Corporate Entrepreneurship and Entrepreneurial Behavior of Employees:

Antecedents and Triple Bottom Line Consequences

DOCTORAL THESIS

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EMPRENDIMIENTO CORPORATIVO Y COMPORTAMIENTO EMPRENDEDOR DE LOS EMPLEADOS: ANTECEDENTES Y CONSECUENCIAS EN LA TRIPLE CUENTA DE RESULTADOS

Memoria presentada por Georgiana Alexandra Badoiu para optar al grado de doctora por la Universitat Jaume I

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INTRODUCTION

CHAPTER 1. INTRODUCTION

1.1.- Background of the study

Entrepreneurship has been attracting a huge amount of attention as a key driver in achieving economic growth (Schumpeter, 1934) and sustainable development (Kardos, 2012), as well as a means to overcome crises and encourage sustainable growth (Phan et al., 2009; Xu et al., 2021). Shane and Venkataraman (2000: 218) referred to entrepreneurship as a nexus of "the study of sources of opportunities, the processes of discovery, evaluation, and exploitation of opportunities, and the set of individuals who discover, evaluate, and exploit them". According to Bruyat and Julien (2001), entrepreneurship is the result of the different contexts in which it develops, such as corporate entrepreneurship, social entrepreneurship, international entrepreneurship, etc. After reviewing the literature, Kloepfer and Castrogiovanni (2018) concluded that entrepreneurship can best be defined as a process of venture creation that depends on the setting in which it develops. These authors proposed five subdomains of entrepreneurship: independent entrepreneurship (autonomous process of developing a new business by one or a small group of people), corporate entrepreneurship (entrepreneurial firms), international entrepreneurship (international venture creation), professional entrepreneurship (creation of new businesses in a specific profession or field) and social entrepreneurship (venture creation focused not only on performance, serving a greater social benefit). Recently, scholars' attention has concentrated on corporate entrepreneurship and social entrepreneurship as popular areas of research and practice (Kannampuzha and Hockerts, 2019; Gupta et al., 2020; Glinyanova, et al., 2021).

Corporate entrepreneurship (CE), or firm-level entrepreneurship, has evolved as a subfield in entrepreneurship research (Sharma and Chrisman, 1999; Kuratko, 2017) which explores how entrepreneurship can occur within organizations. This phenomenon has attracted researchers' interest over the past 60 years and is considered crucial for organizational revitalization (Guth and Ginsberg, 1990; Kuratko et al., 2021) and as a way to improve financial performance, measured by both profitability and growth indicators (Zahra and Covin, 1995;

Antoncic and Hisrich, 2001; Gerasymenko et al., 2015; Simsek and Heavey, 2011; Ziyae and Sadeghi, 2020; Verma and Mehta, 2022). Organizations adopting precise organizational models (Alaimo, 2022) that are able to adapt and disrupt their reference market, such as Google and 3M, are companies that put corporate entrepreneurship into practice (Finkle, 2012). In an attempt to understand what drives CE, past and current research has identified an array of internal and external influencing mechanisms. In this line, it is essential to identify which factors foster CE in organizations (Van Wick and Adonisi, 2012). Previous research identifies at least three types of factors at different levels that can influence CE: environmental, business-related, and individual factors. The Guth and Ginsberg (1990) model, for example, explains the influence of the strategic leaders, environmental (competitive, technological, social, and political) and organizational factors. Antoncic and Hisrich (2001) differentiated between environmental and organizational factors (including those related to people). Other theoretical models, such as those of Zahra et al. (2009), follow similar approaches when grouping the conditioning factors at these different levels of analysis. However, the determining factors of CE should be studied in greater depth (Rigtering and Weitzel, 2013) in order to further the knowledge of how organizations can cultivate and sustain their entrepreneurial potential for growth and success.

In recent years attention has shifted to the entrepreneurial activities that are pursued bottom-up by employees within an organization and how to develop the intrapreneurial behavior or the entrepreneurial behavior of employees (EBE), understood as the extent to which employees carry out tasks at work in a proactive way, taking risks and exploiting opportunities to innovate (de Jong et al., 2015; Badoiu et al., 2020). Employees who exhibit entrepreneurial behavior bring about changes in organizations, are considered to be key innovation drivers (Grant and Ashford, 2008) and play a fundamental role in the division of work, digital technologies. They also foster an incentive system aimed at identifying, transforming and making decisions about new market opportunities (Marchese et al., 2023).

Nevertheless, research that examines the entrepreneurial behavior of employees remains disparate and scarce, as is the case of research that examines why some individuals pursue entrepreneurial activities while others do not, despite being exposed to the same objective

organizational context (Stull and Singh, 2005). The motivating factors linked to employees' personality and experience can serve as the driving force behind entrepreneurial initiatives. The significance of considering factors such as the employees' personality traits and their potential for career advancement within the organization is emphasized as an essential element to comprehend the motivation leading employees to start new projects and entrepreneurial initiatives (Carrier, 1996). Moreover, as the HRM literature presents a stream of studies calling for more research on variables related to the well-being of employees (Guest, 2017), the association between EBE and their well-being is a prominent area of interest. Due to the scattered nature of the literature, there is a need to define an integrative framework that provides an overview of EBE and how CE is facilitated.

From a people-oriented perspective, it is also interesting to analyze how relationships with external stakeholders can activate CE, leading to economic, social and environmental results. Stakeholder relations are also of critical importance to undertake new initiatives within existing companies (Bosse et al., 2018). However, very little research has been conducted at the intersection between entrepreneurship and stakeholder theory. The mainstream literature focuses on analyzing the effect of corporate entrepreneurship on economic outcomes (Covin and Slevin, 1991; Zahra and Garvis, 2000). Nevertheless, the determining factors of CE and their effects on other non-financial outcomes should be studied in greater depth (e.g., Dess et al., 2003; Rigtering and Weitzel, 2013; Neessen et al., 2019; Urbano et al., 2022). In this line, Urbano et al. (2022) recommended that research on the consequences of CE should analyze social as well as financial and economic outcomes. Following this idea, more work should focus on exploring the triple bottom line (TBL) perspective, as CE can have a positive impact on economic performance, as well as influencing social and environmental performance. The concept of TBL expands the economic perspective by incorporating environmental and social dimensions (Tate and Bals, 2018). More research is required to explore the determinants and effects of CE from a sustainability perspective, as to date only a limited amount of research has been conducted in this area (Aparicio et al., 2020).

Overall, this thesis answers the call for further research on different factors influencing CE and EBE, the link between both variables (Neessen et al., 2019), and the consequences of CE on TBL outcomes.

1.2.- Linking corporate entrepreneurship and entrepreneurial behavior of employees

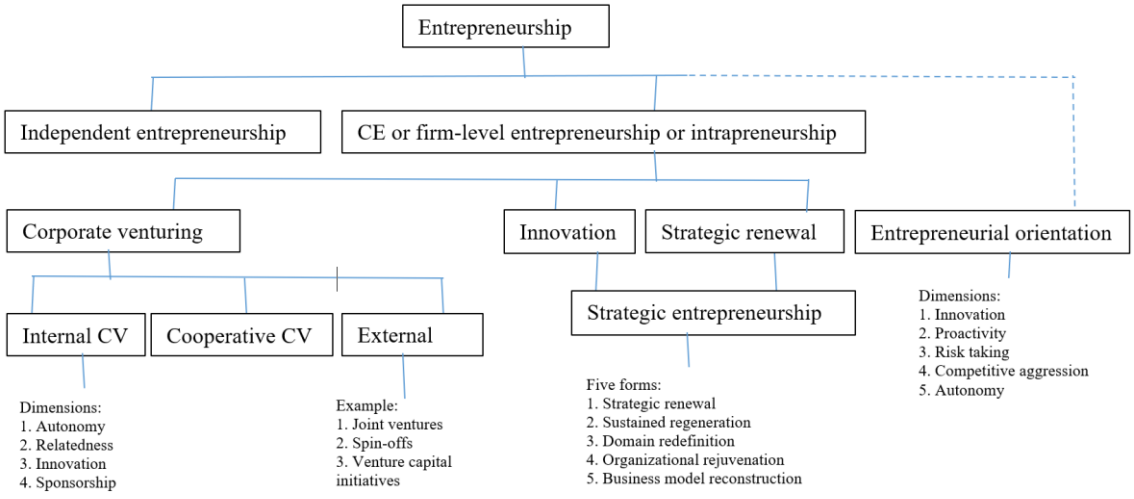
This section provides an overview of the main constructs in the study, namely corporate entrepreneurship (CE) and entrepreneurial behavior of employees (EBE), along with their definition and the connection between them.

Although much work has already been carried out in the CE and EBE fields, scholars still have opportunities to build a stronger theoretical and empirical foundation and to further advance knowledge in this area (Glinyanova et al., 2021). CE has been increasingly recognized as a key element for organizational development. In the early 1980s, researchers stressed the importance of entrepreneurship within existing organizations and its role in organizational renewal, innovation, and new business creation (Pinchot, 1985; Antoncic and Hisrich, 2001; Dunlap-Hinkler et al., 2010). Thus, it became a topic of interest due to the impact it can have on the revitalization and performance of an organization (Kuratko et al., 1990; Simsek and Heavey, 2011; Sánchez-Gutiérrez et al., 2019; Boone et al., 2019; Ziyae and Sadeghi, 2020; Verma and Mehta, 2022). The phenomenon of entrepreneurship developed within companies has received several names over the years, such as corporate entrepreneurship (Burgelman, 1983; Guth and Ginsberg, 1990; Urbano et al., 2022), internal entrepreneurship (Pinchot, 1985; Antoncic and Hisrich, 2001), corporate venturing (Ellis and Taylor, 1987; Miles and Covin, 2002), internal corporate entrepreneurship (Jones and Butler, 1992), and firm level entrepreneurship (Zahra et al., 1999). The initial terminological and conceptual confusion was logical, as it addressed a new phenomenon that was given different names. Therefore, we observe how, on the one hand, reference is made to different concepts with the same name and, on the other, different names express the same phenomenon. In this sense, Sharma and Chrisman (1999) proposed a reconciliation of the problems of definition in the field of CE to resolve this initial confusion. In

addition, subsequent works have also tried to clarify the concept of CE (Maes, 2003; Corbett et al., 2013; Sakhdari, 2016; Kuratko, 2017). Broadly, CE is defined, according to Antoncic and Hisrich (2001: 479), as "entrepreneurship within an existing organization", this being one of the most widely used definitions in the literature. Other authors define CE in terms of its dimensions (Covin and Slevin, 1991; Fayolle et al., 2010): new business (corporate venturing), new product, new service and innovative process, self-renewal and proactivity (Zahra, 1993; Covin and Miles, 1999). Yet, in the literature, there is no consensus on the dimensions of CE either (Farrukh et al., 2017). Sharma and Chrisman (1999) explained three dimensions: corporate venturing (creation of new companies), innovation (introduction of something new in the market, the transformation of the organization and the competitive environment), and strategic renewal (change in strategy and the way of competing).

Some research has strived to shed some light on the existing domains in the field of CE research and focused on corporate venturing and strategic entrepreneurship (Kuratko and Audretsch, 2013). Recently, Kuratko (2017) considered the construct of entrepreneurial orientation as a subset of strategic entrepreneurship. Regardless of the term being used, the accumulation of knowledge that constitutes the theoretical basis on which corporate entrepreneurship is grounded is growing rapidly (Kuratko and Audretsch, 2013). In the model proposed here, we consider CE to be a label that captures entrepreneurship within an established organization (e.g., Arz et al., 2017; Mustafa et al., 2018). Moreover, CE can be seen as the activities that seek to renew established organizations, following different innovation-based initiatives, which will sustain their competitiveness (Corbett et al., 2013). In this study, we adopt a proposal that is well accepted by other authors (e.g., Sharma and Chrisman, 1999; Heavey et al., 2009; Burgers and Covin, 2016; Chen et al., 2014; Ye et al., 2023) who describe three dimensions that capture the activities that define CE: corporate venturing (the creation of new businesses within a firm), innovation (new products, services), and strategic renewal (new strategies). Figure 1.1 illustrates the different dimensions of CE, drawing upon insights from existing literature.

Figure 1.1. Mapping the dimensions of Corporate Entrepreneurship



Source: Updated by author from Sharma and Chrisman (1999).

Some other studies investigate the antecedents of CE (Guth and Ginsberg, 1990; Antoncic and Hisrich, 2001; Ireland et al., 2003; Mustafa et al., 2018; Pirhadi and Feyzbakhsh, 2021). The most studied antecedents focus on the factors in the external environment of the company, such as politics, munificence, and change or competitiveness (Covin and Slevin, 1991; Dess et al., 1997; Simsek et al., 2007), and internal factors of the organizational environment such as management support, work autonomy, rewards, time availability, and organizational limits (Hornsby et al., 2002), which have been recognized as crucial organizational elements that affect corporate entrepreneurship. Other theoretical models such as those of Zahra et al. (2009) or Morris et al. (2011) follow similar approaches when grouping the conditioning factors of CE by adding the individual level to the two levels of analysis mentioned above. Among those antecedents, some recent literature on intrapreneurship (e.g., Kuratko et al., 2005; Neessen et al., 2019) highlights the bottom-up nature of the construct, the importance of employees' entrepreneurial behavior or intrapreneurial behavior, and the need for further studies (Neessen et al., 2019) to

shape entrepreneurship inside organizations (i.e., CE) in order to cope with the changing environmental conditions.

To achieve superior corporate results it is necessary to recruit, retain and develop a talented workforce (Cabral et al., 2020). Lately, research states that employees are gaining more discretion and responsibility (Foss et al., 2015). In this line, employees are being more flexible, proactive and innovative (Giunipero et al., 2005). This behavior is known as entrepreneurial behavior of employees (EBE) or intrapreneurial behavior referring to a set of activities and practices through which employees generate and use autonomous combinations of innovative resources to identify and seek opportunities (Mair, 2002). Recently, Gawke et al. (2017) defined this concept as the anticipatory behavior of an employee who is dedicated to creating new business for the organization and improving its ability to react to internal and market changes. Therefore, entrepreneurial behavior of employees, or EBE, is mainly defined by three aspects (Rauch et al., 2009; Rigtering and Weitzel, 2013): innovation (propensity to experiment and willingness to create new and useful ideas, processes, products, or procedures that differ from established practices), proactivity (pursuing opportunities, initiative, and future-oriented action that involves changing and improving the situation or oneself, and attempts to lead rather than follow), and risk taking (tolerance of failure, the employees' preferences to take actions that can produce positive consequences but also losses if the employee is not successful).

Employees with entrepreneurial behaviors allow the organization to renew itself from within (Moriano et al., 2009). In this regard, Hornsby et al. (1992) highlighted the importance of organizations' recognizing these behaviors among their employees and matching them with the particular entrepreneurial needs of the business. In addition, when employees are intrapreneurs, this leads to the achievement of entrepreneurial outcomes at the organizational level, such as the creation of new products or strategic renewal (Neessen et al., 2019). Rigtering and Weitzel (2013) also concluded that employees with an innovative and proactive behavior are more likely to be involved in strategic and intrapreneurial projects, which can contribute to CE. In this line, analyzing different aspects of corporate entrepreneurs and their effects on the success of CE should be studied in greater depth (Pirhadi and Feyzbakhsh, 2021). Therefore, the entrepreneurial

behavior of employees seems to be one of the main antecedents of CE (Mustafa et al., 2018).

1.3.- Research objectives

This thesis aims to address the existing gaps and advance the discussion and research on corporate entrepreneurship (CE) and the entrepreneurial behavior of employees (EBE) by going deeper into the organizational and personal antecedents of EBE, as well as the bottom-up impact on CE. Furthermore, from a people-oriented perspective this research aims to explore the influence of stakeholder relationships and EBE on CE (the creation of new products, services and/or companies, innovation and strategic renewal) and perform an analysis from the triple bottom perspective (economical, social, and environmental performance).

On the basis of this general objective, the thesis has been prepared in the form of a compendium of three articles each reporting a study conducted in order to accomplish the following objectives:

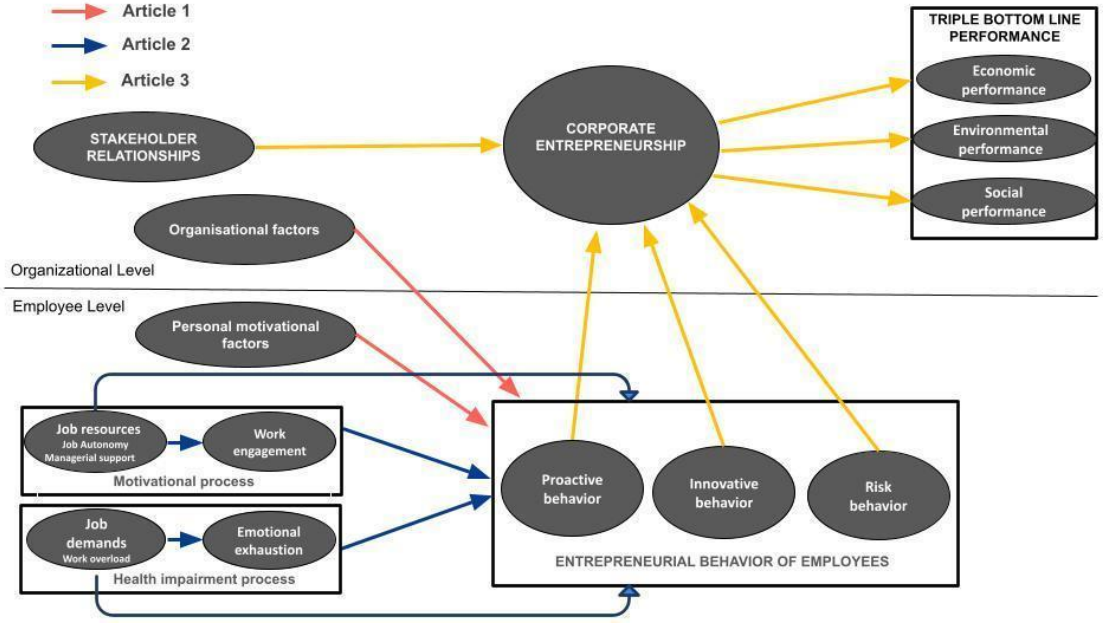
First, through a case study where successful intrapreneurial initiatives put forward by employees were developed, the focus was on the organizational factors and personal motivations of intrapreneurs that may foster EBE in a new technology-based firm.

Second, we conducted a study to analyze an integrated model of the associations between perceptions of work conditions (job resources and job demands) and the three dimensions of entrepreneurial behaviors (innovative work behavior, proactive behavior, and risk-taking behavior). Following the Job Demands-Resources (JD-R) model, we also explore whether employees' well-being (work engagement and emotional exhaustion) mediates the association between work conditions and employees' entrepreneurial behavior.

Finally, another study analyzed how stakeholder relationships (e.g., employees, customers, suppliers, and partners) and the entrepreneurial behavior of employees can shape CE, and how CE can impact not only economic performance, but also social and environmental performance (TBL).

Figure 1.2 illustrates the overall model proposed, indicating the objectives that are addressed in each article.

Figure 1.2. Overall theoretical model proposed



Source: Own elaboration

1.4.- Overall design and research methodology

Before embarking on a scientific research process, it is crucial for researchers to be aware of the available options they can choose from. Sierra Bravo (1995) delineated the two primary methods that distinguish scientific research as quantitative and qualitative approaches. The qualitative method is based on the in-depth analysis of a small number of cases, in order to understand a particular situation in detail. In this method, the possible relationships between variables are left open. Qualitative research is exploratory, allows more methodological freedom

and creativity (Diefenbach, 2009), and is useful to further understand the results obtained, as stated by Petter et al. (2002). In contrast, the quantitative method relies on observing a large number of cases to derive general characteristics of a population. This approach involves predefining the relationships to be examined before conducting the research. Some advantages of conducting quantitative research (e.g., surveys) include the possibility of extrapolating the results to a population, of addressing numerous issues, of exploring constructs that may not be observable a priori (latent variables), and of comparing results with those of other studies (Bell et al., 2022). Nevertheless, the quantitative methodology imposes limitations on the analysis of information as it is confined to pre-existing knowledge. This is due to the restricted nature of data collection through questionnaires, which often comprise closed-ended questions with limited response options.

This thesis benefits from using a combination of both qualitative and quantitative research. There are strong arguments in favor of combining research methods in general, and more specifically of combining qualitative and quantitative methods (Gable, 1994; Arnaut, 2022). Considering that this thesis was conducted in a single country (Spain), country-specific CE studies are needed to include qualitative research designs (Arnaut, 2022) and different types of data collection other than questionnaires (Neessen et al., 2019).

The first article (Chapter 2) used a qualitative approach by performing a descriptive case study to examine organizational drivers and personal motivators of entrepreneurial behavior inside a new technology-based firm. Preliminary data was collected through observation and informal discussion with several intrapreneurial employees and managers. The primary data was obtained through semi-structured interviews with participants with specific criteria, such as employees who have been involved in an intrapreneurship project, with a minimum work period of one year. The participants were four males: two managers, one Chief Technology Officer, and one Chief Executive Officer. Appendix A presents the questionnaire used in this research.

The second article (Chapter 3) focused on R&D employees in the chemical manufacturing sector in Spain, who were selected from those listed in the Iberian Balance Sheet Analysis System

(SABI) database (an information service that contains comprehensive information on firms in Spain) under CNAE 20. This sector is considered an innovation-oriented sector with a significant impact on economic growth. Furthermore, according to Obeso et al. (2014), individuals are deemed the most crucial resource for fostering innovation within this sector. Consequently, the entrepreneurial behavior exhibited by employees is particularly significant. To conduct our study, we reached out to innovation managers from 80 firms via telephone to introduce the research and identify the target employees. These managers were asked to name the areas within their organization where they believed their core employees for innovation were concentrated. The results revealed that a significant majority of organizations (82%) indicated that their core employees were primarily located in Research and Development (R&D) departments. Consequently, our study focuses specifically on employees within these R&D areas. Finally, our data comprise a sample of 257 employees in the R&D departments of 80 organizations in the chemical sector. Appendix 2 shows the questionnaire used in this study.

In the third article (Chapter 4) our research was focused on technology-based firms (TBFs), which are organizations dedicated to designing, developing, and producing innovative products and manufacturing processes using technical and scientific knowledge (Simon, 2003). These companies operate in various sectors, generate technological knowledge through their activities, and actively engage in R&D endeavors (Simon, 2003). Limited studies have explored the positive relationship between corporate entrepreneurship (CE) and organizational outcomes specifically in technology-based organizations (Bojica and Fuentes, 2011). The sample for our study was selected from the Spanish database of the Center for the Development of Industrial Technology (CDTI). We conducted a field survey using an online questionnaire. Multiple informants were targeted within each firm: the innovation manager, who oversaw the R&D project, answered questions pertaining to stakeholder relations, corporate entrepreneurship (CE), and sustainability performance at the organizational level. Additionally, employees involved in the R&D project responded to questions related to entrepreneurial behavior within the organization (EBE). Finally, our dataset consisted of a sample of 358 employees and 126 managers from 126 organizations working in Spain on R&D projects that received public funding

for innovative projects.

The questionnaires were prepared using previously validated scales from the literature (see Appendix C).

Article 1 was based on interviews and questionnaires as primary sources of information. Following the CEAI (Corporate Entrepreneurship Assessment Instrument) we analized qualitative data and evaluate the higher and lower perceptions of the questionnaire on each one of the analysed dimensions for both managers and entrepreneurial employees.

In articles 2 and 3, we used Structural Equation Modeling (SEM) by performing a path analysis with the robust maximum likelihood estimation method using the EQS statistical software (Bentler, 2006). SEM is employed to elucidate the relationships among multiple variables, allowing for the examination of constructs (latent variables) inferred from indicators (Hair et al., 2010). In accordance with those authors, we followed two steps, as explained in the corresponding chapters in the thesis. Firstly, the measurement model was analyzed to assess the connections between latent (unobservable) and observable variables. Secondly, the structural model was estimated to establish the relationships between several variables. To assess the model fit, widely accepted fit indices were employed (Hooper et al., 2008). Absolute fit indices, such as the chi-square ($\chi 2$) model and the root mean square error of approximation (RMSEA), offer fundamental insights into how well the proposed theory aligns with the data. Incremental fit indices, including the comparative fit index (CFI) and the non-normed fit index (NNFI), compare the chi-square value with the baseline model and provide relative indications of fit.

1.5.- Research contributions

This thesis makes significant contributions and expands the existing CE literature in various crucial aspects.

First, this thesis addresses a research gap by examining both organizational and personal

factors as drivers of intrapreneurial behaviors among employees. Previous studies in the field of intrapreneurship have primarily focused on environmental and organizational antecedents, neglecting the combination of these factors. According to Stull and Singh (2005), it is crucial to comprehend the reasons behind the development of intrapreneurial behavior in certain employees within an organization, while others do not exhibit such behavior despite being exposed to the same organizational context. Through an in-depth analysis of four intrapreneurial projects, Study 1 explores how the interplay of contextual and personal factors contributes to high levels of intrapreneurial behavior. Unlike other case studies (e.g., Sebora et al., 2010) that focus primarily on managers' perspectives, this study provides a more comprehensive analysis by considering the viewpoints of both intrapreneurial employees and top managers. By incorporating the perspectives of both parties, the study offers a more accurate and holistic understanding of intrapreneurship facilitators, shedding light on the dynamics and facilitators from multiple angles.

Studies 2 and 3 adopt a behavioral approach and contribute to understanding the determinants of the three dimensions of entrepreneurial behavior of employees (EBE). Unlike previous studies that examined these dimensions individually, we take a holistic approach by considering a comprehensive model of relationships.

The Job Demands-Resources (JD-R) model has only recently been applied to the study of EBE (e.g., Gawke, Gorgievski and Bakker, 2018; Kattenbach and Fietze, 2018), researchers have used it to explain the relationship between intrapreneurship and well-being (Gardiner and Debrulle, 2021). We explore how perceptions of job resources (managerial support and job autonomy) and job demands (work overload) influence specific dimensions of EBE through their association with well-being.

Well-being at work is conceptualized as employees' evaluations of their work experiences. Most studies on the relationship between entrepreneurship and well-being focus on positive emotions. In this research, both positive and negative aspects of well-being are considered. On the one hand, work engagement, reflecting a positive state of mind, is seen as a form of well-being. On the other hand, emotional exhaustion, a central dimension of burnout, is

examined as it is more directly linked to work conditions as highlighted by previous studies (e.g., Schaufeli et al., 2002).

Focusing on all stakeholders can be a source of opportunity for entrepreneurship (Kuratko et al., 2007). Our study addresses calls for research on corporate entrepreneurship (CE) from a people-oriented perspective and seeks to identify how stakeholder relationships and the entrepreneurial behavior of employees (EBE) can shape CE.

Previous studies have primarily concentrated on examining the influence of CE on economic outcomes (Covin and Slevin, 1991; Zahra and Garvis, 2000). However, an aspect that remains incompletely addressed is the impact of CE on non-financial outcomes. Moreover, only a limited amount of research that integrates the concepts of corporate entrepreneurship (CE), innovation, and sustainability has been carried out (Waite, 2014). An integrated perspective on sustainability is necessary in order to implement multiple strategies to leverage CE (Provasnek et al., 2017). Finally, this paper is a pioneer in this field in taking into account the triple impact perspective as a consequence of CE, while also filling gaps in the need for more research on non-financial variables and for conducting further studies examining sustainability performance from an entrepreneurial perspective.

1.6.- Structure of the research

The remainder of this thesis is presented as follows: Chapter 2 is based on a qualitative analysis and offers a practical point of view on exploring organizational and individual antecedents of EBE. A singular case study was conducted, employing semi-structured interviews with founders, top managers, and intrapreneurial employees of the organization. The findings indicate that intrapreneurial projects can emerge within firms even when top managers passively support CE. Despite time constraints and limited resources, employees still display intrapreneurial behaviors. Furthermore, factors such as work discretion, mutual trust, and the quality of the employee–top manager relationship hold significant value for intrapreneurs. Chapter 3 adopts a

behavioral approach to intrapreneurship and addresses the study of the determinants of EBE from the viewpoint of the Job Demands-Resources (JD-R) model. In doing so, it takes into consideration how perceptions of job resources (managerial support and job autonomy) and job demands (work overload) can shape EBE via the impact they have on employee well-being from different R&D departments in the Spanish chemical sector. Next, Chapter 4 is an empirical study conducted on a sample of technology-based companies, committed to the development of R&D activities in Spain. This part of the thesis studies how sustainability orientation can be embodied in the CE framework by using stakeholder theory and the triple bottom line framework. Specifically, this study focuses on how stakeholder relationships and EBE can shape CE, but it also examines how CE can impact not only economic performance, but also social and environmental performance (TBL). Finally, Chapter 5 presents the general discussion and conclusions drawn from the studies conducted, including the implications of the results obtained and the limitations, as well as directions for future research.

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Chapter 2

UNDERSTANDING EMPLOYEES' INTRAPRENEURIAL BEHAVIOR: A CASE STUDY

CHAPTER 2. UNDERSTANDING EMPLOYEES' INTRAPRENEURIAL BEHAVIOR: A CASE STUDY

Abstract

The purpose of this study is to provide a deeper insight into the organizational factors and personal motivations of intrapreneurs which may foster intrapreneurial behaviors of employees in a new technology-based firm (NTBF). The paper takes a qualitative approach to exploring organizational and individual antecedents of employees' intrapreneurial behavior. A single case study was conducted based on semi-structured interviews with the founders and top managers of the firm and with intrapreneurial employees. Results show that intrapreneurial projects may arise in firms whose top managers support Corporate Entrepreneurship (CE) in a non-active manner. Intrapreneurial behaviors of employees can emerge despite the lack of time and limited resources available for undertaking projects. Moreover, work discretion and mutual confidence and the quality of the relationship between employees and top managers are the most valued factors for intrapreneurs. Based on the intrapreneurial projects studied, this paper helps to contextualize intrapreneurs' perception of organizational support and the personal motivations for leading projects within an NTBF. Traditionally, the literature has mainly focused on the top-down implementation of entrepreneurial projects within large firms. This paper contributes to the understanding of the combination of firm- and individual-level factors that facilitate intrapreneurial behaviors of employees. It also illustrates the contextual conditions and the firms' orientation on CE within an NTBF.

Keywords: intrapreneurship, organizational support, motivations, new technology-based firm (NTBF)

2.1.- Introduction

Firm-level entrepreneurship, or Corporate Entrepreneurship (CE), refers to entrepreneurial activities within existing firms, such as venturing, innovation, and strategic renewal (Burgers and Covin, 2016). Interest in how CE can be enhanced within established companies (Corbett *et al.*, 2013) and the amount of research being conducted on this topic are both growing due to the potential to renew companies through innovative initiatives. According to Antoncic and Hisrich (2001:504) "organizations that engage in intrapreneurial activities are

expected to achieve higher levels of growth and profitability than organizations that do not". Moreover, Gerasymenko *et al.* (2015) point out that CE can renew a company's capabilities and increase its capacity to acquire and use new competencies that improve performance.

Entrepreneurial activities within organizations can be developed at every level (Monsen and Boss, 2009; Wales *et al.*, 2011). Research on CE at the individual level refers to intrapreneurs, that is, employees who have the ability to turn ideas into business success or to develop innovations (Pinchot, 1987; Moriano *et al.*, 2014). Specifically, one line of research on CE has focused on the conditions that motivate individuals to behave entrepreneurially given a particular organizational context (e.g. Arz, 2017). Regarding those conditions, some authors (e.g. Dess *et al.*, 2003; Rigtering and Weitzel, 2013) highlight the need to study the organizational factors that facilitate intrapreneurship. A valuable quality of corporate entrepreneurship is the creation of an environment that stimulates entrepreneurial thinking and behavior (Antoncic and Hisrich, 2001). In this respect, Ireland *et al.* (2006) state that the CE Assessment Instrument (CEAI) can be a useful and effective tool that managers can use to supervise and enhance CE activities. This instrument captures five organizational factors that help promote intrapreneurial behavior, namely: management support for entrepreneurship, work discretion, rewards, time availability, and organizational boundaries (Hornsby *et al*., 2002; Kuratko *et al.*, 2014). Consistent with these arguments, our first objective is to examine the dimensions of the CEAI that may support employees' engagement in intrapreneurial behaviors.

In addition to work environment conditions, individual factors may also help to capture the intrapreneurial behavior of employees. Thus, Stull and Singh (2005) indicate the need to understand why some employees within an organization develop intrapreneurial behavior while others do not, despite being exposed to the same organizational context. Some authors emphasize the importance of considering aspects associated with the intrapreneurs' personality and their chances of promotion in the company, as factors that can also explain the initiative to establish projects led by employees. Particularly, Carrier (1996) points out a series of motivating factors associated with the personality and experience of employees that can be the driving force on which

intrapreneurial initiatives are based. Thus, our second objective is to explore the main factors that motivate employees to undertake intrapreneurial projects.

Research on the specific conditions under which internal entrepreneurial initiatives of firms can prosper in particular types of organizations is also scarce (Rigtering and Weitzel, 2013), and a recent stream of research even shows that different intrapreneurial conditions may explain employees' intrapreneurial behavior in SMEs and in large firms (e.g. Zellweger and Sieger, 2012; Hughes and Mustafa, 2017). Particularly, the analysis of the conditions that may promote CE in a specific subgroup of SMEs, new technology-based firms (NTBFs), is paramount, since these firms normally operate in sectors that are both dynamic and fraught with uncertainty (Wang, 2008), where a constant search for new opportunities, innovation, and strategic flexibility are crucial to address environmental pressures (Hughes and Mustafa, 2017). In addition, NTBFs generally suffer from resource constraints and, as a result, need to closely integrate entrepreneurial and market orientations into their business strategy in order to improve performance (Buli, 2017).

In view of the above considerations, the purpose of this study is twofold: (1) to determine the internal organizational factors that go together with the development of intrapreneurial behavior by employees, and (2) to discover the motivations driving intrapreneurs to propose and lead projects within the company in the context of an NTBF. The contribution of this study is threefold. 1) Most studies in the field of intrapreneurship research are based on the consideration of environmental and organizational antecedents of the intrapreneurial activity. However, there is scarce evidence of the combination of contextual and personal factors as drivers of intrapreneurial behaviors of employees. In this vein, we discuss the combination of these factors that could explain the high levels of intrapreneurial behavior by deeply analyzing the facilitators of intrapreneurship in four intrapreneurial projects; 2) The analysis of the conditions that may foster employees' intrapreneurial behaviors in the context of an NTBF is scarce. The selection of this kind of firms is paramount in the study of intrapreneurship phenomenon because they operate in technological and dynamic sectors that are oriented to the continuous search of opportunities for the development of technology-based products and services (Saemundsson and Candi, 2017). It is interesting to study intrapreneurship in this context since, as suggested by

Hornsby *et al.* (1993), this kind of environment may precipitate the intrapreneurial activity when other conditions such as organizational and individual characteristics are conducive to such activity. 3) This paper reveals a case study that allows an analysis of intrapreneurship facilitators from the point of view of intrapreneurial employees and top managers, while other case studies focused only on the managers perceptions (e.g. Sebora et al., 2010), which provides a more accurate perspective of the intrapreneurship activity.

The remainder of the paper is structured as follows. First, we present the theoretical framework to analyze the organizational and personal antecedents of employees' intrapreneurial behaviors. Then, through a qualitative analysis based on a case study where successful intrapreneurial initiatives from employees were developed, we offer a more in-depth understanding of the antecedents of intrapreneurial initiatives within the context of an NTBF. The case study is based on four intrapreneurial projects of a leading firm in the information technology (IT) sector, which is a reference in the local entrepreneurial ecosystem that has undergone, in only five years, an exponential growth after having started its international trajectory in seven countries. The paper closes with a discussion of the findings and the main conclusions and limitations.

2.2.- Conceptual framework

Intrapreneurial behavior of employees

The term 'intrapreneur' refers to an employee who combines ideas and uses existing resources in the organization to promote innovative new projects (Pinchot, 1985). Intrapreneurs share many characteristics with entrepreneurs, the main difference being that the former decide not to leave their organization or risk their capital in order to carry out their ideas independently, but instead use the resources of the organization to innovate and promote change. Intrapreneurial behavior is defined by three aspects (Covin and Slevin, 1989; Rauch *et al.*, 2009; Rigtering and Weitzel, 2013), namely: a set of innovative, proactive, and risk-taking behaviors. Employees who

engage in intrapreneurial behaviors foresee or prompt change, and proactive employees are frequently considered by organizations as drivers of innovation (Grant and Ashford, 2008). This is suggested by authors such as Rauch *et al.* (2009), who show how intrapreneurial behavior improves the results of companies, especially those that operate in dynamic and turbulent environments (Covin and Slevin, 1989; Wiklund and Shepherd, 2005; Kraus *et al.*, 2012). In this regard, Hornsby *et al.* (1992) highlight the relevance of firms' recognizing these behaviors among their employees and matching them with particular entrepreneurial needs of the organization. Moriano *et al*. (2009) suggest that employees' intrapreneurial behaviors allow the organization to renew itself from within and thus improve its competitiveness in the market.

New technology-based firms (NTBFs*)*

The concept of NTBF has been used in both a narrow and a broad sense (Storey and Tether, 1998). Little (1977) refers to NTBFs as firms that are less than 25 years old and focus their attention on exploiting technological innovations. A broader definition includes all new firms operating in high technology sectors (Shearman and Burrell, 1988). Most definitions emphasize the recent creation of the firm, their orientation toward the development and commercialization of new technological products or services, and the presence of specialized personnel with technical expertise (e.g. Bollinger *et al.*, 1983; Storey and Tether, 1998; Bruneel *et al.*, 2017; Saemundsson and Candi, 2017). In this study, we refer to NTBFs as new firms focused on the development of technology-based products and services.

Antecedents of intrapreneurship

Entrepreneurship literature distinguishes two main types of internal antecedents to explain the entrepreneurial action on which CE is built. On the one hand, the literature highlights the antecedents from the organizational contexts in which employees operate (e.g. Hornsby *et al.*, 2013; Croneen *et al.*, 2016). Assessing the state of organizational preparedness for CE, represents an important element for successfully implementing a CE strategy and stimulating entrepreneurial behaviors. In this vein, CEAI condenses different internal organizational factors referred to managerial support, incentive systems, organizational structure and culture (Hornsby *et al*., 2013;

Kuratko *et al*., 2014; Hughes and Mustafa, 2017). On the other hand, other CE stream is based on the personal factors of intrapreneurs such as individual entrepreneurial cognitions (e.g. Ireland *et al.*, 2009) or motivational factors (e.g. Carrier, 1996; Kuratko *et al*., 2005; De Clercq *et al*., 2011) as core antecedents of entrepreneurial efforts within firms. The interactionist perspective (Woodman *et al.*, 1993; Oldham and Cummings, 1996) suggests that the base to understand the influence of the employees' behaviors on the organization is the interaction between personal factors of employees and the organizational context. In this vein, the interactive model of CE (Hornsby et al., 1993) is based on the combination of individual and contextual factors of firms as antecedents of firms' entrepreneurial activity. Following this model, we explore the contribution of both types of factors in the understanding of the intrapreneurial activity of employees.

Organizational support for the intrapreneurial behavior of employees

Intrapreneurial behavior is not a stable feature of the individual, but includes a situational component, determined by organizational variables and the job position (Rigtering and Weitzel, 2013; Moriano *et al.*, 2014). Hence, the entrepreneurial orientation of the company and, particularly, the company's support for the initiatives proposed by its employees can promote the intrapreneurial behavior of employees insofar as they influence their motivation to initiate projects within the company. Some authors (e.g. Hornsby *et al.*, 2002; Kuratko *et al.*, 2014) highlight the analysis of organizational antecedents in the development of intrapreneurial activities within firms. In line with these authors, the Corporate Entrepreneurship Assessment Instrument (CEAI) provides a means to assess, evaluate, and manage the firm's internal work environment in ways that are conducive to entrepreneurial behavior (Kuratko *et al.*, 2014). The CEAI includes five dimensions: top management support, work discretion, rewards and reinforcement, time availability, and organizational boundaries.

(1**)** *Top management support* refers to the degree to which entrepreneurial behavior is encouraged, assisted, and endorsed by top-level management, which includes defending innovative ideas and ensuring that the resources needed by employees to undertake

entrepreneurial actions are made available. In this vein, Lukes and Stephan (2017) emphasize the role of managerial support as an antecedent of employees' innovative behavior. In the case of small firms, some authors (e.g. Hughes and Mustafa, 2017) stress that managers should pay attention to the importance of more informal mechanisms by encouraging interactions among employees.

(2) *Work discretion* encompasses the extent to which the organization tolerates failure, allows for a certain amount of scope in decision-making while also ensuring supervision is kept to a reasonable level, and entrusts lower-level managers and workers with greater authority and responsibility. Most studies claim that in many cases those in the best position to identify opportunities for entrepreneurial behavior are those responsible for judging how work should be carried out, and those who are encouraged to experiment. In this regard, Hornsby *et al.* (2002) state that entrepreneurial outcomes are achieved when employees have freedom, enjoy some level of responsibility, and failure is not excessively penalized.

(3) *Rewards and reinforcement* comprise the extent to which the organization implements schemes to offer its workers rewards in recognition of entrepreneurial undertakings and success. There is evidence to show that varying reward systems characteristics could influence individuals' conceptualization of benefits (Carraher *et al.*, 2003), encourage them to take risks and innovate and also have a powerful influence on their tendencies to behave in entrepreneurial ways. Specifically, if an individual is rewarded for displaying entrepreneurial behavior, he or she is more likely to engage in innovative, proactive, and moderate risk-taking behavior (Monsen *et al.*, 2010).

(4) *Time availability* refers to individuals and groups being given extra time to work on innovations. This is achieved by organizing their workload in such a way as to allow them time that they can devote to such endeavors with the aim of reaching short- and long-term organizational goals. Allowing corporate innovators a certain amount of time that is not previously scheduled for the work at hand enables them to seize opportunities for innovation that they may not have time to consider during the time stipulated for their regular work activity.

Hornsby *et al.* (2002) note that individuals need time to foster new and innovative ideas. However, employees' workload needs to be arranged in such a way as to allow them enough time to work on long-term problem solving (Sebora *et al.*, 2010).

(5) *Organizational boundaries* refer to the development of processes that reduce uncertainty in the performance of tasks so that employees could perceive that processes do not prevent the development of new ideas. According to Kuratko *et al.* (2014), these boundaries can be achieved by providing explanations of outcomes expected from organizational work and the development of mechanisms for evaluating, selecting, and using innovations. Thus, innovative results emerge in a more predictable way when innovation is considered as a structured process.

Personal motivations of intrapreneurs

Intrapreneurs have the ability to accept and overcome challenges (Cox and Jennings, 1995) and their entrepreneurial orientation allow them to perceive a lower exhaustion from demanding working conditions (Kattenbach and Fietze, 2018). They are intrinsically motivated by the interest, enjoyment, and sense of achievement of their work, and look for new opportunities, ideas, and improvements (Cox and Jennings, 1995; Smith *et al.*, 2016). Personal motivation for intrapreneurs is "largely dependent on individual personality, characteristics, and personal situation, and includes factors related to temperament, past experience and personal career objectives, and existing or future rewards that have value" (Carrier, 1996: 12). According to Mohanty (2006), when intrapreneurs are motivated to take action, the intrapreneurship is successful. Therefore, it is important to understand the personal motivational factors that drive intrapreneurs to engage in intrapreneurial projects.

Carrier (1996) distinguishes four groups of personal motivations for intrapreneurs. The first of these, called "intrinsic personality-related motivations", refers to autonomy and freedom in the development of one's work. The second group, called "extrinsic, reward-related motivations", refers to satisfaction with the characteristics of the job itself, and includes, for example, promotion, access to capital stock or a higher salary than could be obtained elsewhere. The third group includes motivations related to past experience and future career goals, such as

the desire to work for oneself, past experience as an entrepreneur, past experience as an intrapreneur, the attraction of going back into business in one's "native village", and being "plateaued" (in the restricted sense) in a previous job. Finally, motivations related to the organizational context refer to a management style that welcomes intrapreneurship, sense of belonging, shared vision with the entrepreneur and mutual confidence, and the quality of the relationship.

Based on the interactive model of CE (Hornsby et al 1993), we propose to take internal organizational factors and personal motivators of the intrapreneur into consideration as antecedents of the intrapreneurial behavior of employees. Thus, we explore the following research questions:

RQ1. What dimensions of the CEAI are perceived by intrapreneurs when they develop intrapreneurial projects in new technology-based firms?

RQ2. What kind of personal motivations encourage intrapreneurs to propose and lead an intrapreneurial project within the firm?

2.3.- Methodology

Previous studies (e.g. Zahra and Wright, 2011; Hughes and Mustafa, 2017) highlight the need for qualitative research to explore the organizational antecedents of entrepreneurial behavior in firms. We conducted an exploratory study using a case-study approach (Bowen, 2008; Yin, 2009) in order to explore the proposed research questions. Case study research is gaining popularity among qualitative researchers (Thomas, 2011). According to Yin (2009), a case study allows any phenomenon to be understood in its real-life context and is based on multiple sources of evidence. Moreover, case studies are helpful to generate theory and analyze the “how” and “why” (Eisenhardt and Graebner, 2007; Yin, 2009). In this study, we explore "how" an

organization fosters intrapreneurial behaviors in its employees and "why" the employees engage in intrapreneurial projects, based on our qualitative analyses.

Case study - Soluciones Cuatroochenta

The company selected for the case study is Soluciones Cuatroochenta, a new technology-based firm operating in the information and communication technology sector that is specialized in the development of mobile applications and digital transformation. Soluciones Cuatroochenta has its headquarters in Castellón de la Plana (province of Castellón, Spain) within the Science, Technology and Business Park of the Universitat Jaume I (UJI), which is specialized in fostering innovation. The firm was founded in 2011 and from the outset Soluciones Cuatroochenta's strategic focus was on growth. In only five years the company had already spread to seven countries: Spain, Panama, Columbia, Argentina, United States, Italy and The Netherlands. The number of employees also grew quickly to meet the increasing demand and in 2017 it had 37 employees. Nowadays, Soluciones Cuatroochenta is one of the reference companies in the national panorama, and in 2015 received an award for its entrepreneurial trajectory from the Network of European Centers of Innovative Companies (CEEIs) of the Valencian Community and the Valencian Institute of Business Competitiveness (IVACE). In addition, in 2014, Forbes magazine stated that Soluciones Cuatroochenta is "one of the most innovative companies in Central America", thanks to various projects carried out in Panama. We selected Soluciones Cuatroochenta for our investigation because it is a company that has developed relevant intrapreneurial projects, which demonstrate a variety of specific CE-related initiatives as an evidence of the intrapreneurial behavior of employees (see Table 2.1 for the specific projects). Hence, we have approached the intrapreneurial behavior of employees taking into account the projects derived from their intrapreneurial activity.

We present four intrapreneurial projects from Soluciones Cuatroochenta developed by four employees. We used fictitious names (Alpha, Beta, Gamma, and Delta) for each project in order to ensure confidentiality. Intrapreneurial behavior can generate many different forms of well-defined innovations (result achieved) in the small business context. New products, services,

processes, areas or business developments are some of the outcomes of the intrapreneurial process (Carrier, 1996; De Villiers-Scheepers, 2011). In the case presented here, the results achieved refer to two new ventures (Alpha and Gamma), a new service (Beta), and a new area (Delta). In order to analyze intrapreneurship in the company, we also used secondary sources such as the company's official website, its blog and social media accounts, as well as access to other websites to collect more information. In order to better understand the intrapreneurial projects studied, following Carrier (1996), Table 2.1 summarizes the main features.

Table 2.1. Main features in the intrapreneurial projects studied.

Project name	Intrapreneur: junior/senior manager or employee	Intrapreneur's profile	Importance of project for the firm	Ideology	Strategic factor	Result achieved
Alpha	Junior employee	Technical profile	Low	Focused on growth	New solution: sharing economy	New business
Beta	Senior employee	Market investigation profile	Very High	Focused on growth	New solution: product innovation	New service
Gamma	Senior employee	Market investigation profile	Regular	Focused on growth	Service differentiation	New business
Delta	Junior employee and manager	Technical profile	Low	Focused on growth	Innovation	New area

Source: Adapted from Carrier (1996).

Alpha. This is a new company resulting from an intrapreneurial process. A member of the app development team at Soluciones Cuatroochenta, together with two other colleagues, developed this application, which allows users around the world to ask for help with different skills or tasks by encouraging collaboration. Spain is in the top five EU countries with the highest potential for growth of the collaborative economy, and Alpha detected a need poorly covered by the solutions on offer: how to exploit and monetize abilities, while helping others and getting extra income. So, the project was created, as a collaborative economy platform. The differential factor of Alpha is its ease of use, the free service and, above all, its speed, agility, and efficiency.

Beta. This all started when an employee saw the potential of one interactive tool developed for a client to become a powerful tool used as an additional product of Soluciones Cuatroochenta. The intrapreneur was in charge of starting this project and he received support from the organization and a team to help in different business areas. Beta is now a software application that allows you to convert InDesign documents into interactive applications for iPad and Android tablets that you can distribute around the world through App Store and Google Play.

Gamma. This project was born as a response to a demand: the need to convert the ideas generated in the surrounding environment into real business, while at the same time injecting them with all the variables they need to maximize their value and compete in the professional arena with success. Gamma is a new venture, based on a platform for boosting technological projects that is focused on the close monitoring of each project in which it is involved. The number of projects being driven is very limited and it participates in all the steps the project takes from a very early stage onwards.

Delta. The result of this project is a new department created by the firm, totally different from its main activity. This is a clear case of innovation in which an employee manages the project.

Data collection

Data collection took place from January until May 2017. We developed a qualitative study based on interviews and questionnaires as primary sources of information. The interviews each lasted

between 20 and 40 minutes and followed a standard protocol, with questions designed to elicit information about two different aspects: whether the company offers organizational support that allowed employees to carry out the different projects presented (in relation to RQ1); the motivations of intrapreneurs (RQ2). The answers given in the interview were tape-recorded and later transcribed.

Two different kinds of informants were approached. First, the two founder-managers (CEO and CTO) of Soluciones Cuatroochenta answered questions regarding the dimensions of the CEAI. Second, the promoters of four intrapreneurial projects within the company reported on issues concerning personal motivations to engage in a project and about the evaluation of the dimensions of the CEAI. Two questionnaires were designed. The first one was sent to both managers and to the promoters of the projects, in order to evaluate the support offered by the company to the internal initiatives. The questionnaire was based on a literature review, so the instruments used to measure the different constructs were taken from validated scales.

In order to analyze the effective support given to intrapreneurial projects, the Corporate Entrepreneurship Assessment Instrument (CEAI) was used following Hornsby *et al*. (2002), who refer to five dimensions, each composed of their respective items: management support for entrepreneurship (19 items), work discretion (10 items), reward/reinforcement (6 items), availability of time (6 items), and organizational boundaries (7 items), totaling 48 questions. Participants responded to the items of the CEAI using a five-point Likert-type scale, with 1 representing "Totally disagree" and 5 representing "Totally agree" regarding the perception of their workplace and organization. As the instrument has been developed from well-grounded theory (Kuratko *et al*., 1990; Hornsby *et al.*, 1999; Hornsby *et al.*, 2002), we can rely on its content validity. Besides, Kuratko *et al.* (2014) concluded that CEAI is recognised to be a reliable and valid scale to measure the dimensions of the organizational environment that may trigger intrapreneurial behaviour. It has been used extensively in the corporate entrepreneurship literature and some other scholars have also concluded its reliability, convergent and discriminant validity in the context of their own research (e.g. Moriano *et al*., 2009; Sebora *et al*., 2010; Urban, 2017). Apart from being used in survey research, this instrument has also been used to conduct interviews

in previous case studies on antecedents of corporate entrepreneurship (e.g. Sebora *et al.*, 2010; Hughes and Mustafa, 2017).

The second questionnaire was sent only to the intrapreneur, in order to analyze the personal motivating factors of employees that lead the intrapreneurial projects studied. To assess their motivating factors, we used the scale developed by Carrier (1996), distinguishing between intrinsic personality motivations (5 items), extrinsic reward-related motivations (5 items), motivations related to past experience and future career goals (5 items), and motivations related to the organizational context (4 items). The intrapreneurs had to order the factors (items) proposed by Carrier (1996) from lower to higher level of importance, or even add another new factor that was not listed.

2.4.-Results

Regarding the first research question, we first present the vision of the two founders of the firm on corporate entrepreneurship and the organizational support given to initiatives led by employees. Both founders are also top managers in the firm. One of the founders, and CTO, considers that the firm is open to new ideas from its employees, although it has no active posture about this. Particularly, he stated:

> "You do not have to do a job of activating people to be intrapreneurs, since there are people who do not have the profile to be an intrapreneur and the company should not force it. If it arises, we will support it, as, for example in the case of Beta. It is more a reactive than an active process, since there are many people within Soluciones Cuatroochenta's team who do not have an intrapreneurial profile but are great at doing what they do. Intrapreneurs will arise and when they do, we will support them but we do not believe that it is necessary to make an active effort to do so".

This view is in line with Hisrich and Kearney (2012), who defend that top management should motivate the intrapreneurs in their organization, but avoid imposing entrepreneurial thinking on them. The CTO is also aware that the intrapreneurs in the company have both

technical (engineers) and business (marketing) profiles. This proves that engineers can be key drivers of technological innovation and new venture creation (Fayolle *et al*., 2005), but they are not the only ones.

The other founder of Soluciones Cuatroochenta, and its CEO, believes that corporate entrepreneurship has its advantages and disadvantages. As for the negative side, this founder points out that corporate entrepreneurship is demanding in terms of control and stated:

> "No direct control because it would limit the intrapreneurship too much, but indirect control, since you have to exercise more control over the variables of the company, its resources. The company has limited resources and this requires a lot of coordination among the parties involved."

As an advantage of CE, firms gain in flexibility, this would have its advantages over a rigid structure; as the same respondent said:

> "But if intrapreneurs had to receive clearer guidelines and procedures to develop intrapreneurship, they would lose flexibility, which would also slow everything down because there is limited time and capacity".

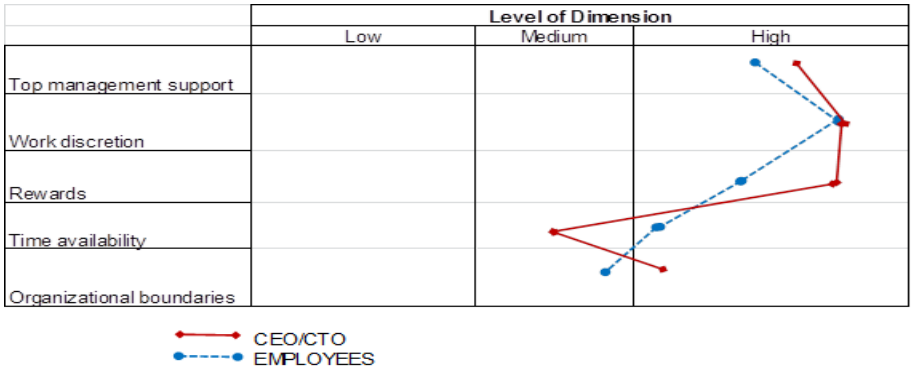
This idea is in line with Dean *et al*. (1998), who claim that there are a number of advantages for smaller firms, such as speed, flexibility and different capabilities allowing them to fill niches, and these differences may affect how, why and when SMEs implement corporate ventures. In addition, the CEO explains that their business ideology is focused on the firm's growth. The CEO concludes that if you prepare everything well and you are aware of the challenges, intrapreneurship has positive effects on the business, but if it is done without control, poor resource management may damage the organization.

In order to assess the influence of the dimensions of the CEAI as organizational support for employees' initiatives, we created two profiles of the founders and intrapreneurs perceptions of the internal environment for CE (see Figure 2.1), similar to the study of Hughes and Mustafa

(2017) about the antecedents of CE in SMEs. First, we evaluated the levels of the internal environment at the point of investigation using a five-point scale ranging from 1 (low) to 5 (high). Then, we formed three rating categories: low (rating 1–2), medium (rating 3), and high (rating 4–5). Finally, we calculated the mean value of each CEAI dimension with the aim to show graphically the differences between the founders' and the intrapreneurs' perceptions of the CEAI. In addition, Table 2.2 shows the specific aspects of each CEAI dimension rated the highest and lowest by both interviewees (the intrapreneurs and founders), in order to understand their specific perceptions on the internal environment factors that may foster intrapreneurs projects.

In general, we observe small differences between the profiles of founders and intrapreneurs. Particularly, founders, in comparison to intrapreneurs, have more positive perceptions of management support, rewards/reinforcements, and organizational boundaries, and a lower perception regarding time availability (see Figure 2.1). Our results indicate that the most highly valued dimension of the CEAI for both founders and intrapreneurs is work discretion, as this firm provides freedom for individuals to use their own judgment and the chance to do something that makes use of the workers' abilities. It should be pointed out that all the interviewees strongly disagree that practices such as criticizing and punishing are alien to their work. Some of the most valued aspects of work discretion by intrapreneurs were the capacity to decide what they do on their job and try their methods of doing the job and the chance to be creative (see Table 2.2).

Figure 2.2. CEAI profiles (from founders and employees)



Respect to the top management support, both intrapreneurs and founders consider that top management is aware of and very receptive to ideas and suggestions. This supports Burgerman's (1983) idea that in SMES there are generally smaller organizational distances and direct involvement of top managers. Thus, if the communication from the management to the rest of the employees is adequate, this will increase the perception of the new ideas or projects. However, they also highlight the lack of financial and economic resources to support new ideas and projects (see Table 2.2).

In relation to rewards and reinforcement, founders, in comparison to the intrapreneurs have a more positive perception of rewards (see Figure 1). Particularly, intrapreneurs value the fact that the manager informs them if they are doing a great job and provides help to remove obstacles. Special recognition for work performance is lower and rewards for innovation are not implemented (see Table 2.2).

The least valued dimensions for founders and intrapreneurs are time availability and organizational boundaries (see Figure 2.1). Founders highlight the fact that there is very little time to think about wider organizational problems and also employees, although intrapreneurs feel that they always find time for long-term problem solving. Regarding organizational boundaries, intrapreneurs rate more positively having a clear understanding of the level of work performance expected from them in terms of amount, quality, and timelines of output and that supervisors do not use to discuss work performance with employees frequently. In sum, these results show that workload schedules in Soluciones Cuatroochenta do not ensure extra time for individuals and groups to pursue innovations and organizational boundaries are not critical in promoting entrepreneurial activity for employees.

Table 2.2. Assessment of dimensions of the CEAI by intrapreneurs and top managers

CEAI dimensions	**Aspects rated most highly by intrapreneurs and top managers**	**Aspects rated the lowest by intrapreneurs and top managers**

Top management support	My organization is quick to use **improved work methods** that are developed by workers **(top managers).**	There are several options within the organization for individuals **to get financial support for their innovative projects and ideas (top managers).**
	Upper management is aware and very **receptive to ideas and suggestions (top managers and intrapreneurs).**	**Money** is often available to get new project ideas off the ground **(top managers and intrapreneurs).**
Work discretion	I feel that I am my own boss and **do not have to double-check all of my decisions** with someone else **(top managers).**	I seldom have to **follow the same work methods or steps for doing my major tasks** from day to day **(top managers).**
	This organization provides the chance to do something that makes **use of my abilities (top managers).**	The rewards I receive are dependent upon my **innovation on the job** (**intrapreneurs).**
	I almost always get to **decide what I do** on my job (**intrapreneurs).**	
	This organization provides the chance to **be creative** and try my own methods of doing the job (**intrapreneurs).**	
Rewards and reinforcement	My supervisor will increase my job **responsibilities** if I am performing well in my job **(top managers).**	My supervisor will give me **special recognition** if my work performance is especially good (**intrapreneurs).**
	My manager will tell his/her boss if my **work was outstanding** (**intrapreneurs).**	
Time availability	My job is structured so that I have **very little time to think about wider organizational problems (top managers).**	I feel that I am always working with **time constraints on my job (top managers).**
	My co-workers and I always **find time for long-term problem solving** (**intrapreneurs).**	I always seem to **have plenty of time** to get everything done **(intrapreneurs).**

		My job is structured so that I have **very little time to think about wider organizational problems** (**intrapreneurs).**
Organizational boundaries	I clearly know what level of **work performance is expected from me** in terms of amount, quality, and timelines of output (**intrapreneurs).**	During the past year, my immediate supervisor **discussed my work** (**intrapreneurs).**

Regarding the second research question, we analyzed the motivations that better explain the intrapreneurial behaviors of the project promoters within the company. Following Carrier (1996), in Table 3 we present the most and the least motivating factors of the intrapreneurs in the projects analyzed in Soluciones Cuatroochenta. We found full agreement among the intrapreneurs as regards the idea that mutual confidence and the quality of the relationship in the company is a strong motivating factor. According to Carrier (1996), managers in small firms must build a strong relationship with intrapreneurs, so they will tend not to leave and even become competitors of their former employers. Other motivating factors are interest in discovering "better" ways of doing things, a need to control one's destiny, good work recognition, professional improvement, and promotion. Carrier (1996) also indicates that promotion is a significant reward, given the simplicity of the structure and the lower number of hierarchical levels in small firms. Conversely, the least motivating factor is an intrinsic personality factor: a sense of working for oneself first and foremost.

Table 2.3. The personal motivators of intrapreneurs

Motivations of intrapreneurs	**The most motivating factors**	**The least motivating factors**

Intrinsic personality related motivations	· Interest in discovering "better" ways of doing things · A need to control one's destiny	· Intrapreneurial personality eager for challenge and achievement · A sense of working for oneself foremost
Extrinsic reward related motivations	· Good work recognition and professional improvement · Promotion	· Access to capital stock · Innovation bonuses
Motivations related to past experience and future career objectives	· Desire to work for oneself	· "Plateaued" (in the restrictive sense) in a previous job
Motivations related to the organizational context	· Mutual confidence and quality of the relationship	· Shared vision with the entrepreneur

A major part of the research conducted in the field of CE continues to concentrate on the corporate level and tends to see entrepreneurial projects as being implemented in a top-down fashion within organizations. While this point of view continues to predominate in the literature today, researchers are increasingly more of the opinion that further studies are needed at different organizational levels to reach a deeper understanding of the entrepreneurial processes that take place within established organizations (Covin and Lumpkin, 2011). The case study of Soluciones Cuatroochenta furthers our understanding of the organizational factors and the motivations of intrapreneurs that foster the intrapreneurial behaviors of the employees in an NTBF. We found that Soluciones Cuatroochenta, a five-year-old NTFB, supports corporate entrepreneurship in a non-active manner with the development of the intrapreneurial projects presented in this study.

This means that no procedures are implemented to increase intrapreneurship in the company, but when it does arise founders and top managers help intrapreneurs as much as they can. Both top managers and intrapreneurs recognize the benefits associated with an NTBF, as the firm is flexible, less structured, less hierarchical, and more open to innovation and change, but has fewer economic resources and less time available for developing corporate entrepreneurship, since the company's business ideology is focused on growth.

Our results also indicate that intrapreneurial employees and top managers agree that work discretion is considered the main dimension that may support intrapreneurial initiatives, whereas the lack of time is not a drawback for intrapreneurship behavior. Giving employees the autonomy to try their own methods of doing their work and reducing the control over their decisions result in more intrapreneurial activities (Sebora *et al*., 2010). Soluciones Cuatroochenta provides employees with the freedom to use their own judgment, gives them the chance to do something that makes use of their abilities and skills, removes obstacles and is aware of and very receptive to ideas and suggestions.

Another important finding is that the most important motivating factor to engage in intrapreneurial behaviors is the mutual confidence and quality of the relationship in the company. The quality of the relationship between employees and management is a key determinant of loyalty (Leverin and Liljander, 2006), and employees who are loyal to their organizations not only devote themselves to better performance in the workplace but may also be able to motivate others (Hashim *et al*., 2008). An innovation-focused and supportive management style is a key factor affecting the development of entrepreneurial and innovation behavior in organizations (Zhao, 2005). Other aspects, such as interest in discovering "better" ways of doing things, the need to control one's destiny, good work recognition and professional improvement, promotion and desire to work for oneself, are also relevant drivers of intrapreneurship. Carrier (1996) argues that for small business intrapreneurs reward-related motivations are important and promotion is clearly a significant reward because it is perceived as an excellent opportunity to move closer to the owner-manager, who is generally the main decision-maker. Consequently, intrapreneurs think that if promoted they could take greater initiatives in different areas. Another important reward is

ownership of capital stock or any other monetary compensation system, as well as motivations related to past experience and future career objectives.

Theoretical implications

Previous models of CE mainly focus on organizational and environmental factors as antecedents of the entrepreneurial activity of the firm (e.g. Guth and Ginsberg, 1990; Covin and Slevin, 1991; Lumpkin and Dess, 1996; Antoncic and Hirish, 2001). However, few studies consider the personal factors of intrapreneurs as another antecedent of the intrapreneurship (e.g. Powell and Bimmerle, 1980; Hornsby *et al.*, 1993; Ireland *et al.*, 2009). Based on the interactive model of CE (Hornsby *et al.*, 1993), this paper contributes to the understanding of the combination of firm- and individual-level factors that support intrapreneurial behaviors of employees in the context of an NTBF. Our findings suggest that managers should facilitate autonomy/work discretion between employees to be creative, decide the methods of work and what they do on their jobs. Intrapreneurs also recognize the relevance of top management support for being receptive of new ideas and projects from employees, and rewards related to receiving information that they are doing a great job and help to remove obstacles. These organizational factors together with the mutual confidence and the quality of the relationship between employees and managers, as the main motivational factor, encourage employees' intrapreneurial behaviours for leading projects within an NTBF.

Practical implications

Our findings provide a number of insights regarding the influence of an organization's entrepreneurial environment on stimulating the intrapreneurial behaviors of employees that are in line with the results of the last report on CE in Spain (Ortega *et al.*, 2017). In the following we present the main lessons learnt:

Involvement of the founders and managers of the company in supporting intrapreneurs. Managers can positively influence the entrepreneurial behavior of an organization and improve the perceived confidence of intrapreneurs (Stevenson and Jarillo, 1990; Hornsby *et al*., 2009). In

the case studied, we observe top-down support for employee initiatives, and although it is not carried out in an active way and is not reflected in the procedures and strategies of the company, we observe that intrapreneurship is part of the founders' values that support these initiatives in a reactive way, by providing the structure and resources necessary for these initiatives to emerge within the company. Because of the youth and size of the company, they are still consolidating their services and bet timidly on projects that are far from their objectives. However, as we have seen, intrapreneurs positively value the ability to communicate their ideas to the CEO and CTO, who are receptive to hear and value them.

Assume that corporate entrepreneurship is a long-run bet. Project failure in firms involved in CE is frequent and even inevitable (Burgelman and Valikangas, 2005), so companies must assume failure as a natural occurrence and a learning opportunity. In consequence, intrapreneurs should not be too worried about the consequences of failure (Altinay, 2005). The intrapreneurial projects that we analyzed are currently growing, but it is still too early to state that they will all be successful.

Provide the organization with skilled people who allow them to accompany and understand start-ups and intrapreneurs. The organization needs to incorporate people with knowledge and/or skills in entrepreneurship to be able to value, accompany, and integrate the new projects properly. In this sense, it is imperative that those who are in charge of designing and implementing corporate entrepreneurship programs are familiar with the world of start-ups in order to facilitate the understanding between the organization and the entrepreneurs. In the case of Soluciones Cuatroochenta, we find that one of the intrapreneur projects (Gamma) is a structure that was created to support mainly external, but also internal, projects.

Look for synergies in the local entrepreneurial ecosystem. There are a large number of agents working for entrepreneurs in the main cities of the country: venture capital, private investors, public agencies, accelerators, co-working spaces, etc. Knowing what projects entrepreneurs propose and what kind of support they need can be very useful for companies with corporate entrepreneurship programs in order to establish collaborative relationships aimed at

detecting entrepreneurial talent by making use of specialized workspaces and inspiration, participating in instruments with external financial institutions, etc. Soluciones Cuatroochenta is a central player in the local entrepreneurial ecosystem, and collaborates with different local entrepreneurship programs. Among other events, it organizes the Hackathon of Castellón, collaborates with ResetWeekend and other entrepreneurship programs in collaboration with the Universitat Jaume I and other local players.

Support intrapreneurs with resources, time and career guarantees. The availability of resources encourages the development of new ideas and projects through experimentation and risk-taking behaviors (Sayles, 1986). It is not reasonable to think that employees can reconcile their daily responsibilities with the implementation of their own project within the organization. For this reason, flexible working conditions should be envisaged in terms of hours and functions for intrapreneurs – ultimately they should contemplate the total release of the worker from the functions associated with his or her job. In addition, providing employees who participate in intrapreneurship programs with a certain degree of security in the form of a bonus can be a powerful incentive for the development of more intrapreneurial projects. Soluciones Cuatroochenta offers localized support to intrapreneurship projects, flexible schedules, and provides resources to boost the project, but this support is not widespread. One of the main reasons is the lack of resources or slack resources that can be targeted toward these types of objectives.

2.5.- Limitations

Among the limitations of this work it should be noted, first, that it is based on the study of one single case, which limits the generalization of the results on intrapreneurial behaviors in NTBFs. However, it should also be noted that some of the results obtained are in line with the recommendations provided by the latest report on CE in Spain (Ortega *et al*., 2017). Second, we focus on the organizational context and on the motivations of intrapreneurs as antecedents of the intrapreneurial behavior of employees, but there are other antecedents that could also be analyzed to complement the understanding of the intrapreneurial activity. For instance, some authors (e.g.

Covin and Slevin, 1991; Antoncic, 2007; Turró *et al.*, 2014) agree that the external environment has a considerable influence on the existence and effectiveness of intrapreneurial behavior. Third, we have approached the intrapreneurial behavior of employees considering their involvement in the development of an self-initiated project and the leadership of this project. Nonetheless, other authors (e.g. Covin and Slevin, 1989; Rauch *et al.*, 2009) refer to three different dimensions of intrapreneurial behavior such as innovative behavior, personal initiative and employee risk taking, which may be addressed in future research to deepen into the analysis of the intrapreneurial activity. Recently, Vargas-Halabí *et al.* (2017) investigated intrapreneurial behavior from the perspective of competencies (opportunity promoter, proactivity, flexibility, drive, and risk taking), which provides another viewpoint to address entrepreneurial behaviour. Finally, it would be interesting to replicate the study in a large firm in order to be able to compare, based on the same antecedents, the extent to which the size of the organization may condition the development of intrapreneurial behavior among employees.

2.6.- Conclusion

This study analyzed the role of intrapreneurial behaviors of employees in the context of a new technology based firm (NTBF), paying attention to the organizational support given to employees' initiatives and the personal motivations of intrapreneurs as antecedents of these behaviors. We found that intrapreneurial projects may arise in firms whose top managers support CE in a non-active manner. Findings on the dimensions of the CEAI that concern intrapreneur behaviors indicate that work discretion may be a supportive factor, whereas the lack of time availability does not prevent intrapreneurship behavior. It is also noted that intrapreneurs rate mutual confidence and the quality of the relationship between employees and top managers as the most important motivating factor.

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Chapter 3

EXAMINING THE RELATIONSHIP BETWEEN WORK CONDITIONS AND ENTREPRENEURIAL BEHAVIOR OF EMPLOYEES: DOES EMPLOYEE WELL-BEING MATTER?

CHAPTER 3. EXAMINING THE RELATIONSHIP BETWEEN WORK CONDITIONS AND ENTREPRENEURIAL BEHAVIOR OF EMPLOYEES: DOES EMPLOYEE WELL-BEING MATTER?

Abstract

Do perceptions of work conditions prompt employees to adopt entrepreneurial behaviors? Does well-being play a role in this relationship? This paper proposes an integrated model of the associations between perceptions of work conditions (job resources and job demands) and the dimensions of entrepreneurial behaviors (innovative behavior, proactive behavior, and risk-taking behavior). Following the job demands-resources model, we also explore whether employees' well-being (work engagement and emotional exhaustion) mediates the association between work conditions and employees' behavior. Survey data of 257 R&D employees from the chemical sector in Spain were analyzed. The research concludes that different work conditions correlate with the dimensions of entrepreneurial behavior of employees (EBE) in different ways. Job demands are associated with innovative work behavior. Feelings of engagement are related to the dimensions of EBE and play a mediating role between job resources and EBE. Moreover, feelings of exhaustion and risk-taking behavior are connected.

Key words: entrepreneurial behavior, job resources, job demands, work engagement, emotional exhaustion.

3.1.- INTRODUCTION

The literature on intrapreneurship (e.g. Neessen, Caniëls, Vos, & de Jong, 2019) has highlighted the bottom-up nature of the construct and the importance of the entrepreneurial behavior of employees (EBE) to conform to an organizational strategic orientation, capable of facing changing environmental conditions. In this context, EBE is defined as the extent to which

employees carry out tasks at work in a proactive manner by taking risks and seizing opportunities to innovate (Rigtering & Weitzel, 2013; de Jong, Parker, Wennekers, & Wu, 2015). Given the importance of analyzing how managerial action can shape employees' entrepreneurial behavior (e.g., Rigtering & Weitzel, 2013), a stream of research has focused on the work conditions that could favor EBE (e.g., Rigtering & Weitzel, 2013; Kuratko, Hornsby, & Covin, 2014; de Jong et al., 2015). However, the link between work conditions and EBE deserves further analysis. First, the conclusions from Rigtering and Weitzel (2013) and de Jong et al. (2015) suggest a different association when the dimensions of EBE (innovative work behavior, proactive behavior, and risk-taking behavior) are taken separately. Although some scholars have analyzed work-enhancing conditions for particular dimensions of EBE, such as innovative work behavior (e.g., Hammond, Neff, Farr, Schwall, & Zhao, 2011; De Spiegelaere, Van Gyes, De Witte, Niesen, & Van Hootegem, 2014), a holistic overview of the role of work conditions that consider all dimensions of EBE is yet to be framed.

Second, as Neessen et al. (2019) indicate, previous studies have mostly focused on job resources, understood as those work conditions that make it easier for employees to meet their basic needs for autonomy, feel competent, and maintain relationships with others, as well as complete their tasks in a successful way (Bakker & Demerouti, 2008). However, according to the job demands-resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Bakker & Demerouti, 2017), work conditions can be summarized in two categories: job resources (e.g., job autonomy and managerial support), and job demands (work conditions that require a sustained effort on the part of the employee, such as work overload). Hence, a broad analysis of work conditions in relation to EBE should also comprise job demands, which, to date, has been neglected in the literature.

Third, Mustafa, Martin and Hughes (2016) acknowledge that organizational factors do not directly explain EBE, and suggest that individual feelings and motivations about the job, such as job satisfaction, may contribute to understanding the paths from those organizational factors to EBE. In this vein, according to the JD-R, employees' well-being may mediate the association between organizational factors and employees' behavior. Therefore, it is relevant to focus on the

indirect association between work conditions (both job resources and job demands) and EBE when well-being is considered a mediator variable.

Finally, the analysis of EBE and its antecedents is particularly relevant in the case of R&D employees in innovative sectors, where customer needs and technological solutions evolve dynamically, and anticipating developments and adapting to change are vital for success (Schweitzer, Palmié, & Gassmann, 2018). Specifically, employees that work in R&D departments are comfortable in environments that are open to change and support creativity (Saether, 2019).

In this context, this study adopts a behavioral approach to intrapreneurship and contributes to the study of the determinants of the three dimensions of EBE by considering a holistic model of relationships that other authors have taken individually. Although the JD-R model has only recently been applied to the study of EBE (e.g., Gawke, Gorgievski, & Bakker, 2018; Kattenbach & Fietze, 2018), researchers have used it to explain the relationship between intrapreneurship and well-being (Gardiner & Debrulle, 2021). According to the JD-R model, working conditions generate feelings of well-being/discomfort at work that can explain employees' behavior (Bakker & Demeoruti, 2017). In an entrepreneurial context, the JD-R model provides an informative framework for understanding the extent to which the perception of working conditions (job demands and resources) drives employees to adopt entrepreneurial behaviors and the mediating role of well-being in this relationship. From the viewpoint of the JD-R model, our aim is to study how perceptions of job resources (managerial support and job autonomy) and job demands (work overload) can shape the specific dimensions of EBE via their association with R&D employees' well-being. Although the concept of well-being at work has been conceptualized differently in different disciplines (Kowalski & Loretto, 2017), it can be broadly defined as the evaluations that employees make of their work experiences (Plomp, Tims, Akkermans, Khapova, Jansen, & Bakker, 2016). Most studies on the relationship between entrepreneurship and well-being focus on positive emotions. Inspired by the JD-R model, this research considers both the positive and negative aspects of well-being at work. On one hand, we consider work engagement as a form of well-being that reflects a positive state of mind. On the

other hand, we focus on emotional exhaustion as the central dimension of burnout, which is more directly related to work conditions (Schaufeli, Salanova, González-Romá, & Bakker, 2002).

In the following sections, we develop our research hypotheses, explain the empirical study conducted on a sample of employees in R&D departments in the Spanish chemical sector, and end with a discussion about the implications of the study's findings.

3.2.- CONCEPTUAL FRAMEWORK

THE ENTREPRENEURIAL BEHAVIOR OF EMPLOYEES

Entrepreneurial behavior can be defined as "a set of activities and practices by which individuals at multiple levels, autonomously generate and use innovative resource combinations to identify and pursue opportunities" (Mair, 2005, p. 51). Employees who display entrepreneurial behavior are innovation drivers (Grant & Ashford, 2008; Shir, Nikolaev, & Wincent, 2019) who allow organizations to renew themselves and be more competitive in the market. This type of behavior is under-researched in the literature (de Jong et al., 2015; Blanka, 2019), which has led to terminological and conceptual confusion with the appearance of terms such as intrapreneurial behavior (e.g., de Jong et al., 2015) or entrepreneurial orientation (e.g., Razavi & Ab Aziz, 2017). Later works have also tried to clarify the concept (Blanka, 2019; Neessen et al., 2019). Accordingly, this construct is usually explained as employee activities characterized by three dimensions: innovative work behavior, proactive behavior, and risk-taking behavior (Rigtering & Weitzel, 2013; de Jong et al., 2015; Valsania, Moriano, & Molero, 2016).

Innovative work behavior can be conceptualized as the willingness to create new and useful ideas, processes, products, or procedures that differ from established practices (Shirokova Osiyevskyy, & Bogatyreva, 2016). According to de Jong et al. (2015), individuals with an innovative work behavior recognize problems easily and generate ideas, then share their ideas model with the organization and build prototypes or models for further adoption.

Proactive behavior is related to pursuing opportunities, initiative, and future-oriented action that involves change and improvement of the situation or oneself and attempts to lead rather than follow (de Jong et al., 2015). According to Razavi and Ab Aziz (2017), proactive individuals do not let their surrounding situations affect their pursuit of goals.

Risk-taking behavior is associated with the tolerance of failure and employees' preference to take actions that can not only produce positive consequences but also losses if the employee is not successful (Valsania et al., 2016). Specifically, the risks that entrepreneurial employees may take could be associated with reputation damage, resistance from peers, or their own job losses (de Jong et al., 2015).

In sum, innovative, proactive, and risk-taking behaviors are seen as essential dimensions of employees' entrepreneurial behavior, and represent a range of behaviors that entrepreneurial workers may engage in when recognizing opportunities, generating ideas, and searching for resources to exploit those opportunities (Rigtering & Weitzel, 2013; de Jong et al., 2015). Following Pinchot (1985), employees with entrepreneurial behavior are those who go beyond formal job descriptions even if this behavior may get them into trouble. Those employees display extra-role behaviors that include activities (Zahra, 1991) revealing innovative, proactive and risk-taking behaviors, which occur either inside or outside the current strategy (Calisto, 2014; Covin et al., 2020).

Based on this conceptualization of EBE, we build on studies that have considered that each dimension may have a diverse impact when considered separately (Rigtering & Weitzel, 2013; De Jong et al., 2015), thereby suggesting that each dimension of EBE represents a unique aspect of an employee's behavior toward entrepreneurship inside the firm.

WORK CONDITIONS AS ANTECEDENTS OF THE ENTREPRENEURIAL BEHAVIOR OF EMPLOYEES

To investigate how work conditions relate to EBE and employees' well-being, we follow the JD-R model, which classifies work conditions into job resources and job demands, and

considers them to be catalysts of work behaviors (Bakker & Demerouti, 2017). Job resources are defined as "physical, psychological, social, or organizational aspects of the job that may do any of the following: be functional in achieving work goals, reduce job demands at the associated physiological and psychological costs, stimulate personal growth and development" (Demerouti et al., 2001, p. 501). Job demands are conceptualized as "those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort" (Schaufeli & Bakker, 2004, p. 296); they refer work environment features such as a large amount of work and limited time (Hessels, Rietveld, & van der Zwan, 2017).

Job resources and the entrepreneurial behavior of employees

Previous studies on job design have demonstrated a positive influence of certain job resources on the entrepreneurial behavior of employees (e.g., De Jong et al., 2015; Dediu, Leka, & Jain, 2018; Chouchane, Fernet, Austin, & Zouaoui, 2021). For example, Hammond et al. (2011), in their meta-analysis of individual-level innovation at work, found job autonomy and managerial support as drivers of innovative work behaviors. Both types of job resources are among the main organizational antecedents of EBE in the literature (e.g., Hornsby, Kuratko, Shepherd, & Bott, 2009; Neessen et al., 2019).

Job autonomy refers to "the degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out" (Hackman & Oldham, 1980, p. 162). Drawing from JD-R theory, autonomy is conceived as a job resource that stimulates and supports experimentation and development at work. In this line, there is evidence of job autonomy as a predictor of innovative work behavior (e.g., Ramamoorthy, Flood, Slattery, & Sardessai, 2005; De Spiegelaere et al., 2014). Such autonomy provides employees with the control and freedom to make decisions about how to carry out tasks and to implement ideas freely (Hackman & Oldham, 1980; Ramamoorthy et al., 2005), which allows employees to feel secure and be open to criticism, and stimulates them to seek, generate, and implement new and beneficial work-related ideas (De Spiegelaere et al., 2014).

Managerial support refers to employees' perceptions about how their managers value their contributions and whether they are concerned about employees' well-being (Neves & Eisenberger, 2014). Managerial support exists when employees perceive continuing reciprocal trust, respect, and socio-emotional exchange with their immediate managers (Agarwal, 2014). Drawing on the leader-member exchange (LMX) theory, previous studies (e.g., Agarwal, 2014) have shown high-quality relationships between employees and supervisors as an important antecedent of innovative work behavior, since employees feel that they have the support needed to develop their ideas. Thus, the above arguments lead us to the following assumption:

H1a: Job resources (job autonomy and managerial support) are positively related to innovative work behavior.

Research has also shown that job autonomy is a relevant contextual antecedent of proactive behavior (e.g., Crant, 2000; Grant & Ashford, 2008). Autonomy provides employees with the option to choose how to do their jobs as well as opportunities to acquire new skills and master new responsibilities (Parker, 2000). Consequently, employees may be inclined to take initiative, as they are likely to feel confident and capable (De Spiegelaere et al., 2014). Thus, autonomy stimulates challenging and enriching jobs in which employees have sufficient resources to engage in proactive behaviors at work (Parker, 2000).

Crant (2000) also suggests that other contextual factors, such as managerial support, have a direct effect on proactive behaviors. Highly supportive management could be perceived by employees as a signal of the provision of resources by managers (Kuratko et al., 2014) and may provide employees with a positive sense of identity or value, making them feel more confident and easing problem-solving (Wood, 2008). This, in turn, may stimulate employees to take initiative, undertake change, and pursue envisaged opportunities. Based on the above arguments, we propose the following:

H1b: Job resources (job autonomy and managerial support) are positively related to proactive behavior.

Finally, as Baskaran (2017) suggests, the amount of control afforded by one's job is a predictor of risk-taking behavior. The availability of freedom and decision-making latitude among employees improves intrapreneurs' conditions to engage more freely in sharing and trying out their ideas, even at the risk of failure (Ramamoorthy et al., 2005; Baskaran, 2017; Dediu et al., 2018). Moreover, employees feel confident to take risky actions as part of their entrepreneurial endeavors when they feel empowered as a result of work discretion (ul Haq et al., 2018).

Managerial support is also related to both employees' willingness to take risks and their tolerance to failure when it occurs (Hornsby et al., 2009). Neves and Eisenberger (2014) demonstrated that perceived organizational support is associated with the failure-related trust that the organization will act in good faith in the event that employees' actions end in failure, which may reduce employees' fear of taking risks. In those cases, employees should not worry about their job security when they take risks and make mistakes (ul Haq, Jingdong, Usman, & Khalid, 2018). Moreover, the quality relationship between leader and employees motivates employees to take risks in generating, promoting and implementing new ideas (Alnaimi & Rjoub, 2019). In sum, we expect that managerial support and freedom to make decisions on their jobs will lead employees to take risks in their work as a part of entrepreneurial behavior. Thus, we propose hypothesis 1c:

H1c: Job resources (job autonomy and managerial support) are positively related to risk-taking behavior.

Job demands and the entrepreneurial behavior of employees

In the present study, we capture *job demands* using the concept of work overload, since it has been demonstrated as a major job demand and is one of the most interestingly examined (Schaufeli & Bakker, 2004). This refers to the employees' perception that expectations of work go beyond the resources and time available (Cousins, Mackay, Clarke, Kelly, Kelly, & McCaig, 2004). Further, work overload is especially relevant for sectors characterized by dynamic work environments (Carballo-Penela, Varela, & Bande, 2019), like those of R&D departments in

innovation-oriented sectors. Past research findings (e.g., Binnewies, Sonnentag, & Mojza, 2009) suggest that we should infer a positive link between job demands and EBE.

When experiencing work overload, an elevated state of arousal appears in employees (Bunce & West, 1994), which, according to the person-environment fit theory (Caplan, 1983), leads workers to employ innovative actions as a problem-focused coping tactic (Bunce & West, 1994). Similarly, Hornsby et al. (2009) defend that time pressure supposes a stimulus driving employees to look for new and imaginative means of facing organizational issues.

Moreover, according to the challenge-hindrance framework, which distinguishes between challenge and hindrance demands (Van den Broeck, De Cuyper, De Witte, & Vansteenkiste, 2010), workload can be perceived as a challenge for employees, and stimulates their competences, capacities, and future gains (Olafsen, Deci, & Halvari, 2018) as well as their thoroughness and curiosity (Cavanaugh, Boswell, Roehling, & Boudreau, 2000), which, as a last resort, may help to develop innovative work activities. Hence, our study's next hypothesis reads:

H2a: Job demands (work overload) are positively related to innovative work behavior.

Time pressure, specifically as a work situation that calls for a change (Ohly & Fritz, 2010), has been found to be positively associated with proactive behavior in numerous types of jobs (e.g., Binnewies et al., 2009) since it can function as a useful way to neutralize such situations. Relying again on the person-environment fit theory and the challenges-hindrances framework, it makes sense that the augmented arousal and perception of challenge derived from work overload makes employees behave as a leader instead of a follower, and undertake changes and initiate future-oriented actions. Based on the above theoretical and empirical research, we propose the following:

H2b: Job demands (work overload) are positively related to proactive behavior.

Since, following the challenge-hindrance framework, work overload can be understood as challenges, and individual risk-taking embraces challenging the status quo, a background of

challenge seems to be a common element shared by both work overload and risk-taking behavior. In a study conducted with a sample of university students, Dachner, Miguel, and Patena (2017) found that intellectual risk-taking (the risk of making mistakes or appearing less competent than classmates) is a consequence of perceiving high demands in their "work" context. In a more general view, some authors (e.g., Dachner et al., 2017) suggest that complex demands call for employees who take risks. This reasoning leads to the following hypothesis:

H2c: Job demands (work overload) are positively related to risk-taking behavior.

THE MEDIATING ROLE OF EMPLOYEE WELL-BEING

Uncertainty, time pressure and the lack of references to provide guidelines are inherent to entrepreneurial action. In such environments, emotional states influence entrepreneurial behaviors and decisions (Baron, 2008). From the entrepreneurial literature, well-being has been studied as a psychological resource for entrepreneurial activity (Wiklund, Nikolaev, Shir, Foo, & Bradley, 2019). Highly activated emotions are associated with more entrepreneurial action and promote creativity and innovation behaviors (Baron & Tang, 2011), but also lack of well-being (negative emotions) can drive entrepreneurial actions (Foo, 2011). However, the related stream of research in entrepreneurial behavior has mainly focused on positive emotions. Based on the JD-R model, we analyze both the positive and negative aspects of well-being at work. This model provides a framework for understanding the emotions (positive and negative) that job demands and resources generate in employees, and how these emotional states are antecedents of their entrepreneurial behaviors.

The JD-R model suggests that employee well-being at work is explained by two different pathways, namely, the motivational and health-impairment processes. The motivational pathway explains that when employees have adequate resources at work, they have motivational reactions to their jobs, which are defined by vigor, dedication, and absorption (i.e., work engagement; Schaufeli & Bakker, 2004). Previous studies have also demonstrated that work engagement fosters specific positive behaviors, such as proactivity (Crant, 2000; Parker, 2000; Salanova &

Schaufeli, 2008). It is, therefore, interesting to explore how, following the motivational process of JD-R, engagement may mediate into the association between employees' perceptions of job resources and the EBE dimensions discussed in the previous section.

The health-impairment process is caused by job demands. At excessive levels, such demands could entail physical and/or mental costs and could lead to symptoms such as emotional exhaustion, resulting in negative health consequences (Bakker & Demerouti, 2017). Moreover, previous research has shown an association between burnout in general, or emotional exhaustion in particular, and counterproductive work behavior and certain variables related to EBE (e.g., Shin, Hur, & Oh, 2015). Hence, it is relevant to explore how feeling emotionally exhausted could mediate and alter the link between the perception of job demands and EBE.

In the following sections, we argue that work engagement and emotional exhaustion, as criteria of both the motivational and the health impairment process, could be mediator variables that explain the link between employees' work conditions and entrepreneurial behavior.

Work engagement as a mediator of EBE

Work engagement is described as a beneficial, fulfilling state of mind at work that is characterized by high levels of energy and hard work (vigor), involvement and enthusiasm at work (dedication), and full immersion in one's work in which there is a loss of time awareness (absorption) (Bakker & Demerouti, 2008). Rather than a momentary state of mind, it refers to a persistent affective-motivational state.

Work engagement has been studied as a mediating variable in the relation between work conditions and employee behaviors (De Spiegelaere et al., 2014). As previous studies suggest (e.g., Hackman & Oldham, 1980; Bakker & Demerouti, 2008), job autonomy increases employee well-being through a motivational process that activates energy, enthusiasm, and concentration at work. Specifically, the adoption of innovative behaviors requires employees to invest substantial efforts in generating and implementing new ideas and methods (Agarwal, 2014).

Similarly, in high-quality relationships based on trust, employees receive job resources, such as information, tangible resources, and social and emotional support, which trigger a motivational process that leads to high work engagement (Bakker & Demerouti, 2008). Consequently, this motivational state could allow employees to support the demanding efforts of innovative work behavior and to engage in trying out their ideas (Agarwal, 2014). Thus, we propose the following hypothesis:

H3a: Work engagement positively mediates the relation between job resources (job autonomy and management support) and innovative work behavior.

Research has also found that the availability of job resources initiates a motivational process via work engagement, which leads to beneficial behaviors such as proactivity (e.g., Salanova & Schaufeli, 2008; De Spiegelaere et al., 2014). These resources instigate either an intrinsic motivational process, as they encourage employees' development, or an extrinsic motivational process, as they promote goal achievement (Bakker and Demerouti, 2008). As Salanova and Schaufeli (2008) note, work engagement stimulates employees to adopt self-starting and change-focused behaviors. Regarding job autonomy, previous studies have demonstrated that employees with work discretion achieve a higher degree of significance and work engagement in their tasks (e.g., Bakker & Bal, 2010), which in turn boosts employee proactivity (e.g., Grant & Ashford, 2008; Salanova & Schaufeli, 2008). In a similar vein, managerial support is associated with high levels of work engagement, and employees who perceive high-quality relationships with managers feel more secure, motivated, and supported to engage in unexpected behaviors such as proactive behaviors (Crant, 2000; Spreitzer, Lam, & Fritz, 2010). In this line, we expect that:

H3b: Work engagement positively mediates the relation between job resources (job autonomy and management support) and proactive behavior.

As previously explained, job autonomy provides employees with a sense of control over their work and is likely to increase their work engagement (e.g., Bakker & Demerouti, 2008; De

Spiegelaere, Van Gyes, & Van Hootegem, 2016), and will probably provide them with organizational and psychological resources to engage in optimal risk-taking behavior. Similarly, employees who have trusting, high-quality relationships with their supervisors will experience psychological security, which is important for enhancing work engagement, and a motivational state that fosters taking interpersonal risks (Spreitzer et al., 2010). These arguments lead us to the following hypothesis:

H3c: Work engagement positively mediates the relation between job resources (job autonomy and management support) and risk-taking behavior.

Emotional exhaustion as a mediator of EBE

Emotional exhaustion is understood as feelings of being overextended and drained by the emotional demands of duties in the workplace (Maslach, Schaufeli, & Leiter, 2001). It is one of the dimensions of burnout syndrome, which evokes traditional stress reactions (i.e., fatigue and psychosomatic complaints) that have been associated with job stressors, such as workload or role problems (e.g., Demerouti et al., 2001).

Past research in the JD-R model has demonstrated the link between job demands and burnout, including emotional exhaustion, or stress reactions (e.g., Hessels et al., 2017). According to Hockey, Maule, Clough, and Bdzola (2000), when perceiving job demands, employees mobilize a sympathetic activation (autonomic and endocrine) and/or increase subjective effort. The long-term effect of such a situation leads to some patterns of degradation, such as narrowing attention or high subjective fatigue. Even challenging demands can activate this process and result in emotional exhaustion (Schaufeli & Bakker, 2004). When this health-impairment process is activated, negative consequences in employees' behavior, health, and attitudes arise (e.g., Schaufeli & Bakker, 2004). Owing to "the basic tenet of fatigue", employees develop an intolerance to effort (Schaufeli & Bakker, 2004), so they do not display energy resources or feel motivated to perform normally.

Conservation of resources theory (Hobfoll, 2001) provides a theoretical explanation for the link between job demands, emotional exhaustion, and innovative work behavior. It asserts that people are motivated to keep their personal resources, and when those are at risk as a consequence of experiencing job demands and emotional exhaustion, employees try to compensate by investing less energy in their work. Consequently, creativity or innovativeness, which contain multiple processes and require high-energy levels (Shin et al., 2015), are inhibited. Empirical studies show this link between emotional exhaustion and low creativity (e.g., Shin et al., 2015; Murnieks, Arthurs, Cardon, Farah, Stornelli, & Haynie, 2020). Therefore, we hypothesize an indirect negative or inconsistent mediation (MacKinnon, Coxe, & Baraldi, 2012), given that job demands would have both a direct and indirect impact on innovative work behavior with different signs:

H4a: Emotional exhaustion negatively mediates the relation between job demands (work overload) and innovative work behavior.

Parker, Bindl and Strauss (2010) introduce an "energy" pathway to argue the mediating process between work conditions and proactive behavior. The depletion of energy and the psychological withdrawal driven by high job demands and feelings of emotional exhaustion, lead to high resistance toward future efforts and perseverance and hinder employees' self-initiated actions (Murnieks et al., 2020). Since proactive behavior is noncompulsory and might not generate benefits for employees, they are less likely to be willing to display it. In this line, Shin et al. (2015) state that employees suffering from emotional exhaustion are less likely to be interested in voluntary and proactive actions beyond the obligations they are responsible for. Previous empirical studies from different sectors and occupations (e.g., Schmitt, Den Hartog, & Belschak, 2015) have demonstrated the negative association between exhaustion and proactive behavior. Thus, as also proposed above, we state an inconsistent mediation case:

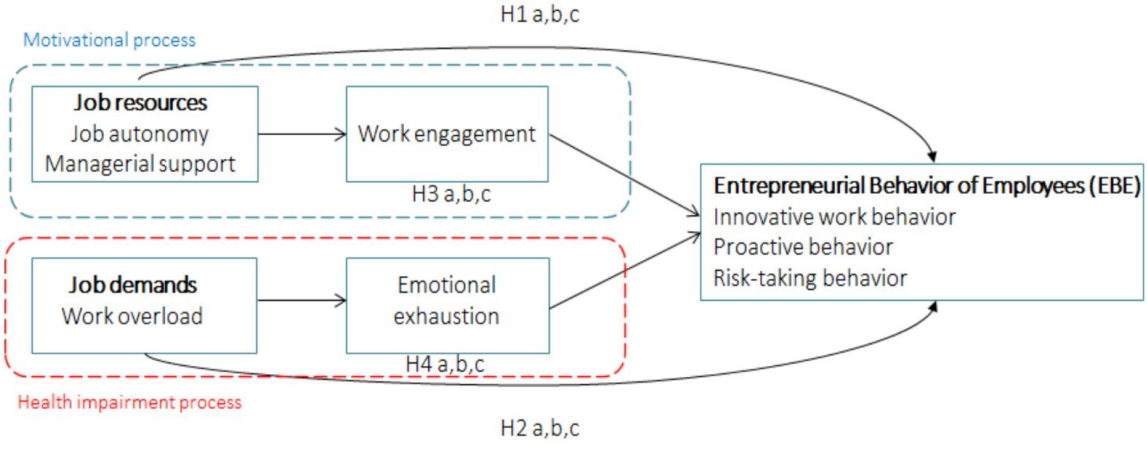
H4b: Emotional exhaustion negatively mediates the relation between job demands (work overload) and proactive behavior.

Chronic exposure to emotional exhaustion and the cognitive impairments associated with it leads to a decreased sense of care, which hinders decision-making (Maslach et al., 2001). According to Michailidis and Banks (2016), a diminished sense of care may make emotionally exhausted employees more inclined to risk-taking since they might not value the outcomes of their actions. The dual-process theory provides a useful framework to understand such links. It states that individuals make decisions by falling back on automatic and mindless processes (such as risk-taking behavior) instead of better using deliberative and rational mechanisms, given that stressful conditions hamper this last type of process (Kahneman & Frederick, 2002).

Some empirical evidence, although scarce, supports such ideas. For instance, Hockey et al. (2000) investigate the association between fatigue and risk in decision-making, finding that the more fatigued participants were, the higher their inclinations toward risky alternatives. Therefore, our final hypothesis is as follows:

H4c: Emotional exhaustion positively mediates the relation between job demands (work overload) and risk-taking behavior.

Figure 3.1. Research model



3.3.- METHODOLOGY

Sample

Our unit of analysis was a sample of R&D employees from organizations belonging to the chemical manufacturing sector in Spain (CNAE 20). According to the CNAE (Spanish nomenclature of economic activities), this sector covers the manufacture of basic chemical products (i.e. bulk petrochemicals), agrochemicals, specialty/final chemicals (which includes paints, coatings, inks, and cleaning chemicals), customer products like soap and cosmetics, and manufacturing of fibers. It is considered to be an innovation-oriented sector in terms of the percentage of innovative firms and R&D investments, according to the Spanish National Institute of Statistics (INE), and with great influence in economic growth as a whole (e.g., Das & Icart, 2015). The chemical sector represents 6.3% of total industrial income in Spain and 4.3% of all industrial employment (INE, 2021). According to a report on data in the sector in 2019 (Feique, 2021), it is a large exporter in the Spanish economy, with 42.3% of sales outside Spain. Another important feature of the sector is its transversal nature, since it intervenes in practically all manufacturing industries' value chains: 98% of production activities require chemistry at some point in the manufacturing process. Regarding innovation, expenditure on R&D in the sector represented 26% of total industry expenditure and employed 22.5% of the research staff working in industrial companies. Moreover, Obeso et al. (2014) concluded that people are the most relevant resource to promote innovation activities in this sector, thus the entrepreneurial behavior of employees could be especially relevant.

This study is part of a larger study on innovation in the chemical sector. The data collection first required contacting a sample of Spanish organizations in the sector, who were selected from those listed in the Iberian Balance sheet Analysis System (SABI) database (an information service that contains comprehensive information on firms in Spain) under CNAE 20. Following previous contributions (e.g., Llach et al., 2011), in order to ensure a minimum structure in terms of innovation, we selected the organizations in the chemical sector that have at least 50

employees, according to information in the SABI (Iberian Balance Analysis System) database. From the sector's population of 337 organizations with at least 50 employees, a sample of 80 organizations agreed to participate in the study, which represents 23.74%, and gave a sample error of ±9.58% at the 5% significance level. We contacted the innovation managers in the 80 firms by telephone in order to explain the study and identify the target employees. Managers were asked which areas in the organization they thought their core employees for innovation were working in. A large majority of organizations (82%) responded that their core employees were working in R&D areas and, consequently, this study focuses on employees in those areas.

Employees in R&D departments are professionals with scientific and technological backgrounds, are responsible for creating and sharing ideas and translating them into new products and processes, and for whom creativity and innovation are explicit expectations in their work (Henard & McFadyen, 2006; Saether, 2019). Given the sector dynamism, these professionals must be able to adapt to any scientific or technical novelty and behave creatively under circumstances that require personal initiative and searching for opportunities. The generation of new knowledge in the sector occurs at a dizzying speed, so these professionals should be prepared for continuous learning. In addition, according to Pearson and McCauley (1991) R&D employees are intrinsically motivated by the challenging nature of the work.

The field work was conducted in the second half of 2017. The innovation manager in each organization provided the number of employees in their R&D departments, and their collaboration was requested to help send R&D employees a message that explained the study with the link to an online questionnaire. To increase the response rate, a follow-up telephone call was conducted (Dillman, Smyth & Christian, 2009). Finally, our data comprise a sample of 257 employees in the R&D departments belonging to 80 organizations in the chemical sector. In total, 86.25% of the organizations are medium sized (<250 employees), and 13.75% are large organizations; this is representative of the chemical sector in Spain, which is characterized by small and medium organizations (Collado & Sánchez, 2012). We obtained replies from between three and four informants per department, the average number of employees in the organizations' R&D departments in the sample being 11. Data showed that 53% of the employees in the sample

are women, have an average age of 40 years (S.D.=8.7), 85% have permanent contracts, 26% hold supervisory positions and, on average, they have been working in the organizations for 10 years (S.D.=8.8). Overall, the data were consistent with descriptions of the chemical industry workforce in Spain provided in public reports, which show that 90% have fixed-term contracts, have an average age of 44 years, and that women represent about 40% of R&D positions (Feique, 2017; INE, 2020).

Measures

The measurement of the variables was taken from validated scales in the literature (see Table 3.1 for the specific items), using a five-point Likert scale.

Dependent variables. *Innovative work behavior* is measured using the scale by Rigtering and Weitzel (2013). Employees were asked to indicate how often they engage in the generation, exploitation, championing, and implementation of ideas. To measure *proactive behavior*, following Rigtering and Weitzel (2013), we asked employees to evaluate their degree of agreement with the seven aspects concerning an active approach towards work. In the case of *risk-taking behavior*, employees rated their agreement with the three items introduced by de Jong et al. (2015).

Independent variables. We measure *job autonomy* according to the scale of job control developed by Wood (2008), with five items that capture employees' perception of the degree of influence they have over specific aspects of their jobs. To assess *managerial support*, employees rated their agreement on six items proposed by Wood (2008) concerning the characteristics of managers in the workplace. To measure *work overload*, we used the scale developed by Cousins et al. (2004). Employees were asked to rate their level of agreement on some issues concerning the intensity and pressures they face at work.

Mediators. To measure work *engagement*, the short scale of nine items (Utrecht Work Engagement Scale-9) of Schaufeli and Bakker (2003) was employed to ask employees how often

they felt vigorous, dedicated, and absorbed at work. Employees reported how often they felt emotionally *exhausted* using five items that reflect the stress dimension of burnout.

Control variables. In line with previous studies (e.g., Rigtering & Weitzel, 2013, de Jong et al., 2015), we controlled for demographic differences between employees. Following recommendations about incorporating controls related to the dependent variables, we included gender and whether the employee had a supervisory position by using two dummy variables (male and supervisor being equal to 1).

Table 3.1. Measurement

	Items	Loadings	C.r., AVE
Innovative work behavior	- Paying attention to issues that are not part of his/her daily work* - Wondering how things can be improved - Searching for new working methods, techniques or instruments - Generating original solutions to problems - Finding new approaches to execute tasks - Making important organizational members enthusiastic about innovative ideas - Attempting to convince people to support an innovative idea - Systematically introducing innovative ideas into work practices - Contributing to the implementation of new ideas - Making an effort to develop new things*	 0.622 0.668 0.779 0.737 0.820 0.826 0.864 0.728	C.r.= 0.92 AVE=0.58
Proactive behavior	- I actively tackle problems - Whenever something goes wrong, I immediately search for a solution - Whenever there is a chance to get actively involved, I take it - I take the initiative immediately even when others don't* - I quickly jump at opportunities to attain my goals - I usually do more than I am asked to do* - I am particularly good at coming up with ideas*	0.720 0.741 0.745 0.670	C.r.= 0.81 AVE=0.52
Risk-taking behavior	- I take risks in my job - When large interests are at stake, I go for the big win even when things could go seriously wrong - First I act and then I ask for approval, even if I know that it would annoy other people*	0.500 0.854	C.r.= 0.64 AVE=0.49
Managerial support	- The managers can be relied upon to keep to their promises - The managers are sincere in attempting to understand employees' views - The managers deal with employees honestly - The managers understand that employees have to meet responsibilities outside work - The managers encourage people to develop their skills	0.752 0.844 0.879 0.569 0.667 0.822	C.r.= 0.89 AVE=0.58

	- The managers treat employees fairly		
Job autonomy	- I have an influence over the tasks I do in my job - I have an influence over the pace at which I work - I have an influence over how I do my work - I have an influence over the order in which I carry out tasks - I have an influence over the time I start or finish my working day*	0.702 0.766 0.786 0.554	C.r.= 0.80 AVE=0.50
Work overload	- I am pressured to work long hours - I have unachievable deadlines - I have to work very fast - I have to work very intensively* - I have to neglect some tasks because I have too much to do - Different groups at work demand things from me that are hard to combine* - I am unable to take sufficient breaks* - I have unrealistic time schedules	0.669 0.855 0.640 0.600 0.760	C.r.= 0.83 AVE=0.51
Work engagement	- In my work, I feel bursting with energy - In my job, I feel strong and vigorous - I am enthusiastic about my job - My job inspires me - When I get up in the morning, I feel like going to work - I feel happy when I am working intensely - I am proud of the work that I do - I am immersed in my work - I get carried away when I am working	0.699 0.725 0.855 0.830 0.675 0.572 0.666 0.672 0.607	C.r.= 0.90 AVE=0.50
Emotional exhaustion	- I feel emotionally drained from my work - I feel used up at the end of the work day - I feel fatigued when I get up in the morning and have to face another day on the job - Working with people puts too much stress on me - I feel burned out from my work	0.748 0.738 0.800 0.681 0.644	C.r.= 0.85 AVE=0.52

*item dropped in the CFA; standardized factors loadings.

Analysis of the measurement models

Following Bagozzi and Yi (2012), we assessed the reliability and validity of the measurement models using confirmatory factor analysis (CFA). Due to sample size restrictions, we relied on prior practices to estimate a set of sub-models of related constructs in lieu of a whole model. First, a CFA is estimated with innovative work behavior, proactive behavior, and risk-taking behavior as three correlated factors. In accordance with the Lagrange multiplier test, some

items were deleted in order to fit the model to the data (deleted items are marked with an asterisk in Table 3.1). The fit indices of the final model ($\chi 2$ S-B=84.8881, *df*=71, *p*=0.124; BBNNFI=0.984; CFI=0.988; RMSEA=0.028) reached the recommended values, confirming the existence of the three dimensions of EBE.

Second, a CFA was estimated to examine the measurement model of managerial support, job autonomy, and work overload. After eliminating some items (see Table 3.1), the values of the fit indices were also appropriate ($\chi 2$ S-B=113.3719, *df*=86, *p*=0.025; BBNNFI=0.970; CFI=0.976; RMSEA=0.036), confirming the existence of three correlated factors. Third, the fit of the CFA for work engagement and emotional exhaustion confirms the existence of two separate factors ($\chi 2$ S-B=166.3796, *df*=71, *p*=0.00; BBNNFI=0.910; CFI=0.930; RMSEA=0.07).

The values of composite reliability (C.r.) in Table 3.1 show construct reliability. Regarding convergent validity, as recommended by Hair, Anderson, Black, Babin and Black (2010), all the standardized loadings of the items on their hypothesized factors were statistically significant and greater than 0.5. Moreover, the average variance extracted (AVE) reaches or is close to 0.5. Although for risk-taking behavior, the values do not reach the minimum recommended values (0.7 for composite reliability, and 0.5 for AVE), we can rely on the scale since the values are close to the threshold and the other tests for convergent and discriminant validity are good. We tested the discriminant validity using two procedures. First, a pairwise test was conducted. The procedure collapsed each pair of constructs into a single factor model and compared them with a two-factor model. The scaled $\chi 2$ difference test for all pairs of factors showed that the difference in $\chi 2$ was statistically significant at the 5% level, which evidenced that each of the eight constructs differed from each other. Second, according to the values in Tables 3.1 and 3.2, the AVE for each construct is higher than the square of the correlation between the construct and each of the others.

Common method and non-response bias tests

In accordance with Podsakoff, MacKenzie and Podsakoff (2012), we followed some procedures to mitigate the threat of common method bias (CMB) in the design of the survey. First, we used an online questionnaire and provided a cover letter assuring anonymity, and that there were no right or wrong answers, which reduced the possibility of bias due to self-presentation. Second, we labeled and separated the questions measuring the dependent, mediator, and independent variables to avoid the potential influence of closeness. Then, we employed different response scales with a different anchor for different variables (e.g., agree/disagree, none/total, never/always). In addition, two statistical procedures were followed to address CMB (Podsakoff et al., 2012). First, Harman's one-factor test clearly extracted eight factors, the same as the number of variables in our model, which explained 64% of the variance. The first factor accounted for only 12% of the variance, thereby verifying that no single factor accounting for most of the variance was present. Second, following other researchers (e.g., Craighead, Ketchen, Dunn, & Hult, 2011), we used CFA to compute the chi-square difference test between a multifactor model and a one-factor model. Due to size restrictions, we estimated a set of models (one for each combination of one dependent, the two mediators, and one independent construct). In all estimations, the multifactor model fit significantly better than the one-factor model (the lowest difference was χ^2=229.6, p-value=0.000). Moreover, due to the inclusion of several predictors and the mediator variables, it was unlikely that the associations were derived from the cognitive maps of the respondents (e.g., Chang, Van Witteloostuijn, & Eden, 2010). Thus, the CMB did not seem to be a threat in our study.

To address the issue of non-response bias, we used a time-series extrapolation test (Armstrong & Overton, 1977), where the early respondents (20% of the sample) were compared with the rest. The findings from a t-test evidenced that the variables in the model were not significantly different between the two groups (p>0.05 in all variables).

Having analyzed the measurement models, the composite measure of each construct, calculated as the mean value of the retained indicators in Table 3.1, was used to reduce the

complexity of the models and accommodate the model to the sample size restrictions (Bagozzi & Yi, 2012). Table 3.2 exhibits the descriptive statistics.

Table 3.2. Descriptive statistics and correlations (N=257)

	Mean	S.D	1	2	3	4	5	6	7	8	9	10
1. Innovative work behavior	3.29	.68	1									
2. Proactive behavior	3.93	.55	.554**	1								
3. Risk-taking behavior	2.98	.80	.335**	.226**	1							
4. Managerial support	3.53	.76	.156*	.307**	.057	1						
5. Job autonomy	3.88	.61	.151*	.164**	.061	.063	1					
6. Work overload	2.60	.74	.119	-.003	.116	-.325**	-.233**	1				
7. Work engagement	3.60	.63	.417**	.446**	.154*	.473**	.217**	-.188**	1			
8. Emotional Exhaustion	2.47	.71	-.001	-.110	.119	-.341**	-.040	.419**	-.429**	1		
9. Gender	.47		.206**	.109	.062	.003	.019	.144*	.053	.023	1	
10. Being a supervisor	.26		.176**	.207**	.132*	.012	.084	.167**	.097	.091	.156*	1

Bivariate correlations; *p<.05 **p<.01

Analytical procedure

We used EQS statistical software (Bentler, 2006) to carry out a path analysis using robust maximum likelihood as the estimation method. Separate models for each dimension of EBE are examined. As the employees in our sample are nested in organizations, the dependency between observations was taken into account to estimate the models so as to provide results robust to complex samples. Specifically, to adjust standard errors and goodness-of-fit model, we instructed EQS to implement Satorra's (1992) correction for clustering. Following MacKinnon et al. (2012), a significant association between the independent variables and mediators, as well as between the mediators and the dependent variables should be observed to conclude mediation.

3.4.- RESULTS

Tables 3.3 summarizes the findings from each path analysis. Although it was not hypothesized in our model, a negative association between managerial support and emotional exhaustion (β=-0.231, p<.01) was observed and had to be introduced to fit the models.

Table 3.3. Findings on the relationships between the three EBE variables and the independent and mediator variables

	Innovative work behavior	Proactive behavior	Risk-taking behavior
Estimated Relationships	Standardized structural coefficients		
DIRECT EFFECTS			
Job autonomy (H1a,b,c,)	0.087	0.095	0.047
Managerial support (H1a,b,c)	0.019	0.166**	0.030
Work overload (H2a,b,c)	0.148*	0.106	0.080
Work engagement	0.437**	0.349**	0.180*
Emotional exhaustion	0.123	0.031	0.172*
Being a supervisor	0.083	0.144*	0.076
Gender	0.137**	0.024	0.025
INDIRECT EFFECTS			
Job autonomy → work engagement (H3a,b,c)	0.102**	0.082**	0.042*
Managerial support → work engagement (H3a,b,c)	0.155**	0.139**	0.036
Work overload → emotional exhaustion (H4a,b,c)	0.042	0.011	0.059*
TOTAL EFFECT			
Job autonomy → work engagement	0.189**	0.177*	0.088
Managerial support → work engagement	0.174	0.305**	0.066
Work overload → emotional exhaustion	0.190**	0.116	0.139
Model fit	χ2 S-B = 8.54 df=10 p=.57; BBNNFI=1 ; CFI=1; RMSEA= .00	χ2 S-B = 8.51 df=10 p=.57; BBNNFI=1 ; CFI=1; RMSEA= .00	χ2 S-B = 8.75 df=10 p=.55; BBNNFI=1 ; CFI=1; RMSEA= .00

*p<.05 **p<.01

Only two direct associations are observed. Regarding Hypotheses 1, Hypothesis 1b is partially supported, since managerial support, but not job autonomy, exhibits a positive direct

relationship with proactive behavior (β=0.166, p<.01). As for Hypothesis 2, a positive direct association is found between perceptions of work overload and innovative work behavior (β=0.148, p<.05), which supports Hypothesis 2a.

The decomposition of effects provided by EQS makes it possible to check the indirect associations. Hypotheses 3a, b, and c are supported in the case of job autonomy: there is a significant indirect association between job autonomy and innovative work behavior (β=0.102, p<.01), proactive behavior (β=0.082, p<.01) and risk-taking behavior (β=0.042, p<.05) via employees' work engagement. In the case of managerial support, only Hypothesis 3a and Hypothesis 3b are confirmed since it is associated with innovative work behavior (β=0.155, p<.01) and proactive behavior (β=0.139, p<.01) via work engagement, but it failed to be significant in the case of risk-taking behavior.

As for the mediation of emotional exhaustion, only Hypothesis 4c is confirmed due to the association between work overload and emotional exhaustion (β=0.342, p<.01), together with the association between emotional exhaustion and risk-taking behavior (β=0.172, p<.05), which leads to a positive indirect link between work overload and risk-taking behavior (β=0.059, p<.05). Therefore, the two inconsistent mediations proposed (H4a and H4b) are not supported.

Regarding the control variables, only two associations are statistically significant. Men exhibit greater innovative work behavior than women (β=0.137, p<.01), and those employees that hold supervisory positions behave more proactively than those who do not hold such positions (β=0.144, p<.05).

3.5.- DISCUSSION AND CONCLUSION

The purpose of this research is to shed light on how work conditions, indicated by perceptions of job resources and job demands, are associated with employees' entrepreneurial behavior and the extent to which this association depends on the way these work conditions shape perceptions of work engagement and emotional exhaustion. The contributions of the findings are discussed below.

Contributions to the literature

Different antecedents for different EBE dimensions

Our research contributes to the stream of literature that studies work context and well-being as antecedents of EBE (e.g., Rigtering & Weitzel, 2013; de Jong et al., 2015; Neessen et al., 2019), and reveals that each dimension of EBE can be enhanced by different antecedents.

Innovative work behavior is positively associated, though indirectly, with perceptions of job autonomy and managerial support, and directly with perceptions of work overload, as suggested in previous research (e.g., Hornsby et al., 2009; Hammond et al., 2011; Agarwal, 2014; De Spiegelaere et al., 2016). Our results reveal that job autonomy does not appear to directly foster entrepreneurial behaviors of employees. De Spiegelaere et al. (2016) argue that the relationship between job autonomy and innovation behaviors depends on the type of job autonomy, specifically, these authors point out that only work method autonomy and locational autonomy (autonomy in deciding where to perform the job) contribute to enhance innovative work behavior. Scholars such as De Spiegelaere et al. (2014) also concluded that job autonomy and managerial support have an indirect effect on innovative work behavior through work engagement. This is consistent with the motivational pathway of the JD-R model (e.g., Bakker & Demerouti, 2017) and the Job Characteristic Model (Hackman & Oldham, 1980). These findings suggest that organizations should not ignore the psychological mechanisms underlying employees' perceptions of work conditions in order to stimulate innovative behaviors in employees.

The association of these antecedents with *proactive behavior* is slightly different: work overload does not seem to be relevant to this behavior. Moreover, managerial support has a direct association, in addition to an indirect association, via the motivational process, showing its remarkable role in promoting proactive behavior, as found by Crant (2000).

However, managerial support is not relevant in explaining *risk-taking behavior*, which is only indirectly connected with job autonomy and work overload via its relationship with

employee well-being. Hence, a motivational process is also observed in the case of risk-taking behavior because job autonomy appears to be related to work engagement, which in turn is connected with risk-taking. However, the health impairment process that links work overload with emotional exhaustion is not associated with a negative reaction on employees' behavior, but instead related to risk-taking propensity, as we discuss later. In spite of these indirect associations, the total effects of work conditions on risk-taking are not significant, which is consistent with previous contributions that found little evidence for the relation between work conditions and risk-taking behavior (e.g., Rigtering & Weitzel, 2013; de Jong et al., 2015).

Accordingly, our findings suggest the need to analyze EBE at the level of dimensions, instead of considering it as a higher-order construct. Both conceptualizations of EBE have been used in the study of its organizational antecedents (Neessen et al., 2019). However, de Jong et al. (2015) found different impacts depending on the operationalization employed. Their study revealed that job autonomy was directly related to overall entrepreneurial behavior, as well as to its innovation and proactivity dimensions, but the association with risk-taking behavior was insignificant.

Job demand contribution to EBE

Our research fills the gap regarding the relative scarcity of studies that analyze the contribution of perceptions of job demands to EBE (Neessen et al., 2019). Our findings support that the perception of work overload helps employees to display greater innovative work behavior, thus supporting ideas from the challenge-hindrance framework. In line with this framework, our findings suggest that work overload can foster employees' capacities and competences (Olafsen et al., 2018), as well as their thoroughness and curiosity (Cavanaugh et al., 2000), promoting thus innovativeness. In contrast, according to our analyses, proactive behavior is not associated with work overload, and risk-taking behavior is only indirectly linked via emotional exhaustion. Perhaps the profile of the employees (from R&D departments) examined herein is more prone to

developing innovativeness at work when feeling pressure in terms of workload. As Huhtala and Parzefall (2007) note, the challenges surrounding R&D jobs contribute to employees' level of stimulation at work, and they may respond to job demands with novel ideas and solutions. For innovation-oriented employees, as Tome and van der Vaart (2020) remark, it has become common to work under high pressure, so they have developed the ability to perform better under this circumstance (which means, in this context, that they are better at innovating). The proactivity and risk-taking behavior of this kind of employee is, perhaps, more directly linked to aspects of personality (Major, Turner, & Fletcher, 2006). Considering that the R&D employees are expected to arrive at innovative solutions (Saether, 2019) as their role-prescribed task activities, we can expect our findings to be relevant not only for R&D employees, but also for other job positions where EBE is an in-role behavior.

Well-being as a psychological resource of EBE

Our study contributes to the JD-R model by examining the generalizability of the motivational process and the health impairment process in an intrapreneurial context. This research furthers understanding of employee well-being as a psychological resource for intrapreneurial behavior, considering both the positive (work engagement) and negative emotions (exhaustion). New insights into the role of individual feelings about the job in EBE are derived from the research, which highlights the prominent role of work engagement in understanding the entrepreneurial behavior of employees. Thus, researchers can consider work engagement as an antecedent of EBE, together with variables such as job satisfaction or organizational identification addressed in previous studies (e.g., Mustafa et al., 2016).

Our research also contributes by adding to the scarce results on the relationship between negative emotions and entrepreneurial behaviors (Wiklund et al., 2019). The analysis of employees' emotional exhaustion is especially interesting. Despite feeling emotionally exhausted, employees' levels of innovativeness and proactivity remain unaffected. In contrast, high levels of emotional exhaustion are associated with increased risk-taking behavior, in line with dual-process theory (Kahneman & Frederick, 2002), which suggests that decision-making under circumstances

of fatigue or stress can lead to less care and more mechanical decisions and behaviors. Previous studies (e.g., Nikolaev, Shir, & Wiklund, 2020) highlight that lack of well-being can encourage entrepreneurial behavior. Specifically, Nikolaev et al. (2020) suggest that people with negative dispositional affect are more likely to pursue a risky career. The kind of employees in our sample may explain these results, as most employees have a permanent work contract, which may reduce their reluctance to take risks. Moreover, some authors suggest that the risk-taking behavior of employees is hard to promote with organizational policies or management exchange (e.g., Rigtering & Weitzel, 2013). This is consistent with our findings: it seems that risk-taking behavior is more associated with personal states of stress (here, emotional exhaustion) than with demanding work characteristics since work overload did not exhibit a direct link with risk-taking behavior, but instead was connected via emotional exhaustion.

Managerial contributions

Our research suggests some managerial interventions to foster employees' engagement in entrepreneurial behaviors. In order to facilitate innovative and proactive work behaviors, managers can design the work context in such a way that employees could feel in control of how they do their jobs, as well as promoting fair and helpful interpersonal relationships with employees (particularly essential to foster proactive behaviors). This kind of work context is likely to fuel a motivational process in employees that leads them to generate and implement new ideas as well as take the initiative to search for opportunities. Moreover, as work overload may be perceived as a sort of challenge, for entrepreneurial behavior, it seems to be more important to provide enough resources capable of generating a motivational process in employees than to implement interventions to reduce work overload. In addition, managers should consider the importance of favoring the work engagement of employees in order to enhance entrepreneurial behavior. Finally, managers may provide their employees with alternative resources, as job security, to allow them to feel secure when taking risks. This prevents managers from relying on their employees' emotional exhaustion as a catalyst for risk-taking behaviors.

Limitations and future lines of research

Several factors should be considered to interpret the findings. First, the characteristics of the sample in the survey, where 80% of employees in the R&D department have permanent employment contracts and 26% hold supervisory positions, may condition our findings. Moreover, although we focused on R&D employees as those who have greater relationships with the development of new products, materials and processes, and may be those with greater orientations towards entrepreneurial behaviors, we acknowledge that any employee may develop this type of behavior. Although the R&D department seems to be appropriate for developing an entrepreneurial behavior, the generalization of the current study's results may require future studies to replicate them in different contexts using alternative samples of employees. Second, this study has been limited to the analysis of some job resources addressed by the literature on antecedents of EBE. Our conclusions suggest that future research should address other work conditions that can also be considered as resources and potential antecedents, such as social support from colleagues or job security. Likewise, we focused on emotional exhaustion but future research could analyze whether the conclusions change if other dimensions of burnout are examined. Third, as risk-taking behavior seems to be less difficult to facilitate via interventions on the work context, more research would be needed on the antecedents of this kind of behavior. Fourth, we acknowledge that other variables could interact and modify the relationships examined. To account for this, and in line with recent suggestions from Bakker and de Vries (2021), it would be of special interest to study the interaction between job demands and resources and key personal resources, such as emotional intelligence (Bakker & de Vries, 2021) or state mindfulness (Huang, Xie, Cheung, Zhou & Ying, 2021), and how they shape feelings of engagement and exhaustion. Through this same lens, job crafting (Tims, Bakker & Derks, 2012) constitutes a key behavior to be taken into account within the JD-R model, since employees might transform their levels of job demands and resources to align them with their inclinations and capabilities and make their own tasks more satisfying and meaningful (Bipp, Kelingeld, & Ebert, 2019; Sharma & Nambudiri, 2020). This boosts well-being and more innovative, risky and proactive behaviors among employees (e.g., Kwon & Kim, 2020). As for the variables of

organizational origin, entrepreneurial leadership has been shown as a powerful tool to mobilize organizational members to constantly innovate, take risks and address changes (Lin & Yi, 2021). Future research could explore the joint effect of this variable together with, for instance, job autonomy and managerial support to provide wider insights into their association with EBE, contributing to expanding JD-R model knowledge under different organizational contexts and conditions. Finally, some scholars (e.g., Gawke et al., 2018) suggest the possibility that entrepreneurial behavior is a catalyst to obtaining more resources and then recursive relationships may be observed. Our cross-sectional data do not allow for inference of causality, and prevent a deeper analysis of the consequences of employees' entrepreneurial behavior as well as the dynamic nature of the relationships; this is an avenue for future research through longitudinal studies coupled with qualitative data.

Data Availability: The data that support the findings of this study are available on reasonable request from the corresponding author. The data are not publicly available due to privacy issues.

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Chapter 4

ANTECEDENTS OF CORPORATE ENTREPRENEURSHIP FROM A PEOPLE-ORIENTED PERSPECTIVE: ACHIEVING THE TRIPLE IMPACT

CHAPTER 4. ANTECEDENTS OF CORPORATE ENTREPRENEURSHIP FROM A PEOPLE-ORIENTED PERSPECTIVE: ACHIEVING THE TRIPLE IMPACT

ABSTRACT

From a people-oriented perspective, this paper seeks to identify how stakeholder relationships and the entrepreneurial behavior of employees (EBE) can shape corporate entrepreneurship (CE) as well as to analyze the impact of CE on economic, environmental, and social performance. To address this aim, we draw on stakeholder theory and a sustainability approach to analyze CE. Matched data on 358 employees working in 126 technology-based companies in Spain were analyzed to examine the proposed relationships. Structural equation models were estimated using EQS software. Results suggest that the intensity of stakeholder relationships and proactive and risk-taking behavior, but not the innovative behavior of employees, lead to high levels of CE. Moreover, CE contributes positively to economic, environmental and social results. The paper contributes to stakeholder theory, the field of CE and TBL, from a people-oriented and sustainability perspective. This research offers a unique understanding of the human side of CE. The main novelties lie in considering EBE and stakeholder relationships as relevant for CE, the individual examination of the dimensions of EBE and, especially, of how CE benefits the triple impact approach.

Key words: Corporate entrepreneurship, stakeholder perspective, triple bottom line, entrepreneurial behavior of employees

4.1.- INTRODUCTION

In recent years, corporate entrepreneurship (CE) has garnered growing attention among researchers due to its association with favorable organizational results. CE has experienced significant advancements as a subfield in entrepreneurship research, as the phenomenon of entrepreneurship within organizations has been explored in terms of the emergence of novel products, services, and firms, as well as innovation and strategic revitalization. Past and current literature has identified a variety of mechanisms that influence CE, both internally and externally. However, the factors that determine CE from a people-oriented perspective and their impact on non-financial results require further exploration (Rigtering and Weitzel, 2013; Neessen *et al*., 2019).

A people-oriented perspective focused on external and internal stakeholders as a source of opportunity for entrepreneurship presents a fresh framework for studying the antecedents of CE (Mitchell and Cohen, 2006; Kuratko, 2007; García-Sánchez *et al*., 2018; Jiang *et al*., 2020). On the one hand, Bosse *et al*., (2018) suggested that stakeholder relationships are essential to create new ventures in existing firms. From the viewpoint of stakeholder theory, organizations that engage in effective stakeholder management will perform better than others that do not (Freeman, 1984; Donaldson and Preston, 1995; Jones *et al*., 2018). Stakeholder theory provides a people-oriented perspective that prioritizes relationships with multiple stakeholders (customers, suppliers, investors, employees, etc.), allowing the organization to be exposed to their needs and to access knowledge with which to predict innovation, new entrepreneurial initiatives, and performance. While stakeholder relationships can have a significant impact on engaging in CE, research on entrepreneurship and stakeholder theory remains limited. Even though stakeholder relationships are relevant in novel entrepreneurial endeavors within established firms, there is a scarcity of comprehensive analysis in this area (Pollack *et al*., 2017; Bosse *et al*., 2018). Therefore, further research is needed to delve deeper into this topic.

On the other hand, recent attention has shifted towards bottom-up endeavors undertaken by employees within organizations (Farrukh *et al*., 2019; Tien, 2020), as well as towards promoting EBE, which refers to the proactive execution of tasks, risk-taking, and capitalizing on

innovative opportunities by employees (de Jong *et al*., 2015; Badoiu *et al*., 2020). Individuals exhibiting entrepreneurial behavior drive organizational change and are considered to be vital drivers of innovation (Grant and Ashford, 2008). However, research examining EBE as an antecedent to CE remains fragmented and scarce compared to studies exploring the organizational and individual determinants that stimulate CE.

Furthermore, both corporate entrepreneurship and the entrepreneurial behavior of employees (EBE) are widely regarded as a significant means to promote organizational growth and enhance performance (Itzkovich *et al*., 2022). The prevailing body of research has predominantly centered its attention on analyzing the effect of CE on economic outcomes (Zahra and Garvis, 2000; Ziyae and Sadeghi, 2020; Verma and Mehta, 2022). However, a question that has so far not been completely addressed is the impact of CE on non-financial results, particularly in the context of a holistic perspective on sustainability, such as the triple bottom line (TBL). Descending from a stakeholder perspective, the TBL framework (term coined by Elkington, 1997) is a popular approach to developing firms in a sustainable manner. In this line, TBL expands the economic perspective by encompassing the environmental and social dimensions (Tate and Bals, 2018), attracting significant attention and appeal among practicing managers. Several academics (e.g., Ugarte *et al*., 2016; Shou *et al*., 2019) have indicated that the pursuit of financial performance and operational excellence can potentially hinder a company's environmental and social performance, ultimately jeopardizing its endeavors towards sustainable development. Despite its importance, prior research integrating CE and sustainability is still scarce (e.g., Waite, 2014; Aparicio *et al*., 2020), and further research is thus needed to study the determinants of CE and its effects from a sustainability perspective. Wahyudi *et al*. (2019) argued that exploring the interaction between CE and the social performance variable would be pertinent. In this regard, Provasnek *et al*., (2017) emphasized the need to adopt an integrated sustainability perspective to effectively implement diverse strategies for leveraging CE. Moreover, considering CE enables firms to achieve growth targets while maintaining sustainability (Miles *et al*., 2009). Therefore, CE seems to have the potential to generate positive economic outcomes while also impacting social and environmental performance. Based on these arguments, this paper serves a dual

purpose. First, from the viewpoint of stakeholder theory, we construct a framework that integrates a people-oriented perspective focused on relevant antecedents of CE, such as the relationships with stakeholders and EBE. Second, following a sustainability approach, this paper is a pioneer in this field by taking into account the triple impact perspective as a consequence of CE and fills gaps in both the need for more research on non-financial variables (Neessen *et al*., 2019; Urbano *et al*., 2022) and the need to conduct further studies that examine sustainability performance from an entrepreneurial perspective (Fischer *et al*., 2020).

Subsequent sections of this paper will explore in greater depth the justification of the hypotheses and the rationale for the empirical research conducted on technology-based companies in Spain. The study ends with a discussion of the research findings, followed by its main contributions.

4.2.- THEORETICAL BACKGROUND

Corporate entrepreneurship

The significance of corporate entrepreneurship (CE) as a crucial element for organizational advancement has gained growing recognition. In the 1980s, scholars emphasized the relevance of entrepreneurship within established companies and its contributions to organizational regeneration, as well as the establishment of novel businesses. The influence of CE on organizational revitalization and performance has gained broad acknowledgment (Zahra and Covin, 1995; Simsek and Heavey, 2011; Ziyae and Sadeghi, 2020; Verma and Mehta, 2022).

Early definitions of CE usually insist on the fact that entrepreneurship is produced within an existing organization (e.g., Antoncic and Hisrich, 2001). Alternatively, other definitions of CE focus on its dimensions (e.g., Covin and Slevin, 1991; Covin and Miles, 1999), although there is still no consensus on the main defining dimensions (Farrukh *et al*., 2017). A commonly agreed-upon definition of CE was proposed by Sharma and Chrisman (1999), which distinguishes the following key dimensions: venturing (establishing new ventures), innovation (introducing novel

offerings to the market and transforming the competitor landscape), and strategic revitalization (altering strategies and competitive approaches).

The theoretical foundation of CE is expanding swiftly, regardless of the specific terminology employed. Kuratko and Audretsch (2013) aimed to elucidate the research areas within the field of CE. Building upon Corbett *et al*., (2013), the CE concept can be viewed as endeavors aimed at revitalizing established organizations through various innovation-driven initiatives that enhance their competitive standing. In our model, we consider CE as entrepreneurship that takes place within an established organization, as described by previous studies (e.g., Mustafa *et al*., 2018). Furthermore, we adopt the three-dimensional framework proposed by some scholars (e.g., Burgers and Covin, 2016) to capture the activities that constitute CE: innovation (new products, services), corporate venturing (new businesses within an existing company), and strategic renewal (novel strategic approaches).

Stakeholder relationships as an antecedent of corporate entrepreneurship

In 1984, the concept of stakeholders was introduced as "any group or individual that can affect or be affected by the achievement of a corporation's purposes. Stakeholders include employees, customers, suppliers, shareholders, banks, environmentalists, government or other groups that may help or harm the corporation" (Freeman, 1984: 46). Moreover, stakeholders should share at least one of the following three characteristics: influential power, legitimacy concerning the firm, and the pressing need to promptly address and satisfy their requisitions (Mitchell *et al*., 1997). According to Jiang *et al*., (2020), stakeholder relationships highlight three different aspects: interaction, cooperation, and close connections with them. In this line, this concept refers to maintaining extensive and constant interactions with stakeholders, promoting cooperation (especially in problem-solving and decision-making), treating problems as potential learning opportunities, and developing close connections with stakeholders.

The organizations oriented toward satisfying the interests of stakeholders take into consideration a wide range of stakeholders, including employees, customers, communities, as well as suppliers and partners. In particular, a significant amount of research on CE concentrates

on clients and partners as crucial antecedents (Bosse *et al*., 2018). According to stakeholder theory, understanding the characteristics of stakeholders, their needs, their level of power in decision-making, and the situational context are vital factors for predicting organizational practices and outcomes (Barnett, 2007; Laplume *et al*., 2008; Jones *et al*., 2018). Scholars have also suggested that adopting a people-oriented perspective, focused on stakeholders, may foster entrepreneurial initiatives (Mitchell and Cohen, 2006) and contribute to corporate entrepreneurial capacity (McGrath and MacMillan, 2000). Other scholars have found that stakeholders can influence the entrepreneurial spirit inside firms (Kuratko *et al*., 2007; García-Sánchez *et al*., 2018).

By maintaining relationships with multiple stakeholders, organizations are better positioned to identify their needs and promote entrepreneurial activities. Accordingly, managers are likely to be aware of entrepreneurial opportunities due to these relations (Goldsby *et al*., 2018). Entrepreneurship, after all, involves collaborative endeavors that involve multiple stakeholders and resources to create new products or services (Jones *et al*., 2018).

Organizations that adopt a stakeholder-oriented approach are more likely to engage in CE activities, as stakeholders can provide valuable resources and support for entrepreneurial initiatives. Organizations can create "close relationship capability" (Jones *et al*., 2018), which facilitates the combination of tacit knowledge and mutual learning leading to creativity and innovation (Jiang *et al*., 2020). García-Sánchez *et al*., (2018) also found that the constant updating and innovation of processes thanks to the close relationships with stakeholders foster the detection of new opportunities for CE. In addition, a larger network of stakeholders seems to positively influence CE (Heavey and Simsek, 2013). Tipuric *et al*., (2013) also suggested that an active involvement of stakeholders in decision-making and a culture that promotes close relations with stakeholders are strongly associated with CE. Based on the foregoing, we put forward the following hypothesis:

Hypothesis 1. Stakeholder relationships are positively associated with corporate entrepreneurship.

The entrepreneurial behavior of employees as an antecedent of corporate entrepreneurship

The concepts of CE and EBE can and should be distinguished, as they are located at different levels (Mustafa *et al*., 2018; Farrukh *et al*., 2021). EBE is depicted as the expected behavior of employees who are committed to developing new business for the company, who can respond to changes from inside and outside the organization (Gawke *et al*., 2017), and are continuously identifying and seeking opportunities (Mair, 2002). In this line, Pinchot (1985) refers to intrapreneurs as employees who amalgamate new points of view and harness resources to foster new projects within organizations. Employees who exhibit entrepreneurial behaviors are often considered as innovation drivers by organizations, leading to changes within the company (Grant and Ashford, 2008). It is crucial for organizations to identify these behaviors and channel them towards organizational projects, in the context of CE, as highlighted by Hornsby *et al*., (1992), as this type of employees facilitate internal renewal within organizations (Moriano *et al*., 2009). Moreover, individual EBE seems to be an antecedent of CE (Mustafa *et al*., 2018).

CE is closely linked to the notion of intrapreneurship (Gawke *et al*., 2019), which encompasses the Schumpeterian model of innovation. From a behavioral-based approach to intrapreneurship (Mustafa et al., 2018), we explore the active contribution employees make to the entrepreneurial spirit of firms, that is, the role of EBE as an antecedent of CE. EBE is defined by different dimensions: proactive, innovative, and risk-taking behavior (Rigtering and Weitzel, 2013; de Jong *et al*., 2015; Escrig-Tena *et al*., 2022; Farrukh *et al*., 2021). De Jong et al. (2015) emphasized that these three aspects serve as fundamental attributes of the individual entrepreneurial process, encompassing the behavioral manifestations exhibited by employees with entrepreneurial inclinations. Previous studies have also suggested that each dimension of EBE may yield distinct impacts when examined individually (Rigtering and Weitzel, 2013; Escrig-Tena *et al*., 2022). This indicates that each dimension embodies a distinct facet of an entrepreneurial behavior within organizations.

Proactive behavior is associated with seeking new opportunities that entail personal improvement, enhancement of the current situation, and questioning the state of the art (de Jong *et al*., 2015; Jiménez-Barrionuevo *et al*., 2019). Individuals demonstrating proactive behavior are goal oriented and persevere even in challenging circumstances (Razavi and Ab Aziz, 2017), and are able to recognize and take advantage of new chances and initiatives (Moriano *et al*., 2014). Employees exhibiting proactive behavior seem to actively engage in strategic and intrapreneurial projects, thereby making a valuable contribution to CE (Rigtering and Weitzel, 2013). Similarly, Romero-Martinez *et al*., (2010) considered proactive behavior as a main ingredient to foster entrepreneurship inside firms.

Innovative behavior can be defined as the inclination to experiment and generate innovative processes or products that deviate from conventional wisdom and offer distinct value (de Jong and den Hartog, 2010; Shirokova *et al*., 2016). Employees with this type of behavior are able to detect problems, develop new ideas, and build prototypes or models (de Jong *et al*., 2015). Innovative employees are able to identify work-related problems and propose solutions to solve them (Rigtering and Weitzel, 2013; Valsania *et al*., 2016). Such employees can help to develop novel products or pursue strategic renewal (de Jong, 2013; Neessen *et al*., 2019). Innovative behavior, just like proactive behavior, seems to be a main ingredient that boosts the level of corporate entrepreneurship (Romero-Martinez *et al*., 2010) as it leads employees to get involved in intrapreneurial projects (Rigtering and Weitzel, 2013).

Risk-taking behavior is related to employees' forbearance to fail and to carry out initiatives even if they are not successful (Valsania *et al*., 2016). According to de Jong *et al*., (2015), employees could act without permission or consensus and may face opposition from peers, or have to cope with personal loss. In this line, risk-taking can influence organizational capacity to actively partake in CE endeavors (Kearney *et al*., 2008). Nevertheless, there is a need for further examination of the relationship between risk-taking behavior and CE. Consequently, the aforementioned arguments lead us to the following hypotheses:

Hypothesis 2a. Proactive behavior is positively associated with corporate entrepreneurship in the organization.

Hypothesis 2b. Innovative behavior is positively associated with corporate entrepreneurship in the organization.

Hypothesis 2c. Risk-taking behavior is positively associated with corporate entrepreneurship in the organization.

Corporate entrepreneurship and the triple-bottom line

Triple impact or Triple-Bottom-Line (TBL) is a widely embraced approach to fostering sustainable organizational development (Norman and MacDonald, 2004; Tate and Bals, 2018). Following the TBL approach, our study conceptualizes sustainability performance based on three elements, which must be synchronized (Chardine-Baumann and Botta-Genoulaz, 2014): economic, social, and environmental. The *economic element* refers to results such as revenues or income (Zhu *et al*., 2012). The *environmental element* focuses on the capacity of a company to minimize pollution, mitigate waste generation, and prevent environmental disasters (Çankaya and Sezen, 2019). The *social element* analyzes social responsibility, training and growth opportunities, employee welfare assistance, and working conditions (Amui *et al*., 2017).

The positive relationship between CE and organizational performance is well established in the literature (e.g., García-Sánchez *et al*., 2018; Ziyae and Sadeghi, 2020; Verma and Mehta, 2022). CE enables companies to recognize market opportunities that enhance their competitive advantages, thereby enhancing organizational performance (García-Sánchez *et al*., 2018). According to Lin and Lee (2011), CE boosts performance, prepares different departments to tackle future challenges, and facilitates firms' success.

However, it is essential to examine the non-financial outcomes of CE, as they can be as significant as financial performance, if not more so (Dess and Lumpkin, 2005). These outcomes

encompass environmental and social performance and warrant thorough investigation. Academic attention to the link between CE endeavors, sustainability efforts, and firm performance has gained traction (Provasnek *et al*., 2017; Niemann *et al*., 2020). Literature shows that an increasing number of organizations are experiencing growing stakeholder pressure to prioritize sustainability (Chen and Wang, 2011; Khan *et al*., 2021). The growing demand for sustainable and socially responsible products and services gives companies the opportunity to expand and diversify their operations, thereby generating economic benefits while addressing social and environmental challenges. Along these lines, Miles *et al*., (2009) pointed to CE as a guiding strategy that can integrate growth and sustainability objectives. Thus, organizations with a lower entrepreneurial orientation and less commitment to sustainability are less likely to sustain their existence in the long term (Provasnek *et al*., 2017). Similarly, firms that integrate entrepreneurship with an environmental focus have a propensity to attain higher levels of profitability (Menguc and Ozanne, 2005). Limited scholarly investigations have underscored the significance of entrepreneurship in relation to the environmental performance of an organization (Schaltegger and Wagner, 2011; Dickel, 2018; Niemann *et al*., 2020). In this line, Niemann *et al*., (2020) revealed that organizations that allocate resources for corporate entrepreneurship can enhance both their financial and their environmental performance.

In short, CE is a mechanism for generating both profitable outcomes for firms and valuable solutions for society, contributing to a sustainable future (Parris and McInnis-Bowers, 2017; Aparicio *et al*., 2020). Hence, building upon the preceding arguments, we put forward the following:

Hypothesis 3. There is a positive association between corporate entrepreneurship and economic performance (a), environmental performance (b), and social performance (c).

Figure 4.1. Research model

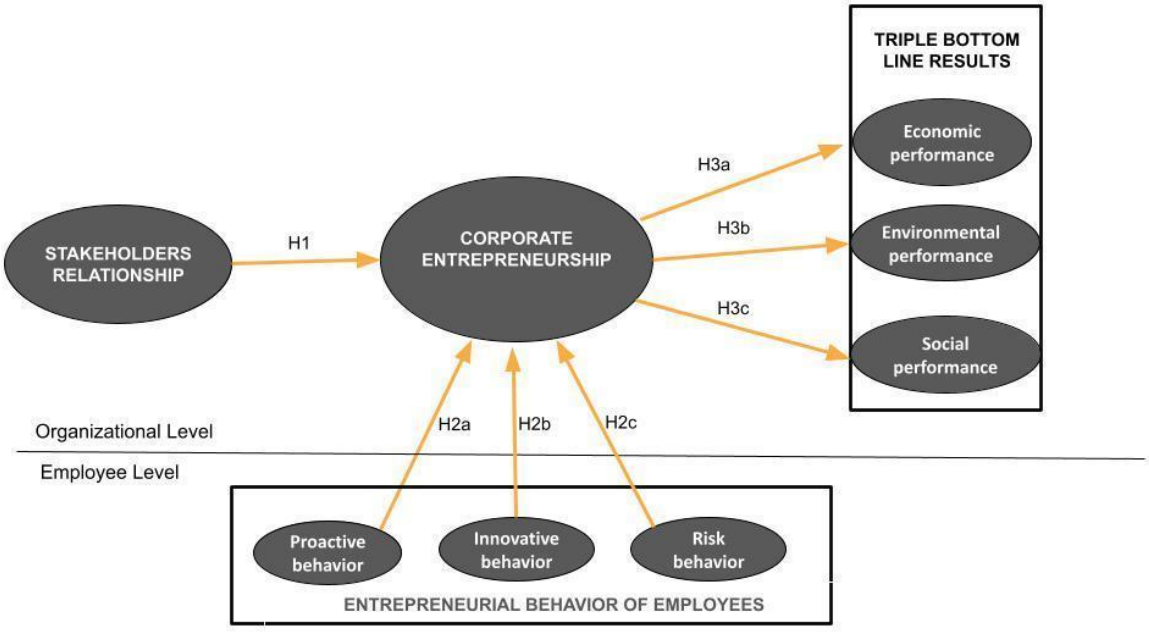

Figure 4.1 illustrates our research model.

4.3.- DATA, MEASURES, AND STATISTICAL PROCEDURES

Survey

We focus our research on technology-based firms (TBFs), that is, organizations that are dedicated to designing, developing, and producing new innovative products and manufacturing processes through the use of technical and scientific knowledge (Simon, 2003). These companies are found in different sectors, generate technological knowledge as a result of their activity, and are actively involved in research and development (R&D) activities (Simon, 2003). Few studies show a constructive connection between CE and organizational results in technology-based organizations (Bojica and Fuentes, 2011). The sample was selected from the Center for the Development of Industrial Technology (CDTI) database. The CDTI is a public agency supported by the Spanish Ministry of Industry, Tourism and Trade, dedicated to promoting the innovation and technological development of Spanish companies. Therefore, the companies included in this

directory carry out R&D activities. The firms in the CDTI database belong to different industrial and service sectors and were selected from among those with between 10 and 250 employees following previous research (e.g., García-Cabrera et al., 2021). The field survey was conducted during the latter half of 2021 through an online questionnaire. Different informants were approached in each firm: the person in charge of the R&D project (the innovation manager) replied to questions about stakeholder relationships, CE and sustainability performance at the organizational level; and employees working on the R&D project answered questions about EBE. We contacted innovation managers in each organization by phone or through Linkedin to gather information. We requested their collaboration to answer the questions at organizational level as well as to assist us in sending a message to R&D employees, in which we explained the study and provided a link to an online questionnaire about EBE. A follow-up telephone call was made in order to increase the response rate (Dillman *et al*., 2009). Finally, our dataset consisted of a sample of 358 employees and 126 managers from 126 organizations in Spain working on R&D projects that received public funding for innovative projects.

Measurements

The measurement of variables was based on validated scales in the existing literature (they can be consulted in the respective sources provided below), using a five-point Likert scale.

For measuring *stakeholder relationships*, we followed the scale proposed by Jiang *et al*., (2020), including interaction cooperation and development of close relationships between stakeholders. To measure the dimensions of EBE, for *proactive behavior* we followed Rigtering and Weitzel (2013) and solicited employees' assessment of their level of agreement regarding dimensions associated with an active role in their workplace. Sample items are ‘actively tackle problems’ or ‘whenever something goes wrong, I immediately search for a solution’. The measurement of *innovative behavior* employed the scales developed by Rigtering and Weitzel (2013) and de Jong and de Hartog (2010). Employees were asked to indicate the frequency of their involvement in idea generation, exploitation, championing, and implementation, using items such as ‘generating original solutions to problems’ or ‘systematically introducing innovative

ideas'. Regarding employees' *risk-taking behavior*, respondents provided ratings obtained from the scales proposed by de Jong *et al*., (2015) (e.g., 'take risks in work that requires highly technical analysis') and two items (e.g., 'take risks in my work even when it is possible that they could backfire') introduced by Zhao *et al*., (2005).

This study measured CE as a multi-dimensional variable made up of three dimensions (*innovation*, *self-renewal* and *corporate venturing*) with a scale adapted from Martin-Rojas *et al*. (2019). Informants indicated their perception using a 5-point Likert scale (example item: 'organization has revised the business concept'). To measure the consequences of CE, we analyzed its potential triple impact regarding *TBL*. *Social and environmental performance* was based on the scale formulated by Paulraj (2011). Some example items are: 'we reduce (air, water and/or solid) waste discharged to the environment' or 'we improve community health and safety'. *Economic performance* was measured by considering information from the SABI database (a service containing comprehensive information on Spanish firms) about sales margins and market share.

Control variables. Taking into account that research suggests incorporating only controls that were related to the dependent variables (e.g., Afsar *et al*., 2019), we controlled for variables that were likely to influence CE and TBL, such as firm age and sector. The measurement of *firm age* involved calculating the natural logarithm of the duration of its operational tenure. For *sector* we used 1 for the industrial sector, as it was dominant in our analysis, and 0 otherwise. All the information was obtained from the SABI database.

Measurement model and statistical procedure

Before testing the hypotheses, we evaluated the measurement model's validity and reliability for the latent variables used in this study. We employed confirmatory factor analysis, following the approach outlined by Bagozzi and Yi (2012). A confirmatory factor analysis (CFA) was estimated with the data at employee level (358 employees) for three EBE dimensions as correlated factors. After conducting the test based on the Lagrange multiplier, certain items were

excluded to ensure the fit of the model to the data. After excluding these items, fit indices for the CFA of the measures of EBE were satisfactory. Similarly, a CFA was estimated with the variables at organizational level (126 innovation managers) by performing the Lagrange multiplier test and eliminating some items. The results of the CFA for stakeholder relationships, CE and TBL performance demonstrated a strong fit of the models, indicating that the chosen indicators effectively represented each variable dimension. From the adjusted CFAs, we analyzed the properties of the measures. Composite reliability (C.r.) exceeded the recommended value of 0.7 for each variable (see Table 4.1), which confirms construct reliability. Additionally, the average variance extracted (AVE) (Fornell and Larcker, 1981) was found to be 0.5 and above, indicating satisfactory convergent validity (see Table 4.1). Moreover, statistically significant results were obtained for the standardized loadings of the items on their respective hypothesized factors, which exceeded 0.5, thus confirming convergent validity (Hair *et al.*, 2010). We proved discriminant validity by comparing the AVE with the square of the correlation in Table 4.1, following Fornell and Larcker (1981).

We aggregated the measures from the individual level to the firm level. We have a small group size in each organization (average of 3 employees from each firm) and, following Jiang *et al*., (2012), we first calculated the within-firm interrater reliability agreement (rWG). The rWG for proactive behavior was .94, that of innovative behavior was .93, and the rWG for risk-taking behavior was .83, so the cutoff value of .70 indicated by James *et al*., (1984) was achieved. As suggested by Bliese (2000), we also examined the intraclass correlation coefficient ICC (1), which quantifies the proportion of variance in a variable that can be ascribed to group membership (Biemann *et al*., 2012). The ICC (1) for proactive behavior was .28, for innovative behavior it was .35, and for risk-taking behavior it was .25, so the critical cutoff value of .012 (James, 1982) was achieved. The aforementioned analyses suggest that aggregating individual responses to the firm level is justified.

To examine the estimated hypotheses, we conducted a path analysis with the robust maximum likelihood estimation method using the EQS statistical software (Bentler, 2006). Separate models were examined for each dimension of EBE. Following the analysis of the

measurement model, the composite measure of the constructs, which was obtained by averaging the retained indicators, was used to simplify the model and address the constraints imposed by the sample size (Bagozzi and Yi, 2012). Descriptive statistics and correlations of the variables are displayed in Table 4.1, which show a positive association between stakeholder relationships and both CE and the TBL results. All three dimensions of EBE are correlated, as are the three dimensions of CE. There is a positive and significant link between CE and the TBL results, but a limited association between EBE and CE. Firm sector also seems to be relevant for achieving environmental performance.

Table 4.1. Means, correlations, composite reliability, and AVE

	Mean	S.D	1	2	3	4	5	6	7	8	9	10	11	12
1. Stakeholder relationships	4.06	.64	(.59/.88)											
2. Innovative work behavior	3.88	.56	.081	(.51/.86)										
3. Proactive behavior	4.11	.45	.064	.787**	(.5/.8)									
4. Risk-taking behavior	2.99	.63	.005	.435**	.427**	(.57/.84)								
5. CE innovation	4.02	.62	.402**	.108	.142	.161	(.52/.8)							
6. CE corporate venturing	3.96	.68	.375**	.030	.087	.109	.611**	(.5/.78)						
7. CE strategic renewal	3.75	.74	.504**	.167	.209*	.129	.467**	.467**	(.5/.89)					
8.Environ-mental performance	3.85	.86	.223*	.025	.098	.080	.294**	.229*	.086	(.77/.93)				
9. Social performance	3.96	.64	.406**	.125*	.184*	.039	.409**	.309**	.448**	.606**	(.58/.87)			
10. Economic performance	3.75	.76	.317**	-.017	.022	.125	.407**	.417**	.506**	.506**	.172	(.72/.83)		
11. Firm age	2.95	.80	.041	-.142	-.066	-.121	-.017	-.142	-.066	.189*	.069	-.073		
12. Sector	.50	.50	-.101	.042	.015	-.010	.017	-.060	-.134	.290**	.082	.048	.134	

Bivariate correlations; *p<.05 **p<.01

Note: AVE/C.r. are on the main diagonal.

4.4.- RESULTS

In our study we estimate three models, one for each of the dimensions of EBE: proactive behavior, innovative behavior, and risk-taking behavior. All three models show a good fit to the data. A summary of the path analysis results is compiled in Table 4.2, where a positive and significant direct association is observed between stakeholder relationships and CE in all three models. For instance, in the model for proactive behavior: β=.627, $p<.01$. This result confirms hypothesis 1. Regarding the relationship between EBE and CE, different results are found for each dimension. As shown in Table 4.2, proactive and risk-taking behavior exhibit a positive and significant direct relationship with CE, confirming hypotheses 2a and 2c. However, innovative behavior presents a non-significant relationship with CE (β=.073, $p>.1$). Consequently, hypothesis 2b is not supported. Hypotheses 3a, 3b, and 3c are confirmed since there is a significant direct relation between CE and sustainability performance in all three models. For instance, in the model for proactivity, CE has an association with the three perspectives: economic (β=.590, $p<.01$), social (β=.565, $p<.01$), and environmental (β=.325, $p<.01$).

Table 4.2. Findings on the relationships in the research model

	Proactive behavior	Innovative behavior	Risk-taking behavior
Estimated relations	Standardized structural loadings		
DIRECT EFFECTS			
CE on Stakeholders (H1)	0.627***	0.629***	0.629***
CE on EBE dimension (H2 a,b,c)	0.154**	0.073	0.160*
Economic performance on CE (H3a)	0.590***	0.594***	0.598***
Environmental performance on CE (H3b)	0.325***	0.323***	0.328***
Social performance on CE (H3c)	0.565***	0.562***	0.557***

MODEL FIT			
Model fit	χ2 S-B = 43.51; df = 34; p = .12; BBNNFI = .944; RMSEA=.050; CFI=.958	χ2 S-B =46.28; df = 34; p =.16; BBNNFI =.929; RMSEA=.056;CFI=0.94	χ2 S-B =41.66; df = 34; p = .17; BBNNFI= .954; RMSEA=.044; CFI=0.96

*p<.1, **p<.05, ***p<.01

Among the control variables, two associations exhibit statistical significance: firm sector (β=0.230, p<.01), and firm age (β=0.120, p<.05) are relevant for environmental results.

4.5.- DISCUSSION AND CONCLUSION

This study has helped us explore the integration of a people-oriented perspective and the triple impact performance in the study of CE within the context of technology-based companies. The implications of the findings will be discussed in the following sections.

Theoretical contributions

This study adds to the literature that highlights the need for additional research to shape entrepreneurship inside organizations (e.g., Neessen *et al*., 2019) by analyzing the antecedents of CE from a people-oriented perspective, and considering the role of stakeholder relationships, on the one hand, and the role of the EBE, on the other.

Despite the significance of stakeholder relationships in driving new business endeavors in established firms, the entrepreneurship literature has paid only limited attention to this aspect, which thus warrants further investigation. Our findings add to stakeholder theory by highlighting the pivotal role of stakeholder relationships (including employees, customers, suppliers, and partners) in facilitating corporate entrepreneurship, aligning with prior studies (e.g., Kuratko *et al*., 2007; Chebbi *et al*., 2020). In particular, this paper indicates that engaging stakeholders through active listening, effective communication, seeking consultation, and cooperative problem-solving leads to CE. This adds to previous studies that recognized the importance of networks in enhancing CE (e.g., Sakhdari, 2016) and how organizations use networks (Castriotta

et al., 2021), as scholars have underestimated the external knowledge through which an organization seeks to drive innovation (Chiang and Hung, 2010). Pursuing corporate entrepreneurship can benefit from sourcing new knowledge from various stakeholders, such as suppliers, customers, and competitors (Zahra *et al*., 2009). This approach is seen as a valuable and effective complement to their innovation efforts.

From a bottom-up perspective of CE, in which employees can promote improvements and new lines of business by encouraging the organization to renew itself from within (Moriano *et al*., 2009), EBE is crucial to understand entrepreneurial activity within established companies (new products, new services, strategy). Our study reinforces previous research (de Jong *et al*. 2013; Mustafa *et al*., 2018) on the contribution of EBE to CE. Previous research used a composite measure (e.g., Moriano *et al*., 2011) to examine the entrepreneurship inside firms. Our results reveal that CE can be enhanced by each dimension of EBE differently: proactive and risk-taking behavior has a direct association with CE, while innovative behavior does not appear to directly foster CE. Contrary to other studies (e.g., Romero-Martinez *et al.*, 2010; Nayir, 2014), our results show that innovative behavior does not foster the development of new products directly. In this line, this study has presented unexpected empirical findings by revealing the absence of a connection between innovative behavior and CE, indicating that alternative approaches should be employed to foster entrepreneurship inside organizations. Although innovative behavior may align with other dimensions of the entrepreneurial behavior of employees, it does not necessarily result in the engagement of corporate entrepreneurship initiatives. Successful CE may require high levels of proactivity and risk-taking behaviors but not necessarily high levels of employees' innovative behaviors. Innovative behavior might be considered a less significant dimension for CE in TBFs than previously considered, as it does not seem to be enough to lead to new products, services, strategic renewal or corporate venturing, while a proactive behavior is essential for engaging in CE. In other words, the findings suggest that while innovative behavior is generally considered important, it may not always foster CE. The innovative behavior of employees must be aligned with the company's innovation objectives. If this alignment fails to materialize, there is a chance that the company will be reluctant to embrace the innovative behavior of its employees.

In this line, TBFs may be unwilling to bear any cost unless a clear alignment is observed between the employees' proposals and the company's objectives.

In addition, CE requires organizational preparedness and resources, time, rewards or reinforcement (Hornsby *et al*., 2013) to explore and pursue new opportunities. If the organization lacks the necessary resources or allocates them to other priorities, employees' innovative ideas may not be adequately supported or implemented, thus limiting their potential for fostering CE.

Finally, our findings address the research gap concerning the limited number of studies examining CE from the triple bottom line perspective (Niemann *et al*., 2020) and the studies that examined sustainability performance from an entrepreneurial perspective (Fischer *et al*., 2020). Our results reveal that CE improves not only economic performance, but also the social and environmental performance of technology-based companies. On the one hand, TBFs engaging in CE contribute to environmental sustainability by reducing (air, water, and solid) waste, minimizing the use of hazardous materials, preventing environmental accidents, and promoting energy conservation and efficiency. On the other hand, these companies are interested in the health and safety of their community, as well as reducing environmental impacts. They also focus on enhancing occupational health and safety for their workers as well as on promoting awareness and protection of people's rights and claims. Previous studies have also demonstrated that firms that integrate entrepreneurship with sustainability tend to attain increased levels of profitability compared to firms that are less sustainability oriented (Menguc and Ozanne, 2005; Miles *et al*., 2009). Firms with a sustainability orientation of CE could offer alternative avenues for capitalizing on entrepreneurial opportunities while mitigating the negative social and environmental effects of the product or the venture (Shane and Venkatraman, 2000). Therefore, a sustainability orientation of CE represents a strategic decision for managers to consider (Miles *et al*., 2009). Our study also reveals that older technology-based firms from sectors other than the industrial one have a better environmental performance than TBFs that are younger and industrial. Having more time to accumulate knowledge and experience in managing environmental issues can lead older companies to develop effective environmental management systems, processes, and strategies over the years, thus enabling them to address environmental concerns more

efficiently. In addition, older technology-based firms from the industrial sector may have greater financial resources, which allow them to invest in environmentally friendly technologies and practices.

Managerial implications

Based on our research, we propose certain managerial interventions to promote corporate entrepreneurship. Companies should maintain strong relationships with their stakeholders, as they can provide critical resources for the development of intrapreneurial initiatives, such as specialized knowledge, industry contacts, funding, etc. Moreover, stakeholders can provide valuable feedback and new ideas that can drive the generation of CE initiatives. By interacting with stakeholders, organizations can obtain information about customer needs and wants, identify emerging opportunities in the marketplace, and capture innovative ideas for the creation of new products, services or processes.

On the basis of the proposed model, managers ought to recognize the significance of encouraging and supporting the entrepreneurial behavior of employees to exploit entrepreneurship opportunities. On the one hand, when organizations value and promote proactive behaviors, it creates an environment that is conducive to employees' taking an active role in generating new ideas, identifying opportunities, and implementing innovative projects. By promoting these behaviors, companies can stimulate creativity and innovation among their employees and contribute to CE. On the other hand, employees who demonstrate a willingness to undertake calculated risks are more inclined to explore new ideas and projects, even when there is no guarantee of success. Promoting an environment in which risk-taking is encouraged and rewarded supports the entrepreneurial mindset within the organization and fosters the generation of new business opportunities. When companies focus especially on promoting proactivity and risk-taking behaviors among their employees, they are sending a clear message of support and confidence. Consequently, this will lead employees to take the initiative and to direct entrepreneurship projects.

Furthermore, companies can point employees to specific corporate entrepreneurship programs, in order to facilitate proactive and risk-taking work behaviors. These programs provide a structured environment and a dedicated set of resources to support these more intrapreneurial employees. By channeling their energy and talent into innovative projects within the company, a synergy is created that benefits both the individuals and the organization as a whole. It is essential to reward and recognize the entrepreneurial behavior of these employees. These rewards are not only a way to show appreciation, but also act as an incentive for employees to be proactive and to lead change initiatives by assuming risk within the organization. By aligning the entrepreneurial behavior of employees with the company's goals, a powerful and mutually beneficial connection is created. Employees find a clear purpose and an opportunity to develop their skills and advance their careers. At the same time, the company benefits from the generation of innovative ideas, the capacity to swiftly adapt to market changes, and the promotion of a spirit of renewal and change from within.

Finally, managers should consider the potential benefits resulting from aligning business initiatives, such as corporate entrepreneurship, with the triple bottom line, which consist in improving outcomes for society as a whole. By harnessing the EBE and developing entrepreneurial initiatives, companies can contribute to sustainable development. This not only extends economic benefits beyond internal stakeholders, but also promotes a positive impact on society and the environment.

Limitations and future research

This research was carried out in a single country (Spain), and therefore future studies should address this shortcoming. Secondly, the data collected and analyzed represent a snapshot in time, limiting the possibility of establishing causality. Despite this limitation, it is also a line of research to be explored in future studies that employ a longitudinal design and explore causal relationships within the proposed models, providing a more comprehensive understanding of EBE and CE antecedents and consequences from the triple bottom line perspective. In addition, we targeted R&D employees, who are known to have a stronger involvement in creating new

products, materials, and processes, as well as a greater inclination towards entrepreneurial behavior. We acknowledge that employees, regardless of their role or position, possess the capacity to demonstrate such behaviors. Future studies could focus on the connection between innovative work behavior and corporate entrepreneurship, while concurrently acknowledging the influence of organizational variables and corporate culture as pivotal moderating factors within this relationship. By exploring these dimensions in greater depth, we can advance our understanding of the complex dynamics that shape innovative work behavior within organizations and gain valuable insights into how organizational context and cultural norms play a vital role in fostering or inhibiting such behavior.

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Chapter 5

DISCUSSION AND CONCLUSIONS OF THE DOCTORAL THESIS

CHAPTER 5. DISCUSSION AND CONCLUSIONS OF THE DOCTORAL THESIS

5.1.- General conclusions and theoretical implications

This thesis has enabled us to shed light on the factors that stimulate entrepreneurship within companies, both at the organizational level, by analyzing CE, and at the employee level, by studying EBE. This study also considers the relationship between both forms of intrapreneurship, as well as the consequences that this type of behavior has on economic, social, and environmental performance.

Previous research (e.g., Antoncic and Hisrich, 2001; Antoncic 2007; Galvan-Vela et al., 2022) emphasizes the importance of gaining a comprehensive understanding of the factors that give rise to corporate entrepreneurship, and highlights the significance of identifying novel approaches to entrepreneurial behavior within firms in order to advance our knowledge in this field. Entrepreneurship inside firms driven both top-down and bottom-up is crucial for innovation and strategic renewal of companies (Neessen et al., 2019).

First, this research contributes to a better understanding of the personal motivators of intrapreneurs and their perceptions of organizational support for undertaking projects, and provides an answer to the call for further research on EBE antecedents (Neessen et al., 2019; Turro et al., 2022). Our findings suggest that the most significant factors valued by intrapreneurs seem to be work discretion and mutual confidence, as well as the quality of the relationship between intrapreneurs and top managers. Furthermore, intrapreneurial behaviors of employees can still be observed despite the time constraints and limited resources available for developing projects. Such findings are in line with previous research (e.g., Hornsby et al., 2002; Sebora et al., 2010) which points to the importance of management support for fostering and promoting entrepreneurship initiatives among employees, as it encourages and advances their readiness to engage in intrapreneurial activities. This support includes being open and receptive to new ideas from employees, providing feedback that acknowledges good performance, and offering

assistance to remove obstacles that hinder progress, while also providing structures, resources and a favorable environment for generating EBE and promoting entrepreneurial initiatives. Additionally, it is consistent with prior research (e.g., Urban and Nikolov, 2013) in the sense that offering rewards and time motivates employees to exhibit entrepreneurial behaviors and take on leadership roles. In line with previous research (Carrier, 1996; De Clercq et al., 2011; Rose et al., 2022), our results indicate that personal motivators, such as the desire to discover better ways of doing things, the need for autonomy and control over one's own destiny, recognition for good work, opportunities for professional growth, and the aspiration to work for oneself seem to be relevant to develop entrepreneurial behavior inside firms. In particular, promotion is viewed as a valuable reward because it provides an opportunity to be closer to the owner-manager, who often holds decision-making authority. Entrepreneurial employees believe that with promotion, they can take greater initiatives in various areas. Ownership of capital stock or other monetary compensation systems, as well as motivations linked to past experiences and future career objectives, are also important rewards and driving forces for intrapreneurs.

Furthermore, this study underscores the suitability of the CEAI (Corporate Entrepreneurship Assessment Instrument) developed by Hornsby et al. (2002) to analyze organizational factors in a company and assess its readiness for corporate entrepreneurship. This tool provides a structure and framework for assessing various organizational aspects that can influence a company's ability to foster and support internal entrepreneurial activity. The CEAI was used to reflect on the adequacy of organizational factors in relation to CE.

Second, our research contributes to the literature that studies work context and well-being as antecedents of EBE (e.g., Rigtering and Weitzel, 2013; de Jong et al., 2015; Neessen et al., 2019) and highlights the need to analyze EBE at the dimension level rather than as a single construct. Regarding the contribution made by perceptions of job resources and demands to EBE, our findings suggest that proactive behavior is directly influenced by managerial support, as found by Crant (2000), and does not seem to be affected by work overload. This highlights the significant role of managerial support in promoting proactive behavior. Our findings also emphasize the contribution that perceptions of job demands make to EBE. The perception of work

overload positively influences innovative work behavior, as suggested by previous research (Olafsen et al., 2018; Cavanaugh et al., 2000), as it fosters employees' capacities, competences, thoroughness, and curiosity. In contrast, proactive behavior is not associated with work overload, and risk-taking behavior is only indirectly linked through emotional exhaustion. The way employees perceive their working conditions can influence their well-being, by either fostering or inhibiting their entrepreneurial behavior. Risk-taking behavior is indirectly connected to job autonomy and work overload through its relationship with employee well-being. Limited evidence was found regarding the relationship between work conditions and risk-taking behavior, as indicated in previous studies such as Rigtering and Weitzel (2013) and de Jong et al. (2015).

Our research contributes to the JD-R model by investigating the applicability of the motivational process and the health impairment process within the context of intrapreneurship. The motivational process is observed for risk-taking behavior, as job autonomy relates to work engagement, which in turn connects to a propensity toward risk-taking. Moreover, the health impairment process linking work overload with emotional exhaustion is associated with risk-taking behavior.

Additionally, our study highlights the role of employee well-being as a psychological resource for EBE, considering both the positive (work engagement) and negative emotions (exhaustion). Previous studies (e.g., Nikolaev, Shir and Wiklund, 2020) have drawn attention to the fact that lack of well-being can encourage entrepreneurial behavior. Work engagement is found to be a crucial antecedent of EBE, and emotional exhaustion is associated with increased risk-taking behavior. Surprisingly, we find that despite experiencing emotional exhaustion, employees' levels of innovativeness and proactivity are not affected.

Moreover, this thesis contributes to the literature that highlights the need for additional research to shape entrepreneurship inside organizations (e.g., Neessen et al., 2019) by analyzing the antecedents of CE from a people-oriented perspective, and considering the role of stakeholder relationships, on the one hand, and the role of the EBE, on the other. Our results suggest that the intensity of stakeholder relations and the proactive and risk-taking behavior of employees have a

positive effect on CE. Establishing good relationships with stakeholders (employees, customers, suppliers, and partners) is essential because they can play a determining role when engaging in CE, as suggested in previous research (e.g., Kuratko et al., 2007; Tipuric et al., 2013). Stakeholders can provide useful information that could be used to develop CE (new products, services, initiatives etc.). Active engagement, communication, consultation, and problem-solving with stakeholders are identified as key drivers of CE. Additionally, from a bottom-up perspective of CE, the study reveals that while innovative behavior of employees is important, it may not directly foster CE. Instead, proactive behavior and risk-taking are found to be crucial to engage in CE. Our study is in line with previous research (de Jong et al., 2013; Mustafa et al., 2018) on the contribution of EBE to CE. Contrary to other studies (e.g., Romero-Martinez et al., 2010; Nayir, 2014), our results show that innovative behavior does not foster the development of new products directly. In this line, this study has presented unexpected empirical findings by revealing the absence of a connection between innovative behavior and CE, thereby suggesting that alternative approaches should be employed to foster entrepreneurship inside organizations. It may be that the innovative behavior of employees should be aligned with the company's innovation objectives. If this alignment fails to materialize, there is a chance that the company will be reluctant to embrace the innovative behavior of its employees. In this line, organizations may be unwilling to bear any cost unless a clear alignment is observed between the employees' proposals and the company's objectives.

Finally, following sustainability approaches, the study explores how CE can contribute to the triple bottom line (economic, social, and environmental performance). This thesis is a pioneer in this field by taking into account the triple bottom line perspective as a consequence of corporate entrepreneurship and fills the gap on the need for further research on non-financial variables (Rigtering and Weitzel, 2013; Neessen et al., 2019; Urbano et al., 2022). Our findings show that CE has a positive impact on not only economic but also social and environmental performance. Prior research has shown that firms that combine entrepreneurship and sustainability tend to achieve higher profitability compared to those focused less on sustainability (Menguc and Ozanne, 2005; Miles et al., 2009). Companies adopting CE can provide alternative pathways for

capitalizing on entrepreneurial opportunities while also addressing the adverse social and environmental impacts associated with their products or ventures.

5.2.- Practical implications of the research results

This thesis suggests some managerial interventions to foster both employees' engagement in entrepreneurial behaviors and corporate entrepreneurship initiatives aimed at improving economic, social, and environmental performance. The results of this research may be particularly attractive to a manager audience and could serve as a guide for organizations that need to reinvent themselves in order to remain viable.

Below, we present the main practical implications:

Implications regarding managers' behavior

Top-down support for employee initiatives, understood as the involvement of the managers in supporting employees' entrepreneurial behavior, is fundamental. Managers should provide the structure and resources necessary for these initiatives to emerge within the organization. It is crucial to consider the importance of favoring the work engagement of employees and design the work context in such a way that employees could feel in control of how they do their jobs, while also promoting fair and helpful interpersonal relationships with employees. This kind of work context is likely to boost a motivational process in employees that leads them to generate and implement new ideas as well as to take the initiative to search for opportunities. Moreover, it seems to be more important to provide enough resources capable of generating a motivational process in employees than to implement interventions to reduce work overload. Specifically, managers should provide their employees with alternative resources, such as job security, to allow them to feel secure when taking risks. However, it is worth considering that even in organizations where top managers passively support CE, intrapreneurial projects can still emerge. Passive support refers to a situation where top managers may not actively drive or

initiate CE activities but do not hinder or discourage them either. In such cases, employees within the organization may still feel empowered to take the initiative, generate new ideas, and pursue intrapreneurial projects. These employees may exhibit a high level of intrinsic motivation and entrepreneurial drive, leading to the emergence of intrapreneurial initiatives. In the case studied, top management support for employees' initiatives is observed, although it is not actively implemented and is not reflected in the company's procedures and strategies. In this case, entrepreneurship is part of the values of the founders who reactively support these initiatives, providing the necessary structure and resources when these initiatives arise within the company.

Managers should be aware that corporate entrepreneurship as a long-term commitment and short-term results are difficult to achieve. Moreover, it is crucial for companies to acknowledge that failure is a common and sometimes inevitable occurrence (Burgelman and Valikangas, 2005). Viewing failure as a natural part of the process allows organizations to treat it as a valuable learning opportunity.

Implications regarding entrepreneurial behavior of employees

It is essential to ensure that organizations have skilled people and allow them to understand the start-up and entrepreneurial mindset. By fostering the growth of entrepreneurial employees, organizations can benefit from their knowledge, inspire their colleagues, and cultivate a culture of innovation and entrepreneurialism that can drive organizational success.

Our research suggests several managerial interventions to encourage employees' engagement in entrepreneurial behaviors. To facilitate innovative and proactive work behaviors, managers can create a work context that empowers employees to have control over how they perform their tasks. Furthermore, promoting fair and supportive interpersonal relationships is crucial to foster proactive behaviors. This type of work environment is likely to stimulate a motivational process in employees, leading them to generate and implement new ideas and actively seek opportunities.

Furthermore, our findings indicate that providing sufficient resources that generate a motivational process in employees is more important than simply reducing work overload when it comes to encouraging entrepreneurial behavior. Managers should also recognize the significance of promoting work engagement among employees as it has a positive influence on entrepreneurial behavior.

Supporting entrepreneurial employees with resources ensures they have the necessary tools, technologies, and financial backing to pursue their entrepreneurial ideas within the organization. Adequate resources can enable them to conduct research, develop prototypes, implement new projects, and overcome potential barriers. By allocating resources effectively, organizations demonstrate their commitment to fostering CE initiatives and increase the likelihood of achieving successful outcomes. Managers can support employees by providing alternative resources, such as job security, to help them feel secure when taking risks. This approach prevents managers from relying on employees' emotional exhaustion as a driving force for risk-taking behaviors.

Implications regarding stakeholders' relations and TBL consequences of CE

Promoting and facilitating CE initiatives can serve as a powerful strategy to achieve sustainable results and create a positive triple impact. In response to the changing business environment that places strong emphasis on sustainability as a determining factor for the survival of businesses (Widya-Hastuti et al., 2016), organizations must recognize the potential of CE to drive sustainable outcomes. By integrating CE with sustainable practices, businesses can generate positive impacts not only on economic performance but also on social and environmental dimensions. CE initiatives that prioritize sustainability contribute to economic growth, social well-being, and environmental stewardship, creating a win-win situation for businesses, society, and the planet.

Establishing good relationships with stakeholders (employees, customers, suppliers, and partners) is essential as they can play a determining role when engaging in CE, as suggested in

previous research (e.g., Kuratko et al., 2007; Tipuric et al., 2013). Stakeholders can provide useful information that could be used to develop CE (new products, services, initiatives, etc.).

In this vein, our results suggest that looking for synergies in the local entrepreneurial ecosystem could be a way of enhancing stakeholder relationships. Organizations implementing corporate entrepreneurship programs could establish collaborative relationships with other local players (universities, business associations, incubators, accelerators, etc.) aimed at detecting entrepreneurial talent by making use of specialized workspaces and inspiration, participating in instruments with external financial institutions, and so forth.

5.3.- Limitations and directions for future research

This thesis acknowledges several limitations that should be addressed.

Although the combination of qualitative and quantitative research methods has provided valuable insights, future studies should encompass a broader range of organizations to enhance the generalizability of the proposed model. Moreover, the study's focus was limited to a single country (Spain), indicating the need for future research to address this constraint and explore the model in diverse geographical contexts. Also, the data obtained and analyzed refer to a single point in time, and hence causality cannot be inferred. This is a weakness but at the same time an opportunity for future research, as it could be useful to apply a longitudinal design to test causal relationships in the hypothesized models and go deeper into the antecedents and consequences of EBE and CE from the triple bottom line perspective.

Future research could explore the applicability of the framework developed in this study to other industries, as our research primarily focused on technology-based companies related to R&D. While our findings provide valuable insights within this specific context, it is important to examine whether similar patterns and relationships exist in different industries. By extending the framework to various sectors, researchers can gain a broader understanding of how organizational factors influence entrepreneurial behavior across diverse industries. In this line, it is important to note that our sample includes managers, employees with entrepreneurial projects, and employees

in research and development (R&D). While R&D employees may have a stronger inclination towards entrepreneurial behaviors due to their involvement in developing new products, materials and processes, it is worth recognizing that any employee within the organization has the potential to exhibit such behaviors in any department of the company, regardless of its specific area or function. The generalization of the results of the current study may require future studies to replicate them in different contexts using alternative samples of employees.

The first research study related to a single case, included here as Chapter 2, is limiting the generalization of the results on intrapreneurial behaviors in new technology-based firms. However, some of the results are in line with the recommendations provided by the report on CE in Spain (Ortega et al., 2017). Chapters 2 and 3 focus on the organizational context, work conditions, personal motivators, work engagement, and emotional exhaustion as antecedents of the entrepreneurial behavior of employees, but other antecedents could also be analyzed to complement the understanding of intrapreneurial activity. Future research should address other work conditions that can also be considered as resources and potential antecedents (e.g., social support from colleagues or job security). In this line, Alam et al. (2013) suggested that future job designs may include the expected behavioral outcomes from employees for their adaptation in organizations. Moreover, we acknowledge that other variables could interact and modify the relationships examined. To account for this, and in line with recent suggestions from Bakker and de Vries (2021), it would be of special interest to study the interaction between job demands and resources and key personal resources, such as emotional intelligence (Bakker and de Vries, 2021) or state mindfulness (Huang et al., 2021), and how they shape feelings of engagement and exhaustion. Further research could also investigate the relation between EBE and employee work-life balance, and other psychological well-being variables. Some scholars (Shepherd et al., 2009; Behrens and Patzelt, 2016; Urbano et al., 2022) have suggested that future research can also focus on what leads to project failure and to the termination of CE activities. In coming years the mechanisms through which CE can enhance economic growth and welfare are expected to become a trend (Pirhadi and Feyzbakhsh, 2021).

The CEAI tool was employed to assess the suitability of organizational factors concerning corporate entrepreneurship (CE). However, other organizational factors not included in the CEAI could be analyzed, such as organizational culture, and other tools for measuring CE could also be considered.

Finally, future studies could investigate how organizations can effectively integrate CE and open innovation practices, by exploring the mechanisms, processes, and strategies that facilitate the collaboration and exchange of ideas, knowledge, and resources between internal entrepreneurial initiatives and external partners in the context of open innovation.

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ABSTRACT (English)

Although much work has already been carried out in the CE and EBE fields, scholars still have opportunities to build a stronger theoretical and empirical foundation and to further advance the knowledge in this area.

This thesis has been prepared in the form of a compendium of three articles, which follow a logical and coherent sequence that responds to the general objective of this research.

Study 1, through a qualitative study, explores how successful intrapreneurial initiatives from employees were developed, analyzing how organizational factors and personal motivations of intrapreneurs may determine the impact on CE. Our main conclusions in this study show intrapreneurial projects may arise in firms whose top managers support CE in a non-active manner. Work discretion may be a supportive factor, whereas the lack of time availability does not prevent intrapreneurship behavior. Moreover, intrapreneurs rate mutual confidence and the quality of the relationship between employees and top managers as the most important motivating factor.

Study 2 is based on an in-depth quantitative study that analyzes whether employees' perceptions of work conditions (job resources and job demands) prompt them to adopt an entrepreneurial behavior (innovative work behavior, proactive behavior, and risk-taking behavior) and how these perceptions shape well-being (work engagement and emotional exhaustion). The main contribution of this study is the approach to the study of employees' entrepreneurial behavior, exploring employees' perceptions of working conditions and their well-being. This research suggests that it is recommendable to analyze the three dimensions of entrepreneurial behavior (EC) separately, since the different conditions of the work context affect these dimensions differently, with risk-taking being the behavior that seems to be least associated with working conditions. Feelings of commitment are significantly related to all three dimensions of EQ and play a mediating role in the association that job autonomy and managerial support have with EQ. In addition, the research reveals that feelings of burnout are a catalyst that leads employees to react and take risks.

Study 3 offers a unique understanding of the human side of CE, through a quantitative research study. The main novelties lie in considering EBE and stakeholder relationships as relevant for CE, the individual examination of the dimensions of EBE and, especially, of how CE benefits the triple impact approach. EBE plays a pivotal role in elucidating entrepreneurial activities within established organizations. This behavior is expected to have an impact on CE, such as the development of new products and services. The findings indicate that strong stakeholder relationships and proactive, risk-taking behavior, rather than employees' innovative behavior, are associated with heightened levels of CE. Furthermore, CE exhibits a positive influence not only on economic performance, but also on environmental and social performance. The research makes significant contributions to stakeholder theory, the field of CE, and TBL by offering a people-centered and sustainability-focused perspective.

RESUMEN, DISCUSIÓN Y CONCLUSIONES (En castellano)

Resumen extendido

El emprendimiento corporativo (EC), o emprendimiento a nivel de empresa, ha evolucionado como un subcampo en la investigación del emprendimiento (Sharma y Chrisman, 1999; Kuratko, 2017) que explora cómo el emprendimiento puede ocurrir dentro de las organizaciones. Este fenómeno ha atraído el interés de los investigadores durante los últimos 60 años y se considera crucial para la revitalización organizativa (Guth y Ginsberg, 1990; Kuratko et al., 2021) y representa una forma de mejorar el rendimiento financiero, medido tanto por indicadores de rentabilidad, como de crecimiento (Zahra y Covin, 1995; Antoncic y Hisrich, 2001; Gerasymenko et al., 2015; Simsek y Heavey, 2011; Ziyae y Sadeghi, 2020; Verma y Mehta, 2022). En un intento por comprender qué impulsa el EC, las investigaciones pasadas y presentes han identificado una serie de mecanismos de influencia internos y externos. En esta línea, es esencial identificar qué factores fomentan el EC en las organizaciones (Van Wick y Adonisi, 2012). La investigación previa identifica al menos tres tipos de factores a diferentes niveles que pueden influir en el EC: factores ambientales, relacionados con la empresa e individuales. El modelo de Guth y Ginsberg (1990), por ejemplo, explica la influencia de los líderes estratégicos, los factores ambientales (competitivos, tecnológicos, sociales y políticos) y los factores organizativos. Antoncic y Hisrich (2001) diferencian entre factores ambientales y organizativos (incluidos los relacionados con las personas). Otros modelos teóricos, como los de Zahra et al. (2009), siguen planteamientos similares a la hora de agrupar los factores condicionantes en estos distintos niveles de análisis. Sin embargo, los factores determinantes del EC deben ser estudiados con mayor profundidad (Rigtering y Weitzel, 2013) para ahondar en el conocimiento de cómo las organizaciones pueden cultivar y mantener su potencial emprendedor para el crecimiento y el éxito.

En los últimos años, la atención de los académicos se ha desplazado hacia las actividades emprendedoras que llevan a cabo los empleados (de abajo hacia arriba) dentro de una organización y a cómo se puede impulsar el comportamiento intraemprendedor o el comportamiento emprendedor de los empleados (CEE), entendido como la medida en que los

empleados realizan tareas en el trabajo de forma proactiva, asumiendo riesgos y aprovechando oportunidades para innovar (de Jong et al., 2015; Badoiu et al., 2020). Los empleados que muestran un comportamiento emprendedor provocan cambios en las organizaciones, se consideran impulsores clave de la innovación (Grant y Ashford, 2008) y desempeñan un papel fundamental en la división del trabajo.

Sin embargo, la investigación que examina el CEE sigue siendo dispar y escasa, como es el caso de la investigación que examina por qué algunos individuos persiguen actividades emprendedoras y otros no, a pesar de estar expuestos al mismo contexto organizativo (Stull and Singh, 2005). Los factores motivacionales relacionados con la personalidad y la experiencia de los empleados pueden servir como motor de las iniciativas empresariales. Considerar factores como los rasgos de personalidad de los empleados y su potencial de promoción profesional dentro de la organización se destaca como elementos esenciales para comprender la motivación que lleva a los empleados a poner en marcha nuevos proyectos e iniciativas empresariales (Carrier, 1996). Además, dado que la literatura presenta una corriente de estudios que reclaman más investigación sobre las variables relacionadas con el bienestar de los empleados (Guest, 2017), la asociación entre el CEE y el bienestar es un área de interés prominente. Por ello, existe la necesidad de definir un marco integrador que proporcione una visión general sobre el CEE y cómo se facilita el EC.

Desde una perspectiva orientada a las personas, también es interesante analizar cómo las relaciones con los stakeholders externos pueden activar el EC, dando lugar a resultados económicos, sociales y medioambientales. Las relaciones con los stakeholders también son de vital importancia para emprender nuevas iniciativas dentro de las empresas existentes (Bosse et al., 2018). Sin embargo, se han realizado muy pocas investigaciones en la intersección entre el emprendimiento y la teoría de los stakeholders. La literatura dominante se centra en analizar el efecto del emprendimiento corporativo en los resultados económicos (Covin y Slevin, 1991; Zahra y Garvis, 2000). Sin embargo, los factores determinantes del EC y sus efectos sobre otros resultados no financieros deberían estudiarse con mayor profundidad (por ejemplo, Dess et al., 2003; Rigtering y Weitzel, 2013; Neessen et al., 2019; Urbano et al., 2022). En esta línea, Urbano et al. (2022) recomendaron que la investigación sobre las consecuencias del EC debería analizar

tanto los resultados sociales como los financieros y económicos. Siguiendo esta idea, más trabajos deberían centrarse en explorar la perspectiva de la triple cuenta de resultados, ya que el EC puede tener un impacto positivo en los resultados económicos, además de influir en los resultados sociales y medioambientales. El concepto de triple cuenta de resultados amplía la perspectiva económica incorporando dimensiones medioambientales y sociales (Tate y Bals, 2018). Se requiere más investigación para explorar los factores determinantes y los efectos del EC desde una perspectiva de sostenibilidad, ya que hasta la fecha solo se ha llevado a cabo una cantidad limitada de investigaciones en este ámbito (Aparicio et al., 2020).

Esta tesis pretende abordar las lagunas existentes y avanzar en el debate y la investigación sobre el EC y el CEE profundizando en los antecedentes organizativos y personales del CEE, así como en el impacto ascendente sobre el EC. Además, desde una perspectiva orientada a las personas, esta investigación pretende explorar la influencia de las relaciones con los grupos de interés y del CEE en el EC (la creación de nuevos productos, servicios y/o empresas, la innovación y la renovación estratégica) y realizar un análisis desde la perspectiva del triple bottom (rendimiento económico, social y medioambiental). Partiendo de este objetivo general, la tesis se ha elaborado en forma de compendio de tres artículos y realiza importantes contribuciones y amplía la literatura existente sobre el EC y CEE en varios aspectos fundamentales.

En primer lugar, esta investigación ayuda a contextualizar la percepción de los emprendedores internos sobre el apoyo organizacional y las motivaciones personales para liderar proyectos dentro de una nueva empresa de base tecnológica. Tradicionalmente, la literatura se ha centrado principalmente en la implementación descendente de proyectos empresariales dentro de grandes empresas. Este trabajo contribuye a la comprensión de la combinación de factores a nivel de empresa e individuo que facilitan los comportamientos emprendedores de los empleados dentro de una nueva empresa de base tecnológica. Los hallazgos indican que, dentro de las empresas, los proyectos emprendedores internos pueden surgir incluso cuando los altos directivos apoyan el CE de manera no activa, aunque su apoyo es necesario. A pesar del tiempo y los recursos limitados, los empleados exhiben comportamientos emprendedores. El estudio destaca que factores como la discrecionalidad en el trabajo, la confianza mutua y la calidad de la relación entre los empleados

y los altos directivos son muy valorados por los empleados emprendedores. Estos factores desempeñan un papel significativo en el fomento de iniciativas emprendedoras internas dentro de las organizaciones.

En segundo lugar, esta tesis realiza una valiosa contribución al mejorar nuestra comprensión del CEE y explorar las percepciones de los empleados sobre las condiciones de trabajo y su bienestar. Esta investigación sugiere que es recomendable analizar las tres dimensiones del CEE (comportamiento proactivo, innovador y asunción de riesgos) por separado, ya que las diferentes condiciones del contexto laboral afectan a estas dimensiones de manera diferente, siendo el comportamiento de asunción de riesgos el que parece estar menos asociado a las condiciones de trabajo. Los sentimientos de compromiso están significativamente relacionados con las tres dimensiones del EBE y desempeñan un papel mediador en la asociación entre la autonomía en el trabajo y el apoyo directivo con el CEE. Además, la investigación revela que los sentimientos de agotamiento son un catalizador que lleva a los empleados a reaccionar y asumir riesgos.

En tercer lugar, nuestro estudio aborda la necesidad de investigaciones sobre el EC desde una perspectiva orientada a las personas y busca identificar cómo las relaciones con los grupos de interés o stakeholders y el CEE pueden dar forma al EC. También tiene como objetivo analizar el efecto del EC no solo en el desempeño económico, sino también en el desempeño ambiental y social. Para abordar este objetivo, nos basamos en la teoría de los stakeholders y en un enfoque de sostenibilidad para analizar el EC. En esta línea, este manuscrito contribuye a la literatura de varias maneras. En primer lugar, ampliamos la investigación existente sobre antecedentes relevantes para el emprendimiento corporativo, como las relaciones con los grupos de interés y el CEE. Específicamente, la participación en relaciones con los stakeholders a través de una comunicación efectiva, consultas y la participación en la resolución cooperativa de problemas conduce al EC. Además, abordamos las dimensiones individuales del EBE, lo que proporciona un análisis más matizado de sus antecedentes, donde el EC exitoso puede requerir altos niveles de proactividad y comportamientos de asumir riesgos. Por último, este estudio es pionero en este campo al tener en cuenta la perspectiva de triple impacto como consecuencia del EC, al tiempo

que cubre vacíos en la necesidad de más investigación sobre variables no financieras y la imperativa de llevar a cabo más estudios que examinen el desempeño de la sostenibilidad desde una perspectiva emprendedora.

En resumen, esta investigación proporciona una perspectiva distintiva sobre los aspectos humanos del EC y el CEE. En particular, introduce varios elementos novedosos, incluido el reconocimiento y la importancia del CEE y las relaciones con los grupos de interés en el EC. Además, examina las dimensiones individuales del CEE y arroja luz sobre cómo el EC contribuye al enfoque de triple impacto.

Conclusiones generales e implicaciones teóricas

Esta tesis nos ha permitido arrojar luz sobre los factores que estimulan el espíritu emprendedor dentro de las empresas, tanto a nivel organizativo, mediante el análisis del EC, como a nivel del empleado, mediante el estudio del CEE. Este estudio también considera la relación entre ambas formas de emprendimiento, así como las consecuencias que este tipo de iniciativas tiene sobre el rendimiento económico, social y medioambiental.

Investigaciones anteriores (p. ej., Antoncic y Hisrich, 2001; Antoncic 2007; Galvan-Vela et al., 2022) subrayan la importancia de comprender en profundidad los factores que dan lugar al espíritu emprendedor en las empresas, y destacan la trascendencia de identificar enfoques novedosos del comportamiento emprendedor dentro de las empresas para avanzar en nuestros conocimientos en este campo. El emprendimiento corporativo dentro de las empresas impulsado tanto desde arriba como desde abajo es crucial para la innovación y la renovación estratégica de las empresas (Neessen et al., 2019).

En primer lugar, esta investigación contribuye a una mejor comprensión de los motivadores personales de los intraemprendedores y sus percepciones del apoyo organizativo para emprender proyectos, y ofrece una respuesta al llamamiento a seguir investigando sobre los antecedentes del CEE (Neessen et al., 2019; Turro et al., 2022). Nuestros resultados sugieren que los factores más significativos valorados por los intraemprendedores parecen ser la discreción en el trabajo y la confianza mutua, así como la calidad de la relación entre los intraemprendedores y los altos directivos. Además, los comportamientos intraemprendedores de los empleados pueden seguir observándose a pesar de las restricciones de tiempo y los limitados recursos disponibles para desarrollar proyectos. Estos resultados están en consonancia con investigaciones anteriores (por ejemplo, Hornsby et al., 2002; Sebora et al., 2010) que señalan la importancia del apoyo de la dirección para fomentar y promover las iniciativas emprendedoras entre los empleados, ya que fomenta y hace avanzar su disposición a participar en actividades intraemprendedoras. Este apoyo incluye estar abierto y receptivo a las nuevas ideas de los empleados, proporcionar retroalimentación que reconozca el buen rendimiento y ofrecer ayuda para eliminar los obstáculos

que dificultan el progreso, además de proporcionar estructuras, recursos y un entorno favorable para generar CEE y promover iniciativas emprendedoras.

Además, este punto de vista coincide con investigaciones anteriores (por ejemplo, Urban y Nikolov, 2013) en el sentido de que ofrecer recompensas y tiempo, motiva a los empleados a mostrar comportamientos emprendedores y asumir funciones de liderazgo. En línea con investigaciones anteriores (Carrier, 1996; De Clercq et al., 2011; Rose et al., 2022), nuestros resultados indican que los motivadores personales, como el deseo de descubrir mejores formas de hacer las cosas, la necesidad de autonomía y control sobre el propio destino, el reconocimiento por el buen trabajo, las oportunidades de crecimiento profesional y la aspiración a trabajar para uno mismo, parecen ser relevantes para desarrollar comportamientos emprendedores dentro de las empresas. En particular, el ascenso se considera una recompensa valiosa porque brinda la oportunidad de estar más cerca del propietario-gerente, que a menudo tiene autoridad para tomar decisiones. Los empleados emprendedores creen que con el ascenso pueden tomar mayores iniciativas en diversas áreas. La propiedad de capital social (por ejemplo, acciones) u otros sistemas de compensación monetaria, así como las motivaciones vinculadas a experiencias pasadas y objetivos profesionales futuros, son también importantes recompensas y fuerzas motrices para los intraemprendedores.

Además, este estudio subraya la idoneidad del CEAI (Corporate Entrepreneurship Assessment Instrument) desarrollado por Hornsby et al. (2002) para analizar los factores organizativos de una empresa y evaluar su preparación para el emprendimiento corporativo. Esta herramienta proporciona una estructura y un marco para evaluar diversos aspectos organizativos que pueden influir en la capacidad de una empresa para fomentar y apoyar la actividad empresarial interna. El CEAI se utilizó para reflexionar sobre la adecuación de los factores organizativos en relación con el EC.

En segundo lugar, nuestra investigación contribuye a la literatura que estudia el contexto laboral y el bienestar como antecedentes del CEE (por ejemplo, Rigtering y Weitzel, 2013; de Jong et al., 2015; Neessen et al., 2019) y destaca la necesidad de analizar el CEE a nivel de

dimensión en lugar de como un único constructo. En cuanto a la contribución de las percepciones de los recursos y demandas del trabajo al CEE, nuestros hallazgos sugieren que el comportamiento proactivo está directamente influenciado por el apoyo del gerente, como lo encontró Crant (2000), y no parece verse afectado por la sobrecarga de trabajo. Esto pone de relieve el importante papel que desempeña el apoyo de los directivos en la promoción del comportamiento proactivo. Nuestros resultados también subrayan la contribución de la percepción de las exigencias del trabajo al CEE. La percepción de la sobrecarga de trabajo influye positivamente en el comportamiento innovador, como sugieren investigaciones anteriores (Olafsen et al., 2018; Cavanaugh et al., 2000), ya que fomenta las capacidades, competencias, minuciosidad y curiosidad de los empleados. Por el contrario, el comportamiento proactivo no está asociado con la sobrecarga de trabajo, y el comportamiento de asunción de riesgos solo está vinculado indirectamente a través del agotamiento emocional. La forma en que los empleados perciben sus condiciones de trabajo puede influir en su bienestar, fomentando o inhibiendo su comportamiento emprendedor. La asunción de riesgos está relacionada indirectamente con la autonomía laboral y la sobrecarga de trabajo a través de su relación con el bienestar de los empleados. Se encontraron evidencias limitadas sobre la relación entre las condiciones de trabajo y el comportamiento de asunción de riesgos, como se indica en estudios anteriores como Rigtering y Weitzel (2013) y de Jong et al. (2015).

Nuestra investigación contribuye al modelo JD-R investigando la aplicabilidad del proceso motivacional y el proceso de deterioro de la salud en el contexto del intraemprendimiento. El proceso motivacional se observa en el comportamiento de asunción de riesgos, ya que la autonomía laboral se relaciona con el compromiso laboral, que a su vez conecta con la propensión a la asunción de riesgos. Además, el proceso de deterioro de la salud que vincula la sobrecarga de trabajo con el agotamiento emocional se asocia con el comportamiento de asunción de riesgos.

Además, nuestro estudio destaca el papel del bienestar de los empleados como recurso psicológico para el CEE, considerando tanto las emociones positivas (compromiso laboral) como las negativas (agotamiento). Estudios anteriores (por ejemplo, Nikolaev, Shir y Wiklund, 2020) han llamado la atención sobre el hecho de que la falta de bienestar puede fomentar el

comportamiento emprendedor. Se ha descubierto que el compromiso laboral es un antecedente crucial del CEE, y que el agotamiento emocional se asocia con un mayor comportamiento de asunción de riesgos. Sorprendentemente, encontramos que a pesar de experimentar agotamiento emocional, los niveles de innovación y proactividad de los empleados no se ven afectados.

Además, esta tesis contribuye a la literatura que destaca la necesidad de investigación adicional para dar forma al emprendimiento dentro de las organizaciones (por ejemplo, Neessen et al., 2019) analizando los antecedentes del EC desde una perspectiva orientada a las personas, y considerando el papel de las relaciones con los grupos de interés, por un lado, y el papel del CEE, por otro. Nuestros resultados sugieren que la intensidad de las relaciones con los stakeholders y el comportamiento proactivo y de asunción de riesgos de los empleados tienen un efecto positivo sobre la EC. Establecer buenas relaciones con los stakeholders (empleados, clientes, proveedores y socios) es esencial porque pueden desempeñar un papel determinante a la hora de participar en la EC, como se ha sugerido en investigaciones anteriores (por ejemplo, Kuratko et al., 2007; Tipuric et al., 2013). Los stakeholders pueden proporcionar información útil que podría utilizarse para desarrollar la EC (nuevos productos, servicios, iniciativas, etc.). El compromiso activo, la comunicación, la consulta y la resolución de problemas con los stakeholders se identifican como impulsores clave de la EC. Además, desde una perspectiva ascendente del EC, el estudio revela que, aunque el comportamiento innovador de los empleados es importante, puede que no fomente directamente el CE. En cambio, el comportamiento proactivo y la asunción de riesgos resultan cruciales para participar en la EC. Nuestro estudio coincide con investigaciones anteriores (de Jong et al., 2013; Mustafa et al., 2018) sobre la contribución del CEE al EC. Contrariamente a otros estudios (por ejemplo, Romero-Martínez et al., 2010; Nayir, 2014), nuestros resultados muestran que el comportamiento innovador no fomenta el desarrollo de nuevos productos directamente. En esta línea, este estudio ha presentado hallazgos empíricos inesperados al revelar la ausencia de una conexión entre el comportamiento innovador y el CE, sugiriendo así que deberían emplearse enfoques alternativos para fomentar el espíritu emprendedor dentro de las organizaciones. Es posible que el comportamiento innovador de los empleados deba alinearse con los objetivos de innovación de la empresa. Si este alineamiento no se materializa, existe la

posibilidad de que la empresa se muestre reacia a adoptar el comportamiento innovador de sus empleados. En esta línea, las organizaciones pueden no estar dispuestas a asumir ningún coste a menos que se observe una clara alineación entre las propuestas de los empleados y los objetivos de la empresa.

Por último, siguiendo enfoques de sostenibilidad, el estudio explora cómo la EC puede contribuir a la triple cuenta de resultados (rendimiento económico, social y medioambiental). Esta tesis es pionera en este campo al tener en cuenta la perspectiva de la triple cuenta de resultados como consecuencia del emprendimiento corporativo y llena el vacío sobre la necesidad de seguir investigando sobre variables no financieras (Rigtering y Weitzel, 2013; Neessen et al., 2019; Urbano et al., 2022). Nuestros hallazgos muestran que el EC tiene un impacto positivo no solo en el rendimiento económico, sino también en el social y medioambiental. Investigaciones anteriores han demostrado que las empresas que combinan el emprendimiento corporativo y la sostenibilidad tienden a lograr una mayor rentabilidad en comparación con las que se centran menos en la sostenibilidad (Menguc y Ozanne, 2005; Miles et al., 2009). Las empresas que adoptan el EC pueden ofrecer vías alternativas para capitalizar las oportunidades empresariales y, al mismo tiempo, abordar los impactos sociales y medioambientales adversos asociados a sus productos o empresas.

Implicaciones prácticas de los resultados de la investigación

Esta tesis sugiere algunas intervenciones de los directivos para fomentar tanto el comportamientos emprendedor de los empleados como la participación en iniciativas emprendedoras corporativas dirigidas a mejorar el rendimiento económico, social y medioambiental. Los resultados de esta investigación pueden ser especialmente atractivos para un público directivo y podrían servir de guía para las organizaciones que necesitan reinventarse para seguir siendo viables.

A continuación, presentamos las principales implicaciones prácticas:

Implicaciones relativas al comportamiento de los directivos

El apoyo descendente a las iniciativas de los empleados, entendido como la implicación de los directivos en el apoyo al comportamiento emprendedor de los empleados, es fundamental. Los directivos deben proporcionar la estructura y los recursos necesarios para que estas iniciativas surjan dentro de la organización.

Es crucial tener en cuenta la importancia de favorecer el compromiso laboral de los empleados y diseñar el contexto de trabajo de tal forma que los empleados puedan sentir que controlan cómo realizan su trabajo, al tiempo que se promueven unas relaciones interpersonales justas y provechosas con los empleados. Es probable que este tipo de contexto laboral impulse un proceso de motivación en los empleados que los lleve a generar y poner en práctica nuevas ideas, así como a tomar la iniciativa en la búsqueda de oportunidades. Además, parece más importante proporcionar suficientes recursos capaces de generar un proceso motivacional en los empleados que aplicar intervenciones para reducir la sobrecarga de trabajo. Concretamente, los directivos deberían proporcionar a sus empleados recursos alternativos, como la seguridad en el puesto de trabajo, que les permitan sentirse seguros a la hora de asumir riesgos. Sin embargo, merece la pena considerar que incluso en organizaciones en las que los altos directivos apoyan pasivamente el EC, pueden surgir proyectos intraemprendedores. El apoyo pasivo se refiere a una situación en la que los altos directivos no impulsan ni inician activamente actividades de emprendimiento, pero tampoco las obstaculizan ni las desalientan. En estos casos, los empleados de la organización pueden seguir sintiéndose capacitados para tomar la iniciativa, generar nuevas ideas y llevar a cabo proyectos intraemprendedores. Estos empleados pueden mostrar un alto nivel de motivación intrínseca e impulso emprendedor, lo que conduce a la aparición de iniciativas intraemprendedoras. En esta investigación, se observa un apoyo de la alta dirección a las iniciativas de los empleados, aunque no se aplica activamente y no se refleja en los procedimientos y estrategias de la empresa. En este caso, el espíritu emprendedor forma parte de los valores de los fundadores, que apoyan estas iniciativas de forma reactiva, proporcionando la estructura y los recursos necesarios cuando estas iniciativas surgen en la empresa.

Los directivos deben ser conscientes de que el EC es un compromiso a largo plazo y que los resultados a corto plazo son difíciles de conseguir. Además, es crucial que las empresas reconozcan que el fracaso es un hecho común y a veces inevitable (Burgelman y Valikangas, 2005). Considerar el fracaso como una parte natural del proceso permite a las organizaciones tratarlo como una valiosa oportunidad de aprendizaje.

Implicaciones sobre el comportamiento emprendedor de los empleados

Es esencial garantizar que las organizaciones cuenten con personas capacitadas y les permitan comprender la mentalidad emprendedora y de puesta en marcha de nuevos proyectos . Al fomentar el crecimiento de los empleados emprendedores, las organizaciones pueden beneficiarse de sus conocimientos, inspirar a sus colegas y cultivar una cultura de innovación y espíritu emprendedor que puede impulsar el éxito de la organización.

Nuestra investigación sugiere varias intervenciones por parte de la dirección con el objetivo de fomentar la participación de los empleados en comportamientos emprendedores. Para facilitar los comportamientos innovadores y proactivos en el trabajo, los directivos pueden crear un contexto laboral que permita a los empleados controlar la forma en que realizan sus tareas. Además, promover relaciones interpersonales justas y solidarias es crucial para fomentar los comportamientos proactivos. Es probable que este tipo de entorno de trabajo estimule un proceso de motivación en los empleados, llevándolos a generar y poner en práctica nuevas ideas y a buscar activamente nuevas oportunidades.

Además, nuestros resultados indican que proporcionar recursos suficientes que generen un proceso de motivación en los empleados es más importante que simplemente reducir la sobrecarga de trabajo a la hora de fomentar el comportamiento emprendedor. Los directivos también deberían reconocer la importancia de fomentar el compromiso laboral entre los empleados, ya que influye positivamente en el comportamiento emprendedor.

Apoyar a los empleados emprendedores con recursos garantiza que dispongan de las herramientas, las tecnologías y el respaldo financiero necesarios para llevar a cabo sus ideas

emprendedoras dentro de la organización. Unos recursos adecuados pueden permitirles llevar a cabo investigaciones, desarrollar prototipos, poner en marcha nuevos proyectos y superar posibles obstáculos. Al asignar los recursos de forma eficaz, las organizaciones demuestran su compromiso con el fomento de las iniciativas de emprendimiento empresarial y aumentan la probabilidad de lograr resultados satisfactorios. Los directivos pueden apoyar a los empleados proporcionándoles recursos alternativos, como la seguridad en el trabajo, para ayudarles a sentirse seguros a la hora de asumir riesgos. Este enfoque evita que los directivos perciban el agotamiento emocional de los empleados como fuerza impulsora de los comportamientos de riesgo.

Implicaciones del emprendimiento corporativo en las relaciones con los stakeholders y consecuencias del triple cuenta de resultados

Promover y facilitar iniciativas del EC puede servir como una poderosa estrategia para lograr resultados sostenibles y crear un triple impacto positivo. En respuesta al cambiante entorno empresarial que pone un fuerte énfasis en la sostenibilidad como factor determinante para la supervivencia de las empresas (Widya-Hastuti et al., 2016), las organizaciones deben reconocer el potencial del EC para impulsar resultados sostenibles. Al integrar la EC con prácticas sostenibles, las empresas pueden generar impactos positivos no solo en el rendimiento económico, sino también en las dimensiones social y medioambiental. Las iniciativas del EC que dan prioridad a la sostenibilidad contribuyen al crecimiento económico, al bienestar social y a la gestión medioambiental, creando una situación beneficiosa para las empresas, la sociedad y el planeta.

Establecer buenas relaciones con los stakeholders (empleados, clientes, proveedores y socios) es esencial, ya que pueden desempeñar un papel determinante a la hora de participar en el EC, como se sugiere en investigaciones anteriores (por ejemplo, Kuratko et al., 2007; Tipuric et al., 2013). Los grupos de interés pueden proporcionar información útil que podría utilizarse para desarrollar el EC (nuevos productos, servicios, iniciativas, etc.).

En este sentido, nuestros resultados sugieren que la búsqueda de sinergias en el ecosistema empresarial local podría ser una forma de mejorar las relaciones con los stakeholders.

Las organizaciones que implementan programas de emprendimiento corporativo podrían establecer relaciones de colaboración con otros actores locales (universidades, asociaciones empresariales, incubadoras, aceleradoras, etc.) orientadas a la detección de talento emprendedor, haciendo uso de espacios especializados de trabajo e inspiración, participando en instrumentos con instituciones financieras externas, etc.

Limitaciones y orientaciones para futuras investigaciones

Esta tesis reconoce varias limitaciones que deben abordarse.

Aunque la combinación de métodos de investigación cualitativos y cuantitativos ha proporcionado información valiosa, los estudios futuros deberían abarcar una gama más amplia de organizaciones para mejorar la generalizabilidad del modelo propuesto. Además, el enfoque del estudio se limitó a un único país (España), lo que indica la necesidad de que futuras investigaciones aborden esta limitación y exploren el modelo en contextos geográficos diversos. Asimismo, los datos obtenidos y analizados se refieren a un único punto en el tiempo, por lo que no se puede inferir causalidad. Esto es una debilidad, pero al mismo tiempo una oportunidad para futuras investigaciones, ya que podría ser útil aplicar un diseño longitudinal para probar las relaciones causales en los modelos hipotetizados y profundizar en los antecedentes y consecuencias del CEE y el EC desde la perspectiva de la triple cuenta de resultados.

Futuras investigaciones podrían explorar la aplicabilidad del marco desarrollado en este estudio a otras industrias, ya que nuestra investigación se centró principalmente en empresas de base tecnológica relacionadas con la I+D. Aunque nuestros resultados aportan información valiosa en este contexto específico, es importante examinar si existen patrones y relaciones similares en otros sectores. Al ampliar el marco a varios sectores, los investigadores pueden obtener una comprensión más amplia de cómo los factores organizativos influyen en el comportamiento emprendedor en diversas industrias. En este sentido, es importante señalar que

nuestra muestra incluye a directivos, empleados con proyectos empresariales y empleados en investigación y desarrollo (I+D). Aunque los empleados de I+D pueden tener una mayor inclinación hacia los comportamientos emprendedores debido a su implicación en el desarrollo de nuevos productos, materiales y procesos, cabe reconocer que cualquier empleado dentro de la organización tiene el potencial de mostrar dichos comportamientos en cualquier departamento de la empresa, independientemente de su área o función específica. La generalización de los resultados del presente estudio puede requerir futuros estudios que los repliquen en contextos diferentes utilizando muestras alternativas de empleados.

El primer estudio de investigación relacionado con un único caso, incluido aquí como Capítulo 2, está limitando la generalización de los resultados sobre comportamientos intraemprendedores en nuevas empresas de base tecnológica. Sin embargo, algunos de los resultados están en línea con las recomendaciones proporcionadas por el informe sobre el EC en España (Ortega et al., 2017). Los capítulos 2 y 3 se centran en el contexto organizativo, las condiciones de trabajo, los motivadores personales, el compromiso laboral y el agotamiento emocional como antecedentes del comportamiento emprendedor de los empleados, pero también podrían analizarse otros antecedentes para complementar la comprensión de la actividad intraemprendedora. Las investigaciones futuras deberían abordar otras condiciones laborales que también pueden considerarse recursos y antecedentes potenciales (por ejemplo, el apoyo social de los compañeros o la seguridad laboral). En esta línea, Alam et al. (2013) sugirieron que los futuros diseños de puestos de trabajo pueden incluir los resultados conductuales esperados de los empleados para su adaptación en las organizaciones. Además, reconocemos que otras variables podrían interactuar y modificar las relaciones examinadas.

Para tener esto en cuenta, y en línea con las recientes sugerencias de Bakker y de Vries (2021), sería de especial interés estudiar la interacción entre las demandas y los recursos del trabajo y los recursos personales clave, como la inteligencia emocional (Bakker y de Vries, 2021) o la atención plena (Huang et al., 2021), y cómo influyen en los sentimientos de compromiso y agotamiento. También se podría investigar la relación entre el CEE y el equilibrio entre la vida laboral y personal de los empleados, así como otras variables de bienestar psicológico. Algunos

estudiosos (Shepherd et al., 2009; Behrens y Patzelt, 2016; Urbano et al., 2022) han sugerido que la investigación futura también puede centrarse en lo que conduce al fracaso del proyecto y a la finalización de las actividades de EC. En los próximos años se espera que los mecanismos a través de los cuales el EC puede mejorar el crecimiento económico y el bienestar se conviertan en una tendencia (Pirhadi y Feyzbakhsh, 2021).

La herramienta CEAI se empleó para evaluar la idoneidad de los factores organizativos relativos a la iniciativa empresarial corporativa (iniciativa empresarial). Sin embargo, podrían analizarse otros factores organizativos no incluidos en el CEAI, como la cultura organizativa, y también podrían considerarse otras herramientas para medir el EC.

Por último, futuros estudios podrían investigar cómo las organizaciones pueden integrar eficazmente el EC y las prácticas de innovación abierta, explorando los mecanismos, procesos y estrategias que facilitan la colaboración y el intercambio de ideas, conocimientos y recursos entre las iniciativas emprendedoras internas y los socios externos en el contexto de la innovación abierta.

APPENDIXES

Appendix 1

Questionnaire for managers and entrepreneurial employees

We are interested in learning about how you perceive your workplace and organization. Please read the following items. Using the scale below please indicate how much you agree or disagree with each of the statements. If you strongly agree, write ‘‘5.’’ If you strongly disagree write ‘‘1.’’ There are no right or wrong answers to these questions so please be as honest and thoughtful as possible in your responses. All responses will be kept strictly confidential. Thank you for your cooperation!

Position of the person answering this questionnaire:

The corporate entrepreneurship assessment instrument (CEAI)

Management support for corporate entrepreneurship subscale

—— 1. My organization is quick to use improved work methods.

—— 2. My organization is quick to use improved work methods that are developed by workers.

—— 3. In my organization, developing one’s own ideas is encouraged for the improvement of the corporation.

—— 4. Upper management is aware and very receptive to my ideas and suggestions.

—— 5. A promotion usually follows from the development of new and innovative ideas.

—— 6. Those employees who come up with innovative ideas on their own often receive management encouragement for their activities.

—— 7. The ‘‘doers on projects’’ are allowed to make decisions without going through elaborate justification and approval procedures.

—— 8. Senior managers encourage innovators to bend rules and rigid procedures in order to keep promising ideas on track.

—— 9. Many top managers have been known for their experience with the innovation process.

—— 10. Money is often available to get new project ideas off the ground.

—— 11. Individuals with successful innovative projects receive additional rewards and compensation beyond the standard reward system for their ideas and efforts.

—— 12. There are several options within the organization for individuals to get financial support for their innovative projects and ideas.

—— 13. People are often encouraged to take calculated risks with ideas around here.

—— 14. Individual risk takers are often recognized for their willingness to champion new projects, whether eventually successful or not.

—— 15. The term ‘‘risk taker’’ is considered a positive attribute for people in my work area.

—— 16. This organization supports many small and experimental projects, realizing that some will undoubtedly fail.

—— 17. An employee with a good idea is often given free time to develop that idea.

—— 18. There is considerable desire among people in the organization for generating new ideas without regard for crossing departmental or functional boundaries.

—— 19. People are encouraged to talk to employees in other departments of this organization about ideas for new projects.

Work discretion subscale

—— 1. I feel that I am my own boss and do not have to double check all of my decisions with someone else.

—— 2. Harsh criticism and punishment result from mistakes made on the job.

—— 3. This organization provides the chance to be creative and try my own methods of doing the job.

—— 4. This organization provides the freedom to use my own judgment.

—— 5. This organization provides the chance to do something that makes use of my abilities.

—— 6. I have the freedom to decide what I do on my job.

—— 7. It is basically my own responsibility to decide how my job gets done.

—— 8. I almost always get to decide what I do on my job.

—— 9. I have much autonomy on my job and am left on my own to do my own work.

—— 10. I seldom have to follow the same work methods or steps for doing my major tasks from day to day.

Rewards/Reinforcement Subscale

—— 1. My manager helps me get my work done by removing obstacles and roadblocks. —— 2. The rewards I receive are dependent upon my innovation on the job.

—— 3. My supervisor will increase my job responsibilities if I am performing well in my job.

—— 4. My supervisor will give me special recognition if my work performance is especially good.

—— 5. My manager would tell his/her boss if my work was outstanding.

—— 6. There is a lot of challenge in my job.

Time availability Subscale

—— 1. During the past three months, my workload kept me from spending time on developing new ideas.

—— 2. I always seem to have plenty of time to get everything done.

—— 3. I have just the right amount of time and workload to do everything well.

—— 4. My job is structured so that I have very little time to think about wider organizational problems.

—— 5. I feel that I am always working with time constraints on my job.

—— 6. My co-workers and I always find time for long-term problem solving.

Organizational boundaries Subscale

—— 1. In the past three months, I have always followed standard operating procedures or practices to do my major tasks.

—— 2. There are many written rules and procedures that exist for doing my major tasks.

—— 3. On my job I have no doubt of what is expected of me.

—— 4. There is little uncertainty in my job.

—— 5. During the past year, my immediate supervisor discussed my work performance with me frequently.

—— 6. My job description clearly specifies the standards of performance on which my job is evaluated.

—— 7. I clearly know what level of work performance is expected from me in terms of amount, quality, and timelines of output.

Questionnaire for intrapreneurs

Personal motivators of the intrapreneur

Below, you will find several statements about your motivations of being intrapreneur (to undertake on the job). Hierarchizes the motivational factors by order of importance being 1 the most important and in the last place the least important. If there is another factor that is not listed, please indicate it.

Position of the person answering this questionnaire:

Intrinsic personality-related motivations

—— 1. Intrapreneurial personality eager for challenge and achievement

—— 2. Availability for "learning" –rich work

—— 3. A sense of working for oneself foremost

—— 4. A need to control one's destiny

—— 5. Interest in discovering "better" ways of doing things

—— 6. Other_____

Extrinsic reward-related motivations

—— 1. Promotion

—— 2. Access to capital stock

—— 3. Innovation bonuses

—— 4. Higher salary than elsewhere

—— 5. Possibility of increased income

—— 6. Other_____

Motivations related to past experience and future career objectives

—— 1. Desire to work for oneself

—— 2. Past experience as an entrepreneur

—— 3. Past experience as an intrapreneur

—— 4. Attraction of going back in the business in one's "native village

—— 5. "Plateaued" (in the restrictive sense) in a previous job

—— 6. Other_____

Motivations related to the organizational context

—— 1. Management style that welcomes intrapreneurship

—— 2. Sense of belonging

—— 3. Shared vision with the entrepreneur

—— 4. Mutual confidence and quality of the relationship

—— 5. Other_____

Interview questions for directors

1. What intrapreneurial projects is developing the company, understanding intrapreneurship as entrepreneurship within a company?

2. What type of support does the company offer to boost intrapreneurial projects?

3. What is the importance of each intrapreneurial project for the company: low, medium, high?

4. Do the projects carried out in the company come more from the employees, from the clients, elsewhere?

5. In general would you say that intrapreneurship is beneficial for the company?

Interview questions for intrapreneurs

1. Job position, seniority and profile.

2. How does the project starts?

3. Business ideology.

4. Determinant strategic factor.

5. Result achieved, the intrapreneurial project is a new business, new product or new department?

3. What kind of support (infrastructure, economic) did your project received from the company?

4. What is the importance of your project for the company?

5. Do you think intrapreneurship is beneficial?

Appendix 2

Entrepreneurial behavior

Innovative work behavior

- Paying attention to issues that are not part of his/her daily work*
- Wondering how things can be improved
- Searching for new working methods, techniques or instruments
- Generating original solutions to problems
- Finding new approaches to execute tasks
- Making important organizational members enthusiastic about innovative ideas
- Attempting to convince people to support an innovative idea
- Systematically introducing innovative ideas into work practices
- Contributing to the implementation of new ideas
- Making an effort to develop new things*

Proactive behavior

- I actively tackle problems
- Whenever something goes wrong, I immediately search for a solution
- Whenever there is a chance to get actively involved, I take it
- I take the initiative immediately even when others don't*
- I quickly jump at opportunities to attain my goals
- I usually do more than I am asked to do*
- I am particularly good at coming up with ideas*

Risk-taking behavior

- I take risks in my job
- When large interests are at stake, I go for the big win even when things could go seriously wrong
- First I act and then I ask for approval, even if I know that it would annoy other people*

Managerial support

- The managers can be relied upon to keep to their promises
- The managers are sincere in attempting to understand employees' views
- The managers deal with employees honestly
- The managers understand that employees have to meet responsibilities outside work
- The managers encourage people to develop their skills
- The managers treat employees fairly

Job autonomy

- I have an influence over the tasks I do in my job
- I have an influence over the pace at which I work
- I have an influence over how I do my work
- I have an influence over the order in which I carry out tasks
- I have an influence over the time I start or finish my working day*

Work overload

- I am pressured to work long hours
- I have unachievable deadlines
- I have to work very fast
- I have to work very intensively*
- I have to neglect some tasks because I have too much to do
- Different groups at work demand things from me that are hard to combine*
- I am unable to take sufficient breaks*
- I have unrealistic time schedules

Work engagement

- In my work, I feel bursting with energy
- In my job, I feel strong and vigorous

- I am enthusiastic about my job
- My job inspires me
- When I get up in the morning, I feel like going to work
- I feel happy when I am working intensely
- I am proud of the work that I do
- I am immersed in my work
- I get carried away when I am working

Emotional exhaustion

- I feel emotionally drained from my work
- I feel used up at the end of the work day
- I feel fatigued when I get up in the morning and have to face another day on the job
- Working with people puts too much stress on me
- I feel burned out from my work

Appendix 3

Questionnaire for managers

STAKEHOLDER RELATIONSHIPS

- Early sensing of societal concerns*

- Listening to various stakeholder voices.

- Communicating a company's point of view to stakeholders.

- Seeking consultation for new development.

- Cooperate with stakeholders to solve problems.

- Improving goodwill among stakeholders

- Building positive relationships with stakeholders.*

TRIPLE BOTTOM LINE

Economic Performance

- Sales margin growth

- Market margin growth

Environmental Performance

- We reduce waste (air, water and/or solid) discharged to the environment

- We decrease the consumption of hazardous/harmful/ toxic materials

- We decrease the frequency of environmental accidents

- We decrease energy consumption due to conservation and efficiency improvements

Social Performance

- We improve overall stakeholder welfare or betterment

- We improve community health and safety

- We reduce environmental impacts and risks to the general public

- We improve occupational health and safety of employees

- We improve awareness and protection of the claims and rights of people in the community served

CORPORATE ENTREPRENEURSHIP

The organization has significantly increased:

- The emphasis on developing new products/services.

- The rate of introducing new products/services into the market.

- The spending on new product/service development activities.*

- The number of products/services added by the organization and already existing in the market.*

- The number of new products/services that the organization has introduced in the market for first time.

- Percentage of revenue generated from new businesses/services that did not exist three years ago.

- The organization has stimulated new demands on the existing products/services in currents markets through aggressive advertising and marketing.*

- The organization has broadened the business lines in current industries.

- The organization has pursued new businesses in new industries related to current business.

- The organization has found new niches for its products/services in current markets.

- The organization has entered new businesses by offering new lines and products/services.

- The organization has revised the business concept.

- The organization has redefined the industries in which the company will compete.

- The organization has reorganized units and divisions to increase organizational innovation.

- The organization has coordinated activities among units to enhance organizational innovation.

- The organization has increased the autonomy (independence) of different units to enhance their innovation.

- The organization has adopted flexible organizational structures to increase innovation.

- The organization has rewarded employees for creativity and innovation.

- The organization has trained and encouraged employees to be creative and innovative.

Questionnaire for employees

ENTREPRENEURIAL BEHAVIOR OF EMLOYEES

Innovative Behavior

- Paying attention to issues that are not part of his/her daily work*

- Wondering how things can be improved

- Searching for new working methods, techniques or instruments

- Generating original solutions to problems

- Systematically introducing innovative ideas into work practices

- Contributing to the implementation of new ideas

- Making an effort to develop new things

Proactive behavior

- I actively tackle problems

- Whenever something goes wrong, I immediately search for a solution

- Whenever there is a chance to get actively involved, I take it

- I usually do more than I am asked to do*

- I am particularly good at coming up with ideas

Risk-taking behavior

- When I have more than one option for a task, I tend to choose the riskiest one.

- I tend to take risks in work that requires highly technical analysis.

- I tend to take more risks when decisions are more important to the organization.

- I take risks in my work even when it is possible that they could

backfire.

- I will take risky action even when I lack all relevant information for the task at hand.*

CORPORATE ENTREPRENEURSHIP

The organization has significantly increased:

- The emphasis on developing new products/services.

- The rate of introducing new products/services into the market.

- The spending on new product/service development activities.*

- The number of products/services added by the organization and already existing in the market.*

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