement, wisdom, trust continuous support, and availability over the past months. Each stage of the dissertation was a learning opportunity, and all the support allowed me not only to fulfill my goal, but also my development as a person.

To my friends, for always believing in me, even when I did not believe in myself. Thank you, Carolina, Ana, Marta, Inês, and Rafaela, for all the words of encouragement and motivation you gave me throughout this process.

Abstract

This study examines how controlled motivation influences creativity among employees in Portuguese Small and Medium Enterprises (SMEs). Using the Self-Determination Theory (SDT) as a theoretical framework, the research differentiates autonomous and controlled motivation, with a particular emphasis on how the latter impacts creativity. The study focuses on filling a void in research on creativity in small and medium-sized enterprises, specifically in relation to regulated motivation, such as external and introjected motivation.

The approach included a quantitative questionnaire given to staff members from different Portuguese small and medium-sized enterprises, with the information examined using Structural Equation Modeling (SEM) on *IBM SPSS Amos 29*. The findings showed that intrinsic motivation has a favorable impact on creativity, whereas the influence of external and introjected motivation on creativity did not show a significant statistical effect. Additionally, the expected mediating role of intrinsic motivation in the connection between external motivation and employee creativity was not observed.

These results add to the theoretical knowledge of employee creativity and offer practical advice for SME managers, indicating that while controlled motivation plays a role, it must be combined with methods that promote intrinsic motivation to boost creativity.

Keywords: intrinsic motivation, controlled motivation, creativity, small and medium enterprises, Self-Determination Theory, Portuguese SMEs.

Resumo

Este estudo analisa como a motivação controlada influencia a criatividade entre os colaboradores das Pequenas e Médias Empresas (PME) portuguesas. Utilizando como referencial teórico a Teoria da Autodeterminação, a investigação diferencia a motivação autónoma da motivação controlada, com particular ênfase na forma como esta última impacta a criatividade. O estudo centra-se no preenchimento de um vazio na investigação sobre criatividade em pequenas e médias empresas, especificamente em relação à motivação regulada, como a motivação externa e introjetada.

A abordagem incluiu um questionário quantitativo aplicado a colaboradores de diferentes pequenas e médias empresas portuguesas, com a informação examinada utilizando Structural Equation Modeling (SEM) no *IBM SPSS Amos 29*. Os resultados mostraram que a motivação intrínseca tem um impacto favorável na criatividade, enquanto a influência da motivação externa e introjetada na criatividade não mostrou um efeito estatístico significativo. Além disso, não foi observado o esperado papel mediador da motivação intrínseca na conexão entre motivação externa e criatividade dos colaboradores.

Estes resultados contribuem para o conhecimento teórico da criatividade dos trabalhadores e oferecem conselhos práticos aos gestores de PME, indicando que, embora a motivação controlada desempenhe um papel, deve ser combinada com métodos que promovam a motivação intrínseca para estimular a criatividade.

Palavras-chave: motivação intrínseca, motivação controlada, criatividade, pequenas e médias empresas, Teoria da Autodeterminação, PME portuguesas.

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1. Introduction

Motivation is a psychological process that emerges from an individual's and their environment's reciprocal interactions, which influence an individual's decisions, efforts, and perseverance (Latham and Ernst, 2006). Numerous studies have demonstrated how important employee motivation is for the performance of a business (Deci & Ryan, 1985; Latham & Pinder, 2005).

Small and Medium Enterprises (SME) have had a major contribution to economic growth in modern economies being considered as a strategic interest for the economy (Neagu, 2016). In 2020, according to the European Commission, SMEs employed 64% of the European active population (82 million people). For these businesses, where human capital frequently acts as the foundation, it is even more important to comprehend the nuances of motivation, since employees' skills, dedication, and motivation are what drive SME growth in productivity and innovation (World Bank, 2019).

The Self-Determination Theory (SDT), by Deci and Ryan (2000), serves as the theoretical foundation for this dissertation. The theory distinguishes two main types of motivation: autonomous motivation and controlled motivation (Deci & Ryan, 1985). Individuals who exhibit autonomous motivation associate the purpose of the activity proposed to them with who they are and, ideally, have incorporated it (Gagné and Deci, 2005). Instead of acting out of self-interest or value, controlled motivation is acting in response to external circumstances (Deci et al.,1991).

Organization's success depends on creativity, especially in light of quickly evolving corporate contexts (Amabile et al., 1996; Oldham and Cummings, 1996; Scott and Bruce, 1994; Woodman et al., 1993). Thus, understanding the mechanics of motivation becomes crucial to fostering both individual and group creativity in the SME setting, once recent economic studies and reports have emphasized the importance of creativity as a driver of the success of companies (Boyles, 2022). The concept of creativity has been known to be an important strategic objective in the organizational context (Puccio and Cabra, 2010).

There are several authors that relate creativity to the promotion of personal and professional skills (Madžar & Milohnić, 2019) and of innovative abilities (Zocche et al., 2018). These

factors allow organizations to take advantage of its efficiency when compared to their competitors (Giampaoli et al., 2017). Employees frequently take on many roles and contribute to different components of the firm. There has been research on the relationship between employee motivation and creativity in a variety of organizational contexts, but SMEs' unique dynamics seem quite interesting. SMEs need creativity to solve difficult challenges, get opportunities, and adjust to shifting market conditions (Amabile, 1988). Gaining insight into the relationship between creativity and employee motivation in small and medium-sized enterprises (SMEs) can reveal tactics that improve their capacity for innovation.

The main goal of the dissertation is to determine the impact of controlled motivation on the creativity of employees in Portuguese SMEs. Most studies divide motivation into two main categories: intrinsic and extrinsic, so the goal is to add value by focusing on the controlled motivation of SME professionals. Distinguishing between controlled and autonomous motivation provides a stronger foundation for developing management and intervention strategies. Although rewards and punishments can influence extrinsic motivation, fostering autonomous motivation entails methods that support individuals' autonomy, competence, and relationships with others. This increased level of detail improves our comprehension of how outside factors affect Portuguese SMEs creative environments. Plus, this study aims at providing useful information to Portuguese SMEs leaders.

Given that small and medium-sized businesses frequently face resource limitations, knowing how to efficiently manage and utilize regulated incentives for innovation becomes extremely important. The results of the study can help managers optimize their methods. In 2022, the National Institute of Statistics (INE) estimated that 945,649 SMEs were in operation in Portugal. This amounts to 99.7% of all Portuguese enterprises. In the Portuguese economy, SMEs generate 57.7% of value-added and 69.8% of employment.

There is still a lack of empirical research that specifically addresses creativity in SMEs (Abdul-Halim et al., 2019). Given the importance of creativity, addressing the relationship between creativity and SME performance is important (Perkins et al., 2017). This gap represents an opportunity to make a significant contribution to the field of business research while also addressing a problem that is of the greatest importance for Portugal's economic development. This study aims at filling this gap by shedding light on the factors that motivate

employees of these companies and their subsequent impact on creative production, thereby providing valuable insights into strategies that can energize the Portuguese SME sector.

The motivation comes from having been brought up by parents who own an SME in the supermarket sector. Having a front-row seat to witnessing the daily challenges and successes of small business owners in Portugal is ~~its~~ an incredibly enriching experience that duels the curiosity and passion for understanding the complex issues of this business and exploring the factors that can impact its success.

In order to accomplish those aims, a questionnaire-based survey was sent to employees Portuguese SMEs of multiple sectors and its results will be analyzed through the Structure Equation Model (SEM) utilizing *IBM SPSS Amos 29*. The dissertation is divided into four parts. After the introduction, a literature review of the main topic is presented by covering its origins and the concept itself. In the third section, the methodology being used in the study will be approached. In the fourth and last section, a conclusion and comment on the findings of the study will be conducted.

2. Literature Review

2.1 Motivation

According to Latham and Ernst (2006) motivation is a psychological process that emerges from an individual's and their environments reciprocal interactions, which influence an individual's decisions, efforts, and perseverance. It is the degree, direction, and tenacity of the effort put out at work (Venkatesh and Sharma, 2015). According to Oldcorn (1989), it is a "very complicated problem, and there is no single magic formula that can be used to motivate every individual" (p. 159).

One of the theories that is most frequently used to study motivation is the self-determination theory (SDT) (Deci and Ryan, 2000; Gagné and Deci, 2005). The self-determination theory (SDT) aims at elucidating the consequences of individuals pursuing a goal or activity with passion and dedication in the absence of external incentives.

According to SDT, motivation comes in a variety of forms, and when it forecasts significant life events, the kind of motivation typically matters more than its quantity (Deci and Ryan, 2000). Accordingly, Ryan and Deci (2020) state the focus of SDT is on people's natural motivational tendencies for learning and growth, as well as how such tendencies may be supported.

The self-determination theory states that for people to flourish healthily, they must get support for their basic psychological needs (Ryan, et al., 2019) and the three main basic needs the theory identifies people need to meet, to feel motivated, are autonomy, competence, and relatedness. Motivation and well-being are thought to suffer when any of these three fundamental requirements are not met.

Autonomy defines the feeling of initiative and ownership over one's activities. It involves the experiences of interest and value that reinforce autonomy, whereas experiences of being subject to outside control undermine it. Competence comprehends an individual's sense of mastery and the ability to achieve and develop. The best environments for fulfilling the desire for competence are those that are well-structured and provide possibilities for progress, positive feedback, and ideal challenges. Relatedness is the sense of connection and belonging, improving when there is respectful and considerate communication between individuals (Ryan and Deci, 2020).

Firstly, the theory of Ryan and Deci (2017) differentiated the concept of motivation into intrinsic motivation, extrinsic motivation, and amotivation. Intrinsic motivation, according to Deci and Ryan (2000), refers to pursuits made "for their own sake" or out of innate interest and pleasure. Instead of relying on outside rewards or pressure, activities bring individuals their own delights and satisfactions. Human learning throughout life is probably more likely to be driven by internal desire than by externally imposed teaching and learning (Ryan and Deci, 2017).

A lack of interest or worth, or a sense of inadequacy in one's performance, can lead to amotivation. A considerable negative correlation has been shown between amotivation and performance, engagement, and well-being. Activities carried out for motives other than their innate satisfactions are referred to as extrinsic motivation (Ryan and Deci, 2020).

In SDT, according to the literature, there are four main subtypes of extrinsic motivation: external motivation; introjected motivation; motivation by identification; and motivation by integration. Behaviors influenced by incentives and penalties from outside sources are referred to as external motivation. Introjected motivation, according to Ryan and Deci (2020), is controlled by internal rewards of self-esteem for success and by avoiding feelings of anxiety, embarrassment, or guilt for failure. It relates to extrinsic rewards that have been partially internalized. In identified motivation, a person has a relatively high degree of desire, or willingness to perform, because they consciously identify with, or personally endorse, the value of an action. Integrated motivation is when the subject considers the action to be consistent with other fundamental interests and values in addition to acknowledging and identifying its worth (Ryan and Deci, 2020).

Later on, the greatest distinction in the SDT was to distinguish between autonomous motivation and controlled motivation, thanks to the concepts of internalization and types of motivation. More precisely, SDT suggests that identified motivation, introjected motivation, and external motivation vary in how far the policies are integrated with an individual's sense of self-esteem (Ren et al., 2021).

According to Gagné and Deci (2005), autonomous motivation includes both intrinsic motivation and identified motivation. In contrast, controlled motivation encompasses introjected motivation and external motivation (Deci et al., 2017; Sheldon and Elliot, 1998). Although both autonomous extrinsic and intrinsic motivations are highly intentional, the

main distinction between the two is that intrinsic motivation is based on interest and enjoyment while the first concept being referred to is when individuals see the activities as worthwhile even if they are not enjoyable (Ryan and Deci, 2020).

External motivation is when someone is motivated by either seeking a positive result, like rewards or approval, or avoiding a negative consequence, like punishment, when engaging in an activity (Deci and Ryan, 1985). Therefore, an externally driven person is motivated to achieve specific results rather than it being a natural part of their behavior. Introjected motivation is a form of controlled motivation stemming from the desire to avoid negative emotions and enhance one's self-esteem (Deci and Ryan, 1985). Higgins (1997) observed that individuals motivated by introjected motivation do not act based on external rewards and punishments from others, but instead based on their perception of others' expectations (Deci and Ryan, 1985).

According to Litalien et al. (2017), SDT acknowledges that the majority of purposeful activities are multi-motivated. Individuals can be both introjected and externally motivated, for example, or intrinsically motivated and identified for certain behaviors at the same time. Therefore, summarized ratings for autonomous and controlled motivations or scores expressing overall relative autonomy are frequently utilized, in addition to examining the distinctive characteristics of each motive type (Ryan & Deci, 2017).

People who engage in activities with a complete feeling of willingness, desire, and choice are said to demonstrate autonomous motivation (Deci and Ryan, 2008). On the contrary, in the case of controlled motivation, an individual participates in a certain activity as a result of feeling under pressure to meet predetermined goals that are thought to originate from sources outside themselves (Deci and Ryan, 2008).

The amount of SDT-based research conducted in the corporate space has increased in recent years, especially the primary impact of autonomous motivation. Research revealed that the contextual variables influenced the links between autonomous and controlled motivation and job outcomes (Gillet et al., 2016). A prerequisite was the pressure that workers were under. Prior studies have indicated that financial stress has an impact on productivity, interpersonal connections at work, and work safety outcomes (Petitta et al., 2020; Williams et al., 1996).

Job effort (Gagné et al., 2014), work engagement (Lopes and Chambel, 2017) and job satisfaction (Gillet et al., 2016) are some of the positive outcomes that have been linked to

autonomous motivation. On the other hand, controlled motivation has often been linked to unfavorable job outcomes including burnout (Gagné et al., 2014), work anxiety (Gillet et al., 2016), turnover intentions (Gillet et al., 2013), and lack of innovative performance (Ren et al.,2021). This particularity can happen because controlled motivation pressures people to think, feel, or act in specific ways, making pursuing goals less consistent with one's beliefs and interests (Ren et al., 2021).

An increasing amount of people believe that workers' worth is essential to competitive advantage and strategic success (Gabčanová, 2011). Jurgena and Rimovica (2017) notes that one of the most important factors in people management is employee motivation and should be taken into consideration at all organization levels. Many people believe that the values, norms, and behavior guidelines that come from an organization's culture also affect how successful motivational systems are (Jyoti & Rani, 2017; Närman et al. 2016).

Employees' critical role in creating and preserving competitive advantage is becoming more and more apparent to organizations (Nielsen et al., 2017). Since the beginning of management as a topic of study, motivation and management have been connected and researched (Minor, 2013). Companies in today's market compete constantly to gain a competitive advantage, and having highly motivated employees with the necessary skills and knowledge to do their jobs well is one way to achieve this goal (Pilukienė, 2017).

2.2 Creativity

Many authors such as Anderson et al. (2014), Montag et al. (2012), and Somech and Drach-Zahavy (2013) define creativity as developing new and useful ideas for goods, services, and organizational policies and procedures. The creativity of employees is influenced by the uniqueness and value of their ideas, which are, in turn, influenced by their sense of psychological safety and involvement in creative activities (Tsai et al. (2020).

According to Montag et al. (2012), there are essentially two parts to a person's creativity: Creative Performance Behavior (CPB) and creative outcome effectiveness (COE). Creative Performance Behavior relates to the collection of interlinked observable and undetectable actions carried out in consequence of an extent or task that isn't algorithmic and is said to generate creative research (Eindhoven & Vinacke, 1952; Guilford, 1950; Lubart, 2001). Creative outcome effectiveness is labeled as the degree to which the outcomes of

nonalgorithmic assignments or project conclusions are judged by significant stakeholders to be both novel and valuable (Amabile, 1996).

To have good results on creative outcomes, individuals are required to demonstrate creative performance behavior. While an individual has control over CPB, the results are still dependent on several external factors, including the resources available to put the idea into action (Acar et al., 2019), a collaborative and supportive leadership style (Perry-Smith and Shalley, 2003), and market and economic trends (Gupta and Singh, 2014). Janssen (2004) refers to creativity as a high-risk process since there is a significant probability of failure.

The four elements of CPB, according to the research study by Farr et al. (2003), are problem formulation and identification, determining the facts pertinent to the problem, developing creative solutions to the problem, and problem promotion and validating. If individuals can recognize the related issue at work, they can express CPB. After the issue has been identified, this person will gather the data required to understand the issue and assist the person in coming up with suggestions. The ideas will be validated by evaluation and promotion among peers and superiors. When distinct elements are combined in unconventional ways, the creative process often emerges (Zhou & George, 2001; Gong et al., 2013; Oldham & Cummings, 1996; Shin & Zhou, 2003).

Creativity is highly esteemed within the organization as it relies on a variety of knowledge and cognitive skills for successful implementation (Reiter-Palmon & Illies, 2004). Therefore, every company aiming for success and efficiency should embrace creativity as a fundamental philosophy and principle (Adeyeye & Oyewole, 2016).

Multiple research projects have employed approved measuring tools to evaluate the creativity of staff members, enabling the findings to be compared and applied broadly. A highly regarded instrument is the thirteen-item scale created by Zhou and George (2001) and adapted from Scott e Bruce (1994), known for its strength and relevance in various organizational settings. This tool aims at measuring managers' views on their employees' creative abilities, including originality, relevance, and how often they engage in creative acts.

By encouraging employee creativity, SMEs can become innovative (Nor et al., 2008). Innovative SMEs remain more flexible, receptive to fresh perspectives, and capable of viewing difficulties as opportunities (Hoang et al., 2020). Finding responsible methods to

foster employee innovation is therefore necessary, particularly for SMEs (Grama-Vigouroux et al., 2020; Prabowo et al., 2020).

Several authors believe social-contextual elements, including the culture of the company, the actions of the leader, and the relationships between team members influence individuals' creative performance (Shalley et al., 2004; Scott and Bruce, 1994; Woodman et al., 1993).

According to Amabile (1998), one of the most important elements fostering innovation in a company is the creative capacity of its workforce. It is possible to see creativity as a crucial type of employee voice. Because ideas could or might not provide the desired results, being creative thus entails challenging the current situation and stepping away from it. This is also related to taking risks. According to Zhou and George (2001), employees choose to utilize creativity as a means of expressing themselves at work when they believe that such performance may yield positive outcomes.

The competitive advantage of SMEs is largely attributed to creativity (Houghton & Neck, 2002). In Portugal, since SMEs are the main drivers of the economy, encouraging creativity is essential for long-term development and prosperity (European Commission, 2020).

2.3 Motivation and Creativity of SME's employees

Amabile's (1988) componential model of creativity indicates that work motivation plays a crucial role in fostering creativity in the workplace by inspiring employees to question conventional approaches, concentrate on innovative objectives, and generate novel and practical concepts.

Through employee autonomous motivation to specific conditions prevailing in the hospitality industry, the work of Hon (2011) was the first to apply the theory of Self Determination Theory alongside creativity in the work context.

Enko (2014) carried out research on motivation and creative writing. The three primary SDT psychological requirements, according to the author, are critical for promoting growth, development, and well-being as well as for self-motivation. It was determined as such, although autonomy is a necessary but insufficient aspect of the creative process. According to Sheldon (1995), the reasoning comes from the connection between creativity and self-determination. The author makes the argument that while all creative people are

independent, not all autonomous people are also creative. Autonomous people have deeper insights into their internal workings, which helps to advance information processing to a deeper degree. Furthermore, the creative process is greatly influenced by the surroundings.

Deci and Ryan (1985) state that controlled motivation can hold back creativity by fostering emotions of external control and a preference for external rather than internal rewards. This may lead to a reduction in the cognitive flexibility and risk-taking aversion that are necessary for creativity. However, extrinsic rewards can occasionally increase creativity, especially when they are offered in a non-coercive or controlled manner. The goal of this work is to study the relationship of controlled motivation and employee creativity.

According to the research, creativity can be reduced by extrinsic rewards (Amabile, 1983) like bonuses and praise (Eisenberger and Cameron, 1996; Amabile, 1998) or performance-based rewards (Gupta and Govindarajan, 2000). Extrinsic rewards, according to the researchers undermine intrinsic motivation and intrinsic task interest, and knowledge-sharing, potentially creating a stressful and competitive work environment.

Recent research stands with the proposition of creativity being higher the more the individual is intrinsically motivated (Hur et al., 2018; Kong et al., 2017; Zhang and Bartol, 2010) since it may increase novelty (Zhou, 1998), persistence (Oldham and Cummings, 1996), and flexibility (Amabile, 1996). If a reward is offered aside from performance, in order to complete a tedious or insignificant task, or for enduring a nonclear performance criterion, intrinsic motivation declines (Eisenberger & Cameron, 1996; Eisenberger & Pierce, et al. 1999). Eisenberger & Pierce, et al. (1999) suggest that these procedures indicate the reward giver's intention to compensate the reward recipient for completing a mundane task, leading to a decrease in intrinsic motivation, which in turn hampers creativity, as numerous empirical studies stated supra show a positive link between intrinsic motivation and creativity.

For Collins et al. (1999) it's more common for external motivation to have a decremental effect on creativity. However, Collins et al. (1999) and Eisenberger et al. (1999) took the general view that rewards can sometimes increase creativity by giving people the tools and encouragement they need to explore their ideas. This happens when rewards provide information or facilitate task completion, motivating individuals to participate in information search and other necessary but laborious procedures to successfully complete a creative project.

Having a clear purpose and intention to be creative is essential for turning intrinsic interest into creative success (Nickerson, 1985). Eisenberger et al. (2003), propose that boosting the belief that creativity is linked to reward can easily enhance motivation for creativity. When individuals believe they can acquire rewards for being creative, they fulfill the need for autonomy and competence and develop creativity. The authors stated creativity is enhanced through external motivation if an explicit promise of reward is made for creative performance; reward is offered for general performance after initial training on an imaginative task; after receiving recognition for being creative in an initial task, a new task is given without any guarantee of a reward. The reward functions as informative feedback, letting the person know that the assignment was finished successfully, especially if the activity was challenging and the reward was prestigious. Offering an incentive might facilitate completing the most tedious and time-consuming phases of the creative process.

Continued rewards for high effort of creativity can cultivate the creative mindset and determination necessary for tackling challenging creative endeavors (Eisenberger & Selbst, 1994). According to Montag (2012), extrinsic motivators can also enhance creativity by influencing intrinsic motivation when the rewards are based on creativity. This reasoning is valid only in situations where task-oriented thinking and creativity-oriented thinking differ. When creative problem-solving is essential, such as in the context of making a television series, external incentives should not hinder creative thinking as both task-oriented and creative thinking align. Rewards and other external incentives such as bonuses, promotions, or recognition are typically defined in contracts or anticipated by tradition when a task and its related CPBs are assigned. Lack of these rewards can lead to decreased satisfaction and engagement in work in the long run (e.g., not compensating a filmmaker as expected may hinder creativity) (Montag, 2012).

Another possible way of external motivation is pay raises. Eisenberger et al. (2001) discovered that workers who believed there was a strong connection between their performance and salary increases had more autonomy in their job approach compared to those who believed there was a weak link between job performance and pay raises. A heightened sense of autonomy was directly correlated with the creativity of employees' anonymous unidentified recommendations to enhance the company's functions.

According to the research, creativity can be reduced by extrinsic rewards like bonuses and praise (Eisenberger and Cameron, 1996; Amabile, 1998) or performance-based rewards

(Gupta and Govindarajan, 2000). Extrinsic rewards, according to the researchers undermine intrinsic motivation and knowledge-sharing, potentially creating a stressful and competitive work environment.

Eisenberger et al. (1999) stated that instead of undermining intrinsic motivation, extrinsic rewards have the potential to promote creativity by giving people the tools and encouragement they need to explore their ideas. In 2003, together with Shanock, Eisenberg proposed that when rewards are explicitly tied to certain performance categories, such as creativity, and the recipient is made aware of this fact, they fulfill the need for autonomy and competence.

According to Eisenberger and Shanock (2003), an individual's motivation can be boosted by receiving a reward for creative accomplishments. The author stated that individuals develop creativity when they believe they can acquire rewards for being creative. The reward functions as informative feedback, letting the person know that the assignment was finished successfully, especially if the activity was challenging and the reward was prestigious. Offering an incentive might facilitate completing the most tedious and time-consuming phases of the creative process.

Research suggests that intrinsic motivation and extrinsic incentives are most often compensatory (Cerasoli et al. 2014; Locke and Schattke 2019). That is, if a participant lacks intrinsic motivation, their effort can be increased with extrinsic incentives. Identically, if a participant already has a high intrinsic motivation, paying financial incentives will also likely increase their effort—but to a lesser extent. Thus, the following hypothesis was created:

H1: External motivation positively impacts intrinsic motivation.

Numerous studies have demonstrated a positive association between intrinsic motivation and creative outcomes (Choi, 2004; Prabhu et al., 2008; Runco et al., 1998). Sternberg andLubart (1996) contends that individuals are more creatively productive when their motivation is intrinsic and task-focused. Runco et al. (1998) surveyed 143 creative researchers and concluded that intrinsic motivation has a desirable and important influence on creative performance. Choi (2004) also discovered that intrinsic motivation and psychological processes, such as those involved in the goal to achieve creativity, affect creative performance. With a sample of 124 undergraduate students, Prabhu et al. (2008) found that

intrinsic motivation significantly affects creativity and personality. This being said, the following hypothesis was formulated:

H2: Intrinsic motivation has a positive impact on creativity.

After the findings on the literature, it's suggested that intrinsic motivation influences the relationship between external motivation and employee creativity. Thus, it was created the hypothesis:

H3: Intrinsic motivation mediates the impact of external motivation on employee creativity.

According to Gagné and Deci (2005) when "Internal forces pressure drive the regulation of work done, e.g. shame, guilt or ego-involvement" we are defining introjected motivation. It results from the desire to avoid negative emotions and enhance one's self-esteem (Deci and Ryan, 1985).

Self-esteem is an internal force as is defined by Sedikides and Gress (2003), as how individuals perceive or subjectively evaluate themselves, their belief in their own value, their sense of dignity, and assurance in themselves to the degree to which the person has favorable or unfavorable opinions of themselves.

Individuals who do not refer to themselves as worthy, capable, or competent (low self-esteem) should be more influenced by introjected pressures (Judge et. al, 2005). Korman (1971) defends that individuals are motivated to attain goals based on how they perceive themselves.

Korman (1970) proposed that individuals with high self-esteem will have greater motivation to excel in performance than those with low self-esteem, as achieving success helps them uphold their self-image. Multiple studies have shown that altering individuals' beliefs about their skills is linked to their subsequent performance (Feather & Saville, 1967; Friedman & Goodman, 1967; Kaufman, 1963).

As emotions play a role in motivation, factors that trigger emotions should also have an indirect impact on motivation. Negative feelings such as depression, anxiety, guilt, and anger can impact motivation in two main ways. Initially, negative emotions could hinder motivation performance by suppressing positive feelings (Brief, et al.,1995). Furthermore, individuals with high levels of anxiety, irritability, and self-pity, or such, can hinder positive social

interactions that could enhance performance. Consequently, these negative feelings and resulting negative outcomes are expected to decrease motivation.

Individuals who are confident in themselves are not as worried about avoiding failures or negative results and are more likely to welcome uncertainty and take risks when developing and testing creative ideas (Ferris et al., 2011). They actively look for challenges to improve their learning and gain new skills, which in turn boosts their creativity (Gong et al., 2009).

According to the literature, creativity is higher when people have high self-esteem and are confident. Introjected motivation relates to bad emotions like the fear of failure and guilt which happens to low self-esteem individuals. So, in the present study, introjected motivated people are expected to become less creative.

H4: Introjected motivation has a negative impact on creativity.

2.4 Conceptual Model

Figure 1 represents the conceptual model of employee creativity, concerning the hypothesis defined supra.

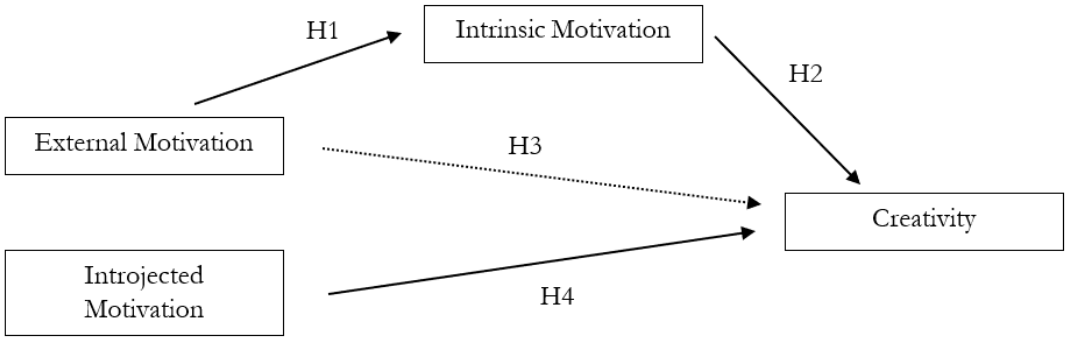

Figure 1. Conceptual Model

3. Methodology

3.1 Investigation methods and measures

This investigation will employ a quantitative method of collecting and analyzing data through surveys to achieve its goals and operationalize the conceptual model. The data was collected through convenience sampling, a non-probability sampling method, that according to Golzar et al. (2022) and Rahi (2017), "describes the data collection process from a research population that is effortlessly reachable to the researcher". The main advantage of this method is the reduced amount of effort in selecting the participants, compared to other non-random sampling techniques (Alvi, 2016). The target population of this study were Portuguese employees of SME's. This was assured through a direct question available in the first part of the survey. The survey was made available online, via Google Forms, and sent through email to several local SME companies in Braga and by approaching local stores and asking employees to answer it. The questionnaire had three parts. The first part intended to collect sociodemographic data about the individuals. The second part goal was to evaluate the employees' motivation type according to SDT. Finally, the third part objective was to collect data about how employees evaluate their creativity.

The convenience method has some drawbacks; besides the possibility of the p-value not being meaningfully interpreted (Hirschauer et al., 2020), it is also subjected to sampling biases and systematic errors (Alvi, 2016) since the sample's participants can have their variability controlled or measured. Also, because the population under study is well-known, researchers might be tempted to make broad generalizations Alvi (2016).

The Multidimensional Work Motivation Scale (MWMS) by Gagné et al. (2014) was used to measure motivation (Table 1). The MWMS is constituted by a nineteen-item scale intending to evaluate work motivation following the Self-determination theory types of motivation. That way, it evaluates amotivation, external motivation, introjected motivation, identified motivation, integrated motivation, and intrinsic motivation on a scale from 1 (do not agree) to 7 (completely agree).

Table 1: Multidimensional Work Motivation Scale (MWMS)

Amotivation	I don't, because I really feel that I'm wasting my time at work.
	I do little because I don't think this work is worth putting efforts into.

	I don't know why I'm doing this job, it's pointless work.
Integrated motivation	To get others' approval (e.g., supervisor, colleagues, family, clients …).
	Because others will respect me more (e.g., supervisor, colleagues, family, clients …).
	To avoid being criticized by others (e.g., supervisor, colleagues, family, clients …).
External Motivation	Because others will reward me financially only if I put enough effort in my job (e.g., employer, supervisor …).
	Because others offer me greater job security if I put enough effort in my job (e.g., employer, supervisor …).
	Because I risk losing my job if I don't put enough effort in it.
Introjected Motivation	Because I have to prove to myself that I can.
	Because it makes me feel proud of myself.
	Because otherwise I will feel ashamed of myself.
	Because otherwise I will feel bad about myself.
Identified Motivation	Because I personally consider it important to put efforts in this job.
	Because putting efforts in this job aligns with my personal values.
	Because putting effort in this job has personal significance to me.
Intrinsic Motivation	Because I have fun doing my job.
	Because what I do in my work is exciting.
	Because the work I do is interesting.

Gagné et al. (2014)

Creativity was measured by a thirteen-item scale (Table 2), taken from and adapted from Zhou and George (2001). Individuals responded to the questions on a scale from 1 (Do not agree) to 5 (Completely agree) to how they identified themselves as creative or not. Even though the questionnaire was originally meant for supervisors to rate employees, we had our participants self-assess based on how they believe they generate innovative and beneficial ideas. Past research has utilized self-report tools to investigate the subjective creativity experiences of employees (Dul et al., 2011; Shalley et al., 2009; Zhou et al., 2008). The questions were intended for the individual to evaluate himself.

Table 2: Creativity Scale

1	Suggests new ways to achieve goals or objectives.
2	Comes up with new and practical ideas to improve performance.
3	Searches out new technologies, processes, techniques, and/or product ideas.
4	Suggests new ways to increase quality.
5	It is a good source of creative ideas.
6	Is not afraid to take risks.
7	Promotes and champions ideas to others.
8	Exhibits creativity on the job when given the opportunity to.
9	Develops adequate plans and schedules for the implementation of new ideas.
10	Often has new and innovative ideas.
11	Comes up with creative solutions to problems.
12	Often has a fresh approach to problems.
13	Suggests new ways of performing work tasks.

Zhou and George (2001)

The questionnaire was in Portuguese. The motivation was already translated to Portuguese by Santos et al. (2015). The creativity scale was translated to Portuguese and translated back to English by an English professional.

3.2 Sample Characteristics

Prior research suggests that employee creativity can be influenced by the accumulation of knowledge and experiences (Amabile, 1988; Tierney & Farmer, 2002; Woodman et al., 1993), with age, education level, and tenure commonly controlled for in creativity studies. In order to reduce the biases and increase data representativity, demographic factors including gender, age, education level, length of service, and current management position, were collected from participants.

The questionnaire had 175 answers in total. Of the data collected, 43 were rejected after the participants failed to answer the control questions, meaning 132 were considered for the analysis. The analysis was conducted through the software *Microsoft Excel*, and *IBM SPSS Statistics 29*.

When it comes to gender breakdown, the majority were female, accounting for 60.3% of the total responses (n=132). As for males, 25.90% of the total respondents, identified as male. The respondents ranged in age from 18 to 61 years old, with the average age being 32 years.

In terms of education, 60 participants had access to higher education (bachelor, masters, …) (45.5%), with the next highest group being those with a secondary education (n=50, 37.9%), while a small number mentioned completing primary school (n=22, 16.7%).

Regarding their position in the company, the sample was composed by non-qualified professionals (n=48, 36.4 %), qualified professionals (n=43, 32.6 %), board managers (n=23, 17.4 %) and senior managers (n=18, 13.6 %). Time-wise, a big part of the individuals responded they work at the company between 3 and 5 years (n=44, 33.3%) and up to 1 year (n= 39, 29.5%).

When asked about their leadership position, the majority of employees stated they don't hold a leadership position (n=86, 65.2%), while the remaining respondents said they do (n=46, 34.8%).

All sociodemographic and professional characterization is detailed in Table 3.

Table 3: Sociodemographic Characterization

		Percentage (%)
Gender	Female	60.3 %
	Male	39.7 %
Education	Primary Education	16.7 %
	Secondary Education	37.9 %
	Higher education	45.5 %
Position	Management Board	17.4 %
	Senior management	13.6 %
	Qualified professional	32.6 %
	Non-qualified professional	36.4 %
Time on the company	Less than 6 months	15.2 %
	Between 6 months and 1 year	14.4 %
	Between 1 year and 2 years	9.1 %
	Between 3 years and 5 years	33.3 %
	Between 6 years and 10 years	11.4 %
	Between 11 years and 15 years	5.3 %
	More than 15 years	11.4 %
Leadership position	Yes	34.8 %
	No	65.2 %

IBM SPSS Statistics 29

4. Results

4.1 Confirmatory factorial analysis

Following the collection of data, we moved on to conducting factor analysis. There are two approaches for performing this analysis: exploratory factor analysis is utilized when there is no existing knowledge of the factor structure to explain the correlations among the items; and confirmatory factor analysis is used when a prior analysis of the factor structure is being validated. Since all constructs were validated before, we proceeded with the confirmatory factor analysis. This is used to assess the goodness of fit of a measurement model in relation to the correlational structure observed between manifest variables (Marôco, 2014).

In this context, it is necessary to evaluate the reliability and validity of the measurement instrument, and the most used measures for reliability analysis are Cronbach's alpha and composite reliability, which estimate internal consistency, both of which must be greater than 0.7 (Marôco, 2014). As can be seen in Table 4, the reliability of the construct was verified.

Table 4: Reliability Indexes

	Alfa de Cronbach	Composit Reliability
EXT	0.844	0.890
INTJ	0.809	0.880
C	0.903	0.938

EXT-External Motivation; INTJ-Introjected Motivation; C-Creativity ***IBM SPSS Statistics 29***

Once the reliability of the construct was verified, the validity analysis was carried out, which is the property of the measurement scale that determines whether it effectively measures the variable that is intended to be evaluated (Marôco, 2014). Validity is subdivided into three components: factorial validity, convergent validity, and discriminant validity. The factorial validity is confirmed by ensuring that the items accurately represent the underlying factor they are designed to assess. Standardized factor weights are typically used to assess factorial validity, with factors showing values of 0.5 or higher considered to have factorial validity according to Marôco (2014). The factor loadings obtained can be observed in appendix 2. Following Marôco' (2014) criterion, which accepts values above 0.5, we observed that all items exhibited are acceptable values.

Convergent validity occurs when the behavior of the items on the scale is explained by a factor and is evaluated through the Average Extracted Variance (AEV). For convergent validity to be considered adequate, the AVE value must be at least 0.5 (Marôco, 2014). As we can see in table 5, AEV is greater than 0.5 in all variables, which means convergent validity is verified.

Table 5: Average Extracted Variance (AEV)

	Average Extracted Variance
EXT	0.731
INTJ	0.648
C	0.541
INT	0.761

EXT-External Motivation; INTJ-Introjected Motivation; C-Creativity; INT-Intrinsic Motivation

IBM SPSS Statistics 29

Discriminant validity evaluates the possibility that items that reflect a value are not correlated with other factors (Marôco, 2014). In order to evaluate the discriminant validity of the study items, the HTMT tests were performed as well as the Fornell and Larcker criteria. Henseler et al. (2014) proposes values below 0.85 to consider discriminant validity present for HTMT criterion. When the square root of the Average Extracted Variance (AVE) is greater than the correlations among the variables (ϕij), discriminant validity is confirmed according to Fornell and Larcker (1981). Discriminant validity is confirmed within both criteria.

Table 6: Discriminant Validity - HTMT Test

	EXT	INTJ	C	INT
EXT				
INTJ	0.415			
C	-0.025	0.211		
INT	0.129	0.472	0.529	

EXT-External Motivation; INTJ-Introjected Motivation; C-Creativity; INT-Intrinsic Motivation

IBM SPSS Statistics 29

Table 7: Discriminant Validity - Fornell-Larcker Condition

	EXT	INTJ	C	INT

EXT	0.855			
INTJ	.358**	0.805		
C	0.116	.398**	0.872	
INT	-0.025	0.165	.492**	0.406

EXT-External Motivation; INTJ-Introjected Motivation; C-Creativity; INT-Intrinsic Motivation

IBM SPSS Statistics 29

4.2 Descriptive analysis and correlational analysis

The mean values, deviation values, and maximum and minimum values for the inquiries concerning age, education, gender, position, time in the company, leadership position, external motivation, introjected motivation, intrinsic motivation, and employee creativity are presented on appendix 3. Moreover, correlation coefficients among these variables are shown in Table 8. Spearman's correlation coefficients were used to analyze the study variables.

As is evident in the table infra, the variable age has significant correlations with other variables. The first possible to notice is with the variable education. As people get older their education level tends to be lower in a non-moderate way. However, the opposite happens regarding the employee's time in the company. Moderately, as individuals age gets higher, the more time they spend working at their current job.

As to education, it influences people's position in the company in a negative way. People with higher positions in their current jobs tend to be less educated. Also, individuals with higher education tend to be in their current position for less time than people with less education. Regarding motivation, it's possible to observe that when employees are more externally motivated they have lower levels of education. At the same time, highly educated individuals tend to be less influenced by external motivation.

The individual's position in the company moderately correlated with its leadership position in a positive way, which means employees who have a higher position in the company also have a leadership position. These employees also have higher levels of external motivation according to Table 8.

The variable of how long the employee is working at the same company is negatively correlated with the leadership position of the worker. The variable of leadership position is negatively correlated to intrinsic motivation. This means, that the longer the individual is working for the company, the more leadership positions it has. In turn, this means they are more intrinsically motivated.

When it comes to motivation there are some visible significant correlations. Externally motivation is positively correlated to introjected motivation, which means both variables of controlled motivation have a positive correlation. Introjected motivation in return has a positive correlation to intrinsic motivation.

Lastly, creativity is only influenced by intrinsic motivation in a positive moderate way. This goes along with the literature that states that when people are intrinsically motivated, they tend to have high levels of creativity.

Table 8: Descriptive and Correlation Analysis

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Gender (a)	1.4	0.491	--									
2. Age (b)	32.3	10.422	-0.091	--								
3. Education (c)	2.29	0.737	0.034	-.380**	--							
4. Position (d)	2.88	1.091	-0.103	-0.056	-.364**	--						
5. Time on the company (e)	3.73	1.825	0.047	.554**	-.278**	-0.150	--					
6. Leadership position (f)	1.65	0.478	-.188*	-.203*	-0.063	.660**	-.335**	--				
7. EXT (g)	4.68	1.795	-0.048	0.146	-.286**	.247**	0.102	0.166	--			
8. INTJ (h)	4.91	1.628	-0.066	-0.005	-0.016	-0.007	-0.086	0.014	.353**	--		
9. INT (i)	5.31	1.559	0.057	.177*	-0.020	-0.068	.196*	-.214*	.177*	.435**	--	
10. C (j)	4.02	0.671	0.090	0.029	0.117	-.173*	0.044	-.222*	0.017	.176*	.496**	--

*Correlation is significant at the 0.05 level (2-tailed). ***IBM SPSS Statistics 29***

**Correlation is significant at the 0.01 level (2-tailed).

(a) Gender: 1- Female, 2- Male. (b) Age: Age of the individual. (c) Education: 1- Primary education, 2- Secondary education, 3- Higher education. (d) Position: 1- Governing body (administrator, manager, executive body,...), 2- Senior management (director, manager, coordinator,...), 3- Qualified professional (technical staff, engineers, operators, qualified, drivers), 4- Unqualified professional. (e) Time on the company: 1- Menos de 6 meses, 2- Entre 6 meses e 1 ano, 3- Entre 1 a 2 anos, 4- Entre 3 a 5 anos, 5- Entre 6 a 10 anos, 6- Entre 11 a 15 anos, 7- Mais do que 15 anos. (f) Leadership Position: 1- Yes, 2- No. (g) EXT- External Motivation. (h) INTJ- Introjected Motivation. (i) INT- Intrinsic Motivation. (j) C- Creativity.

4.4 Structural model assessment

The focus now is on examining the model to assess its suitability and capacity for elucidating the questions under study. The analysis was conducted through *IBM SPSS Amos 29*. Before starting the analysis, Hair et al. (2010) consider essential to evaluate how well the model aligns with the data through the confirmation of: 1) CMIN/DF; 2) RMSEA; 3) CFI; and 4) TLI. These indicators offer crucial data on the general model suitability, the improvement in fit compared to a base model, and the amount of variation accounted for.

1) **CMIN/DF** (Chi-square divided by degrees of freedom) indicates how much the fit of the data to the model is reduced by dropping one or more paths. If CMIN/DF ≤ 3, it indicates an acceptable fit (Kline, 1998).
2) **RMSEA** (Root Mean Square Error of Approximation) assesses the discrepancy between the observed covariance matrix and the model-implied covariance matrix, taking into account model complexity. RMSEA values higher than 0,1 are considered poor, RMSEA values between 0,08 and 0,1 are considered borderline, values ranging from 0,05 to 0,08 are considered acceptable, and RMSEA values ≤ 0,05 are considered excellent (MacCallum et al, 1996).
3) **CFI** (Comparative fit index) assesses the difference between the data and the proposed model, while taking into account the limitations related to sample size in the chi-squared test and the normed fit index. Values of ≥ 0,90 are acceptable (Hair et al., 1998).
4) **TLI** (Tucker-Lewis Index), also known as Bentler-Bonett non-normed fit index (NNFI), ranges from (but not limited to) 0 to 1, where a value closer to 1 represents a very good fit, while 1 represents a perfect fit. For the model to be acceptable it should have a TLI value higher than 0,9 (Brown, 2006).

Table 9: Model Suitability Indicators

Measure	Accepted fit	Resulting fit
CMIN/DF	≤ 3 it indicates an acceptable fit	2.231
RMSEA	> 0,1 poor fit; between 0,08 and 0,1 are considered borderline; values ranging from 0,05 to 0,08 are considered acceptable; ≤ 0,05 are considered excellent	0.097
CFI	≥ 0,90 indicates an acceptable fit	0.901

TLI	≥ 0,9 indicates a reasonable fit	0.856

IBM SPSS Amos 29

Apart from the Tucker-Lewis Index that does not meet the standards by a close value, all the other fit indices values are within the acceptable range, indicating that the model accurately fits the data (Hair et al., 2020).

4.5 Hypothesis test

The determination (R^2) of the model is 0.295, which means the independent variables can explain 29.5% of the effects on the dependent variable. Table 10 describes the findings from the model that was utilized to examine the previously established hypotheses. Rejecting hypotheses is based on the t-test, with a t-value of 1.96 indicating significance at a p-value of 0.05 or less (Garson, 2016). The correlation coefficient varies between -1 and 1, with more significant associations between variables seen when the coefficient is closer to the extreme values (Hair et al., 2019). To investigate how externally motivated an individual is at their job, and how it affects its intrinsic motivation, creativity was assessed through structural equation modeling with AMOS path analysis by entering data.

Table 10: Hypothesis Test Results

Hypothesis	Path	Coefficients	t-value	p-value	Result
H1	EXT -> INT	0.157	1.520	0.128	Not supported
H2	INT -> C	0.215	5.810	0.002	Supported
H4	INTJ -> C	0.027	1.908	0.059	Not supported

EXT-External Motivation; INTJ-Introjected Motivation; C-Creativity; INT-Intrinsic Motivation

IBM SPSS Amos 29

H1: External motivation positively impacts intrinsic motivation.

External motivation positively affects intrinsic motivation just not in a moderate way (β=0.157). Also, this impact is not statistically significant ($p>0.05$, $t<1.96$).

H2: Intrinsic motivation has a positive impact on creativity.

The coefficient of 0.215 indicates a positive association between intrinsic motivation in employee creativity. With a t-value of 5.810 and a p-value of 0.002, this relationship is statistically significant.

H4: Introjected motivation has a negative impact on creativity.

The negative coefficient of -0.011 suggests a negative impact of introjected motivation on employee creativity. With a t-value of -0.435 and a p-value of 0.664, this relationship is not statistically significant.

4.5.1. Mediation testing

A mediation analysis was carried out by considering external motivation as an independent variable, with employee creativity as the dependent variable, and career commitment as the mediator. The mediation analysis focuses on examining indirect effects derived from applying Baron and Kenny's (1986) traditional approach to conducting mediation analysis. Mediation analysis was conducted using bootstrap procedures with 500 samples to determine direct and indirect effects, along with a 95% bias-corrected confidence interval. The findings can be seen in the table 11 below.

Table 11: Mediation Testing Results

Path	Total effect	Direct Effect	Indirect Effect
EXT->INT->C	-0.019[a]	-0.053[b]	0.034[c]

[a] p= 0.579 [b] p= 0.107 [c] p= 0.113 ***IBM SPSS Amos 29***

EXT-External Motivation; C-Creativity; INT-Intrinsic Motivation

The indirect effect of intrinsic motivation reduces the impact of external motivation on creativity, making it positive, which proves that it mediates the effect on employee creativity. However, the hypothesis regarding the mediation effect of intrinsic motivation on the relationship between external motivation and employee creativity can not be supported. The coefficient is low and the p-value is way higher than desirable (β=0.034 p>0.05). This indicates that intrinsic motivation does not mediate the relationship between external motivation and employee creativity.

In conclusion, the study's findings suggest that intrinsic motivation affects positively employee creativity (H2); however, it is not significantly affected by external motivation nor introject motivation. Furthermore, intrinsic motivation does not mediate (H3) the relationship between external motivation and employee creativity.

5. Conclusion

This chapter will address the findings of the research questions, examining its theoretical and practical impacts on management. In addition, we will address the primary constraints of the study and provide recommendations for future research.

5.1 Discussion

In the context of employee creativity, the current study provides some managerial consequences and theoretical advancements for human resources management in small and medium enterprises. There is still a shortage of empirical studies focusing on creativity within SMEs (Abdul-Halim et al., 2019). Recognizing the significance of creativity, it is crucial to examine the link between creativity and SME performance (Perkins et al., 2017).

The questionnaire made available for employees generated insights on which factors affect the creativity of employees that can facilitate managers' decision-making.

This study aims to analyze the impact of controlled motivation on employee creativity. Given that controlled motivation is divided into external motivation and introjected motivation two different types of analysis were made. First, the goal was to analyze what happens to employee creativity when employees are externally motivated.

The literature states every time external motivation affected employee creativity, it was through intrinsic motivation (H3). Research suggests rewards and other external motivators undermine an individual's creativity (H2). The results state a low impact of external motivation on employee creativity as well as not significant. According to Cerasoli et al. (2014) and Locke & Schattke (2019), extrinsic motivation positively impacts intrinsic motivation. The outcome shows this relationship is true, however, it is not statistically significant. According to Eisenberger & Cameron (1996) and Eisenberger & Pierce (1999), if external motivators harm the intrinsic motivation of an individual, then creativity will decrease. Studies say creativity can be developed through external motivators in cases where intrinsic motivation is increased. When looking at the mediator variable, it's visible that there is a mediation; however, it's not statistically significant. Furthermore, contrary to expectations, we concluded that intrinsic motivation does not mediate the strength of these relationships.

Secondly, the relationship between introjected motivated people and employee creativity (H4). After collecting research, it is expected that individuals with high self-esteem and confidence, meaning they tend to show lower levels of intrinsic motivation, tend to exhibit higher levels of creativity. This implied that introject motivation decreases creativity. Findings align with the conclusions made through the literature; however, this interaction was shown to be not statistically significant. The results indicate that there is a positive association between the two variables; however, this is not strong enough when in competition with other factors. Spearman's correlation previously indicated a positive and statistically significant relationship between introjected motivation and creativity. However, when considering this variable alongside others in a broader model, this correlation did not remain strong and explained a lot less of the dependent variable. It suggests a tendency that future research could explore further.

To summarize, according to the literature, controlled motivation, in general, has a negative impact on creativity, directly and positive impact indirectly trough intrinsic motivation (Collins et al., 1999). It was proved that controlled motivation has an impact on employee creativity; however, this impact was proved not significantly enough to explain the dependent variable, employee creativity. Also, in its essence, the model has a low R^2 (0.295) as well as a low estimate (-0.053), meaning controlled motivation does not have a significant negative impact on employee creativity and can only explain 29.5% of employee creativity.

5.2 Contributions to theory and management

This dissertation works towards an explanation of employee creativity in the work context of small and medium enterprises and tests a theoretical model of the factors that contribute to the development of creativity in a company that has fewer resources than bigger companies. The results expand on previous research, by utilizing the Self-Determination theory to discover if motivation, where an individual acts out of the desire for external rewards or fear of punishment, has an impact on employees' creativity. It provides important suggestions for managing small and medium enterprises (SMEs).

The study enhances the theoretical comprehension of employee creativity by emphasizing the intricate function of controlled motivation, specifically its distinction between external and introjected motivation, in influencing creative results. Prior studies have indicated that controlled motivation can hinder creativity, but this research shows that the relationship is more complex. The results indicate that although introjected motivation usually reduces creativity, when analyzed along with external motivation, this connection is not statistically important. This creates opportunities for future research to investigate how introjected motivation could impede or enhance creativity based on different circumstances.

Ultimately, the research results have real-world implications for decision-making in small and medium-size enterprises when it comes to implementing employee motivation tactics. From a managerial point of view, the research provides valuable information for human resource management in small and medium businesses (SMEs). The study emphasizes the importance of managers being careful in how they utilize controlled motivation, like incentives or coercion, to enhance employee creativity. The limited impact of controlled motivation on employee creativity, implies that there are more important factors influencing creativity. This means that controlled motivation should not be completely ignored, but it should be combined with techniques that foster intrinsic motivation and other factors that enhance creativity. Managers need to take a comprehensive approach to motivation, by taking into account the direct and indirect impacts of their strategies on employee creativity, and possibly exploring non-traditional motivation models to enhance creative potential in their teams.

5.3 Limitations and future research

This study contains some limitations that should be considered in future investigation, with the aim of deepening the analysis and discussion of the theme.

This research utilized a well-known quantitative method, despite some restrictions. Using a convenience sample and self-administered questionnaires may have caused biases in the results by not fully examining relevant questions. The absence of a researcher during data collection could have restricted the exploration of key points and in-depth answers, in contrast to qualitative method. In order to improve the findings and bolster the model, forthcoming studies may find value in utilizing a qualitative approach.

Besides, there is a possibility that the data may not be generalizable, as the sample may not adequately represent Portuguese individuals. Despite efforts to obtain a considerable sample size, future studies should use a larger number of observations to ensure a more significant representation of the population and, consequently, greater robustness of the results.

The findings of the research show a complex connection that the current model does not fully represent, highlighting the importance of further investigating on how various motivations interact with one another and with other factors within the organization. This may involve investigating the points at which controlled motivation transitions from hindering creativity to possibly enhancing it, especially in situations where intrinsic motivation is at risk of being compromised.

Another drawback is the absence of measuring the fundamental mechanisms for the connections among procedural justice, intrinsic motivation, and creativity. The study did not assess either affect or the fundamental necessities of autonomy, competence, and relatedness, despite the fact that they were suggested as factors that could cause shifts in intrinsic motivation and creativity. Previous studies have indicated a connection between fairness and favorable outcomes. The relationship between need satisfaction and autonomous motivation (Gagné et al., 2014; Thibault Landry et al., 2017), as well as between justice, the satisfaction of needs, and intrinsic motivation (Aryee et al., 2015; Olafsen et al., 2015), is influenced by affect (Colquitt et al., 2013). Future studies on rewards based on creativity could investigate the role of need satisfaction and/or affect in mediating the relationship between procedural fairness and intrinsic motivation.

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7. Appendices

Appendix I: Questionnaire

Part I: Dados Sociodemográficos

1. Sexo
    - Feminino
    - Masculino

2. Idade:

    _____

3. Nível escolar
    - Ensino básico
    - Ensino secundário
    - Ensino superior

4. Nível profissional
    - Quadro dirigente (administrador/a, gerente, orgão excutivo,...)
    - Quadro superior (director/a, gestor/a, coordenador/a,...)
    - Profissional qualificado (quadros técnicos, engenheiros/as, operadores/as, qualificados/as, condutores/as e manubradores/as)
    - Profissional não qualificado

5. Há quanto tempo trabalha na organização:
    - Menos de 6 meses
    - Entre 6 meses e 1 ano
    - Entre 1 a 2 anos
    - Entre 3 a 5 anos
    - Entre 6 a 10 anos
    - Entre 11 a 15 anos
    - Mais do que 15 anos

6. Trabalha numa Pequena e Média Empresa?

- Sim
- Não

7. Exerce algum cargo de chefia?
   - Sim
   - Não

Part II: Motivation at work

No presente questionário é utilizada a palavra "trabalho" significando tanto as situações de exercício de uma profissão por conta própria, como as situações de emprego por conta de terceiros. Responda conforme se aplique à sua situação. Considere que não há respostas certas ou erradas. Interessa que responda conforme se aplica mais ou menos à sua situação.

Utilize a seguinte escala de respostas: 1 = Nada 2 = Muito pouco 3 = Um pouco 4 = Moderadamente 5 = Fortemente 6 = Muito fortemente 7 = Completamente

Por que motivo se esforça ou se esforçaria no seu trabalho/emprego atual?

	1	2	3	4	5	6	7
1. Não me esforço porque na verdade sinto que o meu trabalho é uma perda de tempo.							
2. Eu faço pouco porque penso que este trabalho não é merecedor de esforços.							
3. Eu não sei porque estou neste trabalho, já que é um trabalho inútil.							
4. Para obter a aprovação de outras pessoas (por exemplo, os meus superiores, os meus colegas, a minha família, os clientes…).							
5. Porque outras pessoas me respeitarão mais (por exemplo, os meus superiores, os meus colegas, a minha família, os clientes…).							

6. Para evitar ser criticado por outras pessoas (por exemplo, os meus superiores, os meus colegas, a minha família, os clientes…).							
7. Porque apenas conseguirei recompensas financeiras se me esforçar o suficiente no meu trabalho (por exemplo, do meu empregador, dos meus superiores hierárquicos…).							
8. Porque me poderão oferecer mais estabilidade no trabalho apenas se me esforçar o suficiente no meu trabalho (por exemplo, o meu empregador, os meus superiores hierárquicos…).							
9. Porque me arrisco a perder o meu trabalho se não me esforçar o suficiente.							
10. Porque preciso de provar a mim mesmo(a) que consigo.							
11. Porque me faz sentir orgulho de mim mesmo(a).							
12. Porque senão eu vou sentir vergonha de mim mesmo(a).							
13. Porque senão sinto-me mal comigo mesmo(a).							
14. Porque pessoalmente considero importante esforçar-me neste trabalho.							
15. Porque esforçar-me neste trabalho está alinhado com os meus valores pessoais.							
16. Porque esforçar-me neste trabalho tem um significado pessoal para mim.							
17. Porque fazer o meu trabalho me diverte.							
18. Porque o que faço no meu trabalho é estimulante.							
19. Porque o trabalho que faço é interessante.							

Part III: Creativity at work

Leia, por favor, com atenção cada uma das afirmações que se seguem e assinale o grau que cada uma o descreve no desempenho das suas funções. Não há respostas certas ou erradas. Responda de acordo com o que geralmente sente.

Utilize a seguinte escala de respostas: 1 - Discordo totalmente; 2 - Discordo; 3 - Não concordo nem discordo; 4 - Concordo; 5 - Concordo totalmente

	1	2	3	4	5
1. Sugere novas formas de atingir os objetivos.					
2. Tem ideias novas e práticas para melhorar o desempenho.					
3. Procura novas tecnologias, processo, técnicas e/ou ideias para novos produtos/ serviços.					
4. Sugere novas formas de aumentar a qualidade.					
5. É uma boa fonte de ideias criativas.					
6. Não tem medo de correr riscos.					
7. Promove e partilha novas ideias com os outros.					
8. Demonstra criatividade no trabalho quando surge oportunidade para isso.					
9. Desenvolve adequadamente os planos e horários para implementar as novas ideias.					
10. Muitas vezes tem ideias novas e inovadoras.					
11. Encontra soluções criativas para os problemas.					
12. Muitas vezes aborda os problemas de forma original.					
13. Sugere novas formas de fazer o trabalho.					

Appendix II: Outer Loadings

Variable		Outer Loadings
Creativity	C1	0.707
	C2	0.798
	C3	0.664
	C4	0.741
	C5	0.797
	C6	0.652
	C7	0.782
	C8	0.689
	C9	0.643
	C10	0.755
	C11	0.748
	C12	0.646
	C13	0.794
External Motivation	EXT1	0.858
	EXT2	0.902
	EXT3	0.799
Intrinsic Motivation	INT1	0.879
	INT2	0.876
	INT3	0.862
Introjected Motivation	INTJ1	0.741
	INTJ2	0.716
	INTJ3	0.833
	INTJ4	0.873

Appendix III: Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
Creativity				
CREAT1	1	5	4.07	0.831
CREAT2	2	5	3.95	0.850
CREAT3	2	5	4.10	0.799
CREAT4	1	5	4.01	0.878
CREAT5	2	5	4.08	0.874
CREAT6	1	5	4.13	0.860
CREAT7	1	5	3.90	1.025
CREAT8	1	5	3.99	0.985
CREAT9	1	5	3.96	0.877
CREAT10	1	5	3.89	1.024
CREAT11	1	5	4.08	0.933
CREAT12	1	5	4.22	0.813
CREAT13	1	5	3.90	1.025
External Motivation				
EXT1	1	7	4.67	2.002
EXT2	1	7	4.79	2.053
EXT3	1	7	4.59	2.111
Intrinsic Motivation				
INT1	1	7	5.23	1.706
INT2	1	7	5.27	1.654
INT3	1	7	5.43	1.598
Introjected Motivation				
INTJ1	1	7	5.27	1.933
INTJ2	1	7	5.70	1.563
INTJ3	1	7	4.02	2.288
INTJ4	1	7	4.68	2.296