

INTERNAL DETERMINANTS PROMOTING CORPORATE ENTREPRENEURSHIP IN ESTABLISHED ORGANIZATIONS: A SYSTEMATIC LITERATURE REVIEW

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Abstract

Due to the increasing dynamics and complexity in the corporate environment, the importance of Corporate Entrepreneurship (CE) for the development and long-term sustainability of established companies' competitive advantages is continuously increasing. However, the literature still lacks a CE framework that consolidates and integrates the different research findings illustrating the impact of particular CE drivers. We conduct a systematic literature review of the current CE research to ascertain which internal determinants promote CE in established organizations and how they nurture creativity and innovation. Building on a four-dimensional CE framework, we identify several central determinants of CE and provide practitioners in established organizations with guidelines for successful implementation of CE. By identifying several topical and outstanding issues, the paper encourages further debate and research activity.

Implications for Central European audience: This paper advanced the current CE research by systematically consolidating and integrating top management literature invoking multiple research streams and discussing several directions for further research. The developed framework reflects the current state of CE research and hence can serve as a guide for successful implementation of CE in established organizations, as well as for further investigation of the CE concept. Thus, this paper makes an important contribution to solving the puzzle of successful implementation of CE in established corporations.

Keywords: corporate entrepreneurship; innovation; literature review

JEL Classification: L2, M14, O31

Introduction

The rising competitive intensity and the current global reality make innovation a necessary condition for long-term survival (Corbett et al., 2013) require firms' courage, risk-taking and entrepreneurial leadership to maintain competitive advantages (Kuratko et al., 2015). However, fostering creativity and innovation has never been so difficult, especially for established companies (Corbett et al., 2013). Formalized structures and corporate culture

often limit these companies' ability to act and react (Thornberry, 2001), which constrains their flexibility and willingness to assume risk in order to identify and capitalize new business opportunities in a timely way (Peltola, 2012). Therefore, established companies have been looking for ways to revitalize their entrepreneurial roots and their former creativity to strengthen their current competitive position (Blažková & Dvouletý, 2018; Corbett et al., 2013; Echols & Neck, 1998; Machek & Hnilica, 2015; Zahra & Covin, 1995). The concept of establishing an innovation-friendly environment and fostering entrepreneurial behaviour in existing companies is defined as Corporate Entrepreneurship (CE) (Kuratko et al., 2014; McGrath, 2001). Based on early work in the area of innovation management (e.g., Hanan, 1976; Hill & Hlavacek, 1972; Peterson & Berger, 1972; Westfall, 1969), CE research has gained a lot of attention due to the increasingly challenging business environment that has developed in recent years (Kuratko et al., 2015; Lukeš, 2012; Valerio et al., 2014). As many studies have confirmed (e.g., Antoncic & Hisrich, 2001; Turner & Pennington, 2015), CE can be considered as a promising concept for fostering creativity, innovation and long-term success in organizations.

In recent decades, the CE concept has been researched from multiple perspectives, including strategic management, innovation management and entrepreneurship research. While the importance of CE for innovation, growth, profitability and survival of companies has already been confirmed (Guth & Ginsberg, 1990; Zahra & Covin, 1995), this research area is still characterized by a lack of consolidation and, in some cases, by a lack of understanding regarding its underlying mechanisms (Antoncic & Hisrich, 2003; Miles & Covin, 2002). This holds particularly true for the individual determinants of CE (Ireland et al., 2009). Over the last 40 years, a variety of determinants have been identified (Ireland et al., 2009) and partly consolidated in the form of superordinate CE frameworks, e.g. KEYS model by Amabile et al. (1996), or Corporate Entrepreneurship Assessment Instrument (CEAI) by Hornsby et al. (2002), which remain valid in current research. Nevertheless, an integrated CE framework that consolidates the different research efforts of recent years and illustrates the particular impact of the CE determinants is still missing.

Based on the current state of research, we strive to respond to this identified research gap by providing a systematic literature review concerning the CE determinants. The aim of our paper is to answer the following research questions by identifying, summarizing and synthesizing the current CE literature: (1) Which internal determinants promote CE in established organizations, (2) how do the internal determinants nurture creativity and innovation in established organizations and (3) which interplays of internal determinants should be considered for the implementation and promotion of CE in established companies? This review goes beyond existing papers by integrating research results from the areas of strategic management, innovation management and entrepreneurship, and synthesizing the findings on CE determinants.

In doing so, this paper contributes to the academic discourse by systematically structuring and consolidating the current CE research into an integrated framework of four main dimensions of organizational design – strategy, organization, people and rewards. This framework extends our understanding of the determinants of CE in terms of both their characteristics and their interplay and so it provides valuable insights for the future conceptualization of CE. We also identify areas of agreement and disagreement in the literature to outline an agenda for future research and to suggest ways how to implement CE

successfully in organizations. Thus, we not only advance academic research but also provide important managerial implications.

The paper is organized as follows. Section 2 outlines the theoretical framework of the CE concept. Section 3 describes the review methodology, which includes identification of relevant literature, its categorization and synthesis, and creation of the CE framework. In Section 4 we present and discuss the results. Section 5 concludes the findings, provides some managerial implications and identifies possible directions for further research.

1 Theoretical Foundations

The concept of Corporate Entrepreneurship can be traced back more than 40 years to first contributions by Hanan (1976), Hill & Hlavacek (1972), Peterson & Berger (1972) and Westfall (1969). Basically, CE comprises the application and implementation of entrepreneurial behaviour within large organizations (Echols & Neck, 1998). According to Sharma and Chrisman (1999), CE is present when one or more individuals create a new organization or initiate innovation within an existing organization. According to the mostly adapted categorization of Guth & Ginsberg (1990), this definition has to be extended by a strategic dimension. From their point of view, CE consists of two parts: (1) the creation of a new business through innovation within established organizations as already explained, and (2) the improvement of performance through the adjusted combination of existing resources and strategic renewal (Dess et al., 1999; Guth & Ginsberg, 1990; Zahra, 1993). If these definitions are combined, it can be stated that CE refers to the creation of new organizations within existing companies and also influences the innovation and strategy process of these companies.

However, the literature has been inconsistent in defining the CE concept (Srivastava & Agrawal, 2010). In the literature, entrepreneurial efforts within an existing organization are often called „Corporate Entrepreneurship” (CE) (Zahra, 1993), „Internal Corporate Venturing” (ICV) (Hornsby et al., 1993), „Entrepreneurial Orientation” (EO) (Lumpkin & Dess, 1996) and „Intrapreneurship” (IS) (Kuratko et al., 1990). ICV focuses on the first dimension of CE, from Guth & Ginsberg (1990), as it describes the investment of an established organization in a so-called new venture that operates within the existing organizational boundaries (Thornberry, 2003). By contrast, the EO concept is a strategic orientation of an organization (Tang et al., 2008; Vij & Bedi, 2012) and provides a guideline for the implementation of entrepreneurial activities and decisions within established companies (Rauch et al., 2009). EO consists of five dimensions - readiness to innovate, willingness to take risks, proactivity, aggressive competitive behaviour and autonomy as fundamental pillars of an entrepreneurial organization that can differentiate itself from its competitors and achieve a competitive advantage (Lumpkin & Dess, 1996; Miller, 1983; Vij & Bedi, 2012). The third concept, Intrapreneurship (IS), describes the creation of a suitable organizational structure that allows intrapreneurs easy access to the necessary resources in order to develop and implement innovative ideas and projects (Alpkant et al., 2010).

Although each of these concepts has its own characteristics and is entitled to be considered as a self-contained concept in research, CE is able to combine them. Because the CE concept is multidimensional and considers a diverse set of elements (Russell, 1999), the integration of the three concepts into a broad CE definition incorporating all relevant aspects as a basis for our literature review is appropriate (Christensen, 2005). In short, CE is

characterized by the sum of all innovation and renewal activities of a company, which enable the development and realization of new products and services (Bhardwaj & Momaya, 2011). It is a process that enables the continuous creation of innovation in dynamic environments (Kuratko et al., 2014), including radical product innovation, strategic renewal, risk-taking and proactive behaviour (Covin & Slevin, 1991; Miller, 1983).

In the recent decades, a large number of different research streams, including strategic management, innovation management or research of entrepreneurship and creativity have investigated the construct of CE (Ahuja & Lampert, 2001; Vanhaverbeke & Peeters, 2005). Research papers in each of these research fields provide a broad range of potential drivers and theoretical frameworks of CE (Marvel et al., 2007). All of these papers' research models are instruments, which identify empirically the internal determinants influencing CE in a positive way (Hornsby et al., 2002). Even though various studies have identified a variety of entrepreneurial factors, some groups of CE determinants have appeared consistently over time (Kuratko et al., 1990). For example, rewards, management support, resources, organizational structures and risk-taking have been consistently identified as crucial CE drivers by various researchers in diverse studies for decades (Fry, 1987; Hisrich & Peters, 1986; Sykes & Block, 1989).

In addition to certain seminal publications on the topic of CE (Miller, 1983; Peterson & Berger, 1972), various CE conceptualizations and theoretical models have been developed in the last 40 years of CE research (e.g., Covin & Slevin, 1989, 1991; Dean et al., 1993; Dess et al., 2003; Ireland et al., 2003, 2006; Kuratko et al., 2001; Kuratko et al., 2005; Lumpkin & Dess, 1996). Even though there is a multitude of theoretical CE models, the Corporate Entrepreneurship Assessment Instrument (CEAI) developed by Hornsby et al. (2002) has received the most attention in literature. The model is based on Kuratko et al. (1990) Intrapreneurial Assessment Instrument (IAI), which identifies management support, organizational structure, availability of resources, risk management and reward systems as important determinants of CE. In their research, Hornsby et al. (2002) examined the perceptions of 761 managers from seventeen companies in the United States and Canada and developed five categories of internal indicators to measure CE intensity in established companies, namely management support, autonomy, rewards, available time and organizational barriers. Various later studies used this model as a basis for their research and confirmed its validity (e.g., Holt et al., 2007; Kuratko et al., 2014).

Despite a large number of research efforts in the field of CE over the last decades, the CE domain still suffers from a lack of consolidation and so remains an attractive research field (Antoncic & Hisrich, 2003; Hayton, 2005; Miles & Covin, 2002;). This applies especially to the determinants of CE (Ireland et al., 2009). Accordingly, a CE framework that consolidates, structures and integrates existing research findings and provides the fundamentals for further research is missing.

2 Literature Review Methodology

Given the vast amount of research on CE's performance implications, this paper focuses on CE's individual determinants, particularly internal organizational factors that influence CE and can be controlled and shaped by the management. Since organization-wide encouragement has been found to be far more important than employees' personal characteristics, this review focuses on the internal organizational determinants of CE that enable employees in

established organizations to initiate entrepreneurial initiatives (Holt et al., 2007; Hornsby et al., 2002).

Following Webster & Watson (2002), we conduct this systematic literature review in three steps. First, we use appropriate keywords to identify the relevant articles. Since the introduction of entrepreneurial structures in established organizations is not referred only to Corporate Entrepreneurship in the literature (Guth & Ginsberg, 1990), we also use the terms "Intrapreneurship" (Pinchot, 1985), "Internal Corporate Venturing" (Hornsby et al., 1993) and "Entrepreneurial Orientation" (Lumpkin & Dess, 1996) as keywords in the literature search. We used the database Business Source Premier in June 2019 to identify all relevant papers from leading peer-reviewed management journals concerning CE and its determinants. The selection of the journals was based on the Scimago Journal Rank Indicator in the fields of technology and innovation management (SCImago, n.d.). As stated by Manatos et al. (2017), this ranking indexes 50 percent more journals in the social sciences than the Web of Science does and also covers less traditional topics and more interdisciplinary publications (Klavans & Boyack, 2007; Meho & Rogers, 2008). This process resulted in 246 articles published in the fields of entrepreneurship, innovation and management from 1969 to 2019.

In the second step, we reviewed the content of each article and categorized it according to its relevance and research focus based on whether the article was linked to the topic of CE in the context of promoting innovation in established organizations and whether it identified determinants that are helpful for the establishment of CE. Based on these exclusion criteria, 129 relevant articles were identified and reviewed in-depth regarding their key findings and the identified CE determinants. The 129 reviewed articles are composed of 87 empirical and 42 conceptual publications from various journals. Table 1 lists the number of articles by a journal. In the third step, the findings were consolidated and integrated to create a new CE framework and formulate the results of the analysis (see Chapter 4).

We use a modified version of Galbraith's (2011) Star Model to structure the literature review's findings, as it appears more relevant than other existing models of organizational effectiveness, such as e.g., the 7-S-Model from Peters & Waterman Jr. (2011), the Dynamic Five-Factors Model of Leadership from Seiler & Pfister (2009), the Command Team Effectiveness (CTEF) Model from Essens et al. (2005). The superior suitability of the Star Model for our purposes is explained as follows.

Table 1 | Identified Literature by Journal

Journal	Total Number	%	Relevant Articles	%	Empirical	Conceptual
Entrepreneurship, Theory & Practice	67	27,2%	25	19,4%	11	14
Journal of Business Venturing	37	15,0%	24	18,6%	20	4
Other Journals	29	11,8%	21	16,3%	12	9
Strategic Management Journal	14	5,7%	9	7,0%	8	1
Journal of Management	12	4,9%	6	4,7%	5	1
Journal of Product and Innovation Management	11	4,5%	5	3,9%	4	1
Academy of Management Journal	8	3,3%	6	4,7%	4	2
European Management Journal	7	2,8%	3	2,3%	1	2
Journal of Product Innovation Management	7	2,8%	5	3,9%	4	1
Journal of Business Research	7	2,8%	4	3,1%	4	0
Business Horizon	6	2,4%	3	2,3%	1	2
Harvard Business Review	5	2,0%	2	1,6%	0	2
Journal of Management Studies	6	2,4%	3	2,3%	3	0
Management Decision	5	2,0%	3	2,3%	2	1
Product Innovation Management	5	2,0%	2	1,6%	1	1
Academy of Management Review	7	2,8%	2	1,6%	2	0
Small Business Economics	2	0,8%	2	1,6%	2	0
Management Science	4	1,6%	1	0,8%	0	1
Administrative Science Quarterly	3	1,2%	1	0,8%	1	0
Academy of Management Annual Meeting Proceedings	1	0,4%	1	0,8%	1	0
Organization Science	3	1,2%	1	0,8%	1	0
TOTAL	246	100,00%	129	100,00%	87	42

Source: Authors' elaboration

Although the 7-S-model (Peters & Waterman Jr., 2011) is a popular planning tool, its application can be difficult for organizations because of a common misunderstanding of what well-aligned elements should be included (Ravanfar, 2015). The “hard” factors (i.e., strategy, structure, and systems) are concrete and can be documented and planned, but the “soft” factors (i.e., skills, staff, style, and shared values) can be planned and controlled only to a limited extent, because they change periodically and are highly dependent on the members of the organization (Bisig et al., 2007). The Five-Factors Model of Leadership (Seiler & Pfister, 2009) is based on competent leadership in the context of the teamwork, organizational framework, and the present situation, but it does not specify the link between effective leadership and organizational effectiveness (Bisig et al., 2007). Finally, the CTEF Model (Essens et al., 2005) focuses primarily on team characteristics but neglects organizational culture and structure, which does not correspond to the complex management perspective in business organizations. In contrast to these models, the Star Model (Galbraith, 2011) is in line with our paper's objectives, as the organizational design creates a strong practical link while also illustrating the dimensions for how the individual CE determinants need to be designed. Moreover, the Star Model is tailored to business- and market-oriented companies because it identifies the key variables in organizational design that the management can influence. The advantage of this model is also that it aligns the various policies that ensure organizational efficiency and accounts for the necessity to adapt constantly to a changing environment (Bisig et al., 2007).

The modified model consists of four dimensions: strategy, structure, people, and rewards (see Figure 1). Although the original Star Model (Galbraith, 2011) and a few other studies have included the process dimension (Christensen, 2005), this dimension has attracted only sparse attention in the literature and is excluded from our CE model. In order to apply the modified model to CE, we enhance the four dimensions by key drivers identified in seminal publications in the field of CE (i.e., Amabile et al., 1996; Christensen, 2005; Covin & Slevin, 1991; Dougherty & Hardy, 1996; Hornsby et al., 2002; Kuratko et al., 1990; Lumpkin & Dess, 1996; Srivastava & Agrawal, 2010).

The strategy dimension defines the company's strategic direction, including its vision, short- and long-term objectives (Kates & Galbraith, 2007). The second dimension of the model, i.e. the structure dimension refers to the distribution of power and the definition of all authority relationships, including the interfaces within the company. In addition, it affects the hierarchical structure and the degree of decentralization in the organization (Galbraith, 2011). Thirdly, this model integrates the dimension of people and employees. It includes all leadership styles, management roles, and the support of the top management within an organization (Alpkan et al., 2010; Sathe, 1989). According to Kuratko et al. (1990), management in this context also includes its willingness to take risks, which thus represents an extension of this dimension. In addition, since culture can be seen as an elementary component of human resources management, it is also considered as an important component of the people dimension (Ogbonna, 1992). The model's fourth dimension is rewards, which includes all reward systems that work to align the goals of employees with those of the organization (Galbraith, 2011; Kates & Galbraith, 2007).

Figure 1 | Modified Version of Star Model



Source: Authors' visualization in dependence on the Star-Model (Galbraith, 2001)

In summary, the developed CE framework of this literature review is based on a modified version of the widely used Star Model of organizational design. The respective CE determinants of the four main dimensions have been extended by cognate terms, which are often used in CE literature. The resulting CE framework, shown in Table 2 in the following Chapter 4, provides an integrated view of the influencing factors of CE. To focus on the most important CE determinants, the factors that do not fit into the framework structure or that were listed in only a few articles over time are not considered further.

3 Results and Discussion

The literature review showed that certain organizational determinants are necessary to create CE in an organization (Ireland et al., 2009). Theoretical and empirical evidence provides various drivers of innovativeness in established companies (e.g., Bharadwaj & Menon, 2000; Kyrgidou & Spyropoulou, 2013; Selig et al., 2016; Wang & Dass, 2017). As one factor alone cannot define how CE can be implemented successfully, it is the combination of all identified determinants that contributes to the concept as a whole in a specific way (Hornsby et al.,

2002). The following sub-sections outline the four main dimensions of CE determinants and their importance for CE in the literature based on how often a determinant has been identified as an influencing factor of CE in the relevant articles. Table 1 shows the number of articles that recognize each factor as important, and this number is further used as an indicator of the respective factor's relevance to CE. Table 2 shows that organizational structure (46), strategy (37), and the support of the top management (37) are considered as the three most important determinants of CE in the literature, based on our approach. In addition, rewards (29), resources (27), and leadership (26) can also be seen as crucial factors for the successful implementation of CE. In contrast, autonomy (19), willingness to take risks (19), culture (19), and management roles (15) are less important for CE. The following sections investigate how the individual determinants foster CE and how they are related to each other.

Table 2 | CE Framework from the Literature Review

Main Dimension (Dimensions of organizational design)	Partial Dimension (CE determinants of seminal publications)	Related Terms (Similar terms that are often used in literature)
Strategy [37]	Strategy [37]	Strategy Organisations Strategy
	Autonomy [19]	Autonomy Freedom Degrees of liberty
Structure [51]	Organizational Structure [46]	Organizational Structure Collaborative Structure Organizational Boundaries Organizational System
	Leadership [26]	Leadership Management approaches
People [95]	Management Roles [15]	Management Roles Hierarchy
	Top Management Support [37]	Top Management Support Top Management Values Leaders Support
	Resources [27]	Resources Capabilities Knowledge
	Risk-Taking [19]	Risk-Taking Risk
	Culture [19]	Culture Corporate Values
	Rewards [29]	Rewards [29]

Source: Authors' visualization in dependence on the Star Model (Galbraith, 2001)

3.1 Strategy Dimension

In general, an organization's ability to combine the different determinants of CE depends on the *strategy* that its management implements (Felício et al., 2012). In the literature review, 37 of the 129 relevant articles identified the CE strategy as a determinant of CE, so it plays a significant role in the successful establishment of CE. According to Ireland et al. (2009), a CE strategy is a visionary and organization-wide guideline for entrepreneurial behaviour. This directive helps to renew the organization purposefully and continuously to improve its future competitive position by recognizing and realizing entrepreneurial market opportunities. The strategy includes all tasks and responsibilities that contribute to the sustainable development and exploitation of competitive advantages (Kuratko et al., 2001).

The CE strategy is framed by the entrepreneurial vision, which includes the company's strategic and performance goals (Bhardwaj & Momaya, 2011). Defined by top management, the CE strategy provides the basis for innovative and entrepreneurial behaviour in the company (Ireland et al., 2009). A clear strategic vision in combination with strategic objectives should replace a high degree of control and other measures that usually hinder entrepreneurial behaviour (Covin & Slevin, 1991). With the help of an entrepreneurial vision, top managers can lead the organization in an innovative and self-renewing direction (Ireland et al., 2009). For this purpose, the organization's overall strategy, including its values, objectives and the role of innovation must be actively and continuously developed, communicated, and promoted by top management (Kelley, 2011). In addition to a clear vision, successful implementation of a company's CE strategy requires a so-called mission statement that gives employees a more detailed scope of action to avoid risky activities and make the right decisions (Covin & Miles, 1999).

A particularly important part of the CE strategy is the management of internal corporate ventures. From a strategic point of view, these ventures must be treated as small start-up companies within the organization and isolated from the parent company's strategy and business model so they can develop their own success factors (Govindarajan & Trimble, 2005). The larger organization must accept these smaller units' autonomy, and they must be taken into account in the company's overall strategic direction (Burgelman, 1983). Consequently, one of the most important tasks of the CE strategy is to link and harmonize the strategies of the ventures with that of the entire company (Burgelman, 1983).

In summary, the continuous and long-term-oriented implementation of the CE concept is a major management challenge, but it is necessary for the sustainable development and realization of unique selling propositions (Kuratko et al., 2014). In practice, CE is usually implemented in regular investment cycles, often followed by a drastic budget cuts. Influencing factors of this phenomenon include leadership changes, declining revenue, and market changes (Kelley, 2011). Companies that pursue a long-term CE strategy not only achieve superior competitive positions but also have the opportunity to change the market to their advantage (Kuratko et al., 2009). These results illustrate the important role of the strategy in relation to CE and confirm that strategy is one of the most important determinants of the successful implementation of CE.

3.2 Structure Dimension

The structure dimension is the second main category of the developed CE framework and is directly linked to the corporate strategy. This dimension was examined in 51 of the 129 relevant articles in the literature review. It consists of two sub-dimensions: organizational structure and autonomy. Several studies showed that a CE vision has to be supported by an adequate organizational structure (Bhardwaj & Momaya, 2011). Burgelman (1983) describes the corporate structure as different administrative corporate mechanisms that top management can influence.

Empirical research has shown that the *organizational structure* has a significant impact on a company's creativity and innovation performance (Bhardwaj & Menon, 2000). Therefore, a company with creative employees must also create flexible structures that allow employees to maximize their potential (Echols & Neck, 1998). The organizational challenge for management of established companies is to find the right balance between innovation and

maintaining bureaucratic efficiency (Dougherty & Corse, 1995). Ireland et al. (2006) argues that the structural factors of bureaucracy, such as extended hierarchies and centralization, do not meet the requirements of entrepreneurial behaviour (Ireland et al., 2006). In fact, established companies' structures and processes are seldom designed to meet the organizational need for collaboration and problem-solving (Dougherty & Hardy, 1996). To adapt organizational structures to the changing needs of a dynamic corporate environment, strict organizational boundaries must be replaced by agile, innovative and CE-promoting organizational models (Dess et al., 1995). These barrier-free organizational designs are characterized by flexible distribution of tasks and roles, flat hierarchies and small business units. In addition, decentralized decision-making, interdisciplinary work processes and open communication are important characteristics of these organizational models (Ireland et al., 2009). In this context, the degree of formalization is a critical factor for the organizational support of CE (Ireland et al., 2009). While a traditional, hierarchical and formalized organizational structure is most suitable for predictable and repetitive tasks, uncertain and risky activities require an agile and self-managed structure (Ireland et al., 2006). Even so, some formal structures, such as the process of financing, developing and commercializing innovations, are necessary for the firm to operate profitably and efficiently in the market (Marvel et al., 2007).

The second CE determinant of the structure dimension is *autonomy*. In general, organizational structures that foster CE are characterized by a high degree of work-sharing, large control areas and a high degree of decentralization (Srivastava & Agrawal, 2010). Since employees who do not have the authority to act are not usually motivated to identify market opportunities (Ling et al., 2008), a high degree of centralization has a negative effect on the success of CE (Damanpour, 1991). In contrast, in decentralized structures, decision-making authority is given to employees who have the experience and knowledge to solve problems and to make use of the resulting opportunities (Ling et al., 2008). This leads to a greater range of control and allows employees to act entrepreneurially (Ireland et al., 2006). Only 19 studies mentioned autonomy as an important determinant of CE, indicating a subordinate role in the literature.

To foster entrepreneurship in organizations by means of increased decentralization, organizational aggregations that have emerged over the years must be eliminated (Bartlett & Goshal, 1996). The degree of decentralization defines the operational units' independence in undertaking their responsibilities and decision-making and shows the flexibility of the individual organizational members (Ling et al., 2008). A central aspect of a decentralized structure is autonomy, which gives employees the space to realize an entrepreneurial idea without having to face organizational restrictions and obstacles (Lumpkin & Dess, 1996). Managers must ensure that corporate entrepreneurs have this freedom so they can use their experience to decide which activities are the most promising ones (Felicio et al., 2012).

However, the literature sees the role of freedom and control in the context of CE in several ways, as researchers have not reached consensus regarding the right balance between stability and flexibility (Ireland et al., 2006). On one hand, some researchers see formal controls as obstacles to entrepreneurial behaviour (Zahra, 1991). According to Lumpkin & Dess (1996), employees' creativity is based on their clearance to act entrepreneurially. If too much control precludes the necessary flexibility, the literature proposes a negative impact on CE (Ireland et al., 2006). On the other hand, some researchers see control as a necessary

element for evaluating entrepreneurial investment (Antoncic & Hisrich, 2001). Although control is perceived as an obstacle to innovation, appropriate control mechanisms are essential to ensure that freedom is not exploited (Sathe, 1989). These mechanisms counteract the uncertainty of entrepreneurship by ensuring compliance with routines, evaluation of entrepreneurial behaviour and the promotion of efficiency (Goodale et al., 2011). Since new ideas are not just a question of investment, but also a threat to the business's efficiency, comprehensive controls are needed (Mumford & Hunter, 2005). In summary, the key challenge for the corporate structure is to find the right mix between hard and soft factors (Covin & Slevin, 1991).

3.3 People Dimension

The results of the literature review show that the people dimension is the most important one for the successful implementation of CE. 95 of the 129 articles identified this dimension as crucial for CE. This section describes the influence of leadership, management roles, top management support, willingness to take risks, corporate culture and the availability of resources on the success of CE in established organizations.

26 articles identified *leadership* behaviour as an important determinant of CE. Contained in leadership behaviour are administrative management, which focuses on efficient management of activities through adherence to predefined rules and methods, while entrepreneurial management works to initiate changes by promoting innovation and breaking existing routines (Ahuja & Lampert, 2001; Boccardelli & Magnusson, 2006). The entrepreneurial management style is also characterized by a high level of personal involvement and willingness to take risks (Hanan, 1976).

An increase in uncertainty in the corporate environment, company-wide knowledge transfer and entrepreneurial activities require new management and leadership approaches (Kanter, 1985). Nevertheless, both types of management are necessary in any organization and have to be carefully balanced (Kanter, 1985). Empirical evidence has confirmed that a company's management and leadership culture can have a positive influence on CE and innovation (Knight, 1987). Strong leadership is needed to overcome the organizational obstacles that limit or inhibit entrepreneurial behaviour (Sternberg et al., 2004). However, managers must avoid forcing people into entrepreneurial roles, which they are not suited. The most important tasks of a CE-promoting leadership approach are to estimate employees' skills correctly so they can reach their full potential (Sathe, 1989).

Because *management roles* execute the leadership and represent an elementary part of the internal organization (Morris et al., 1993), they have to be considered as a determinant of CE (Phan et al., 2009). Fifteen of the articles in the literature review identified management roles as an important determinant of CE. Management roles describe the management levels that are responsible for the entrepreneurial roles and functions in the company. At the lower management level, employees are developed into intrapreneurs and increase corporate performance by identifying and realizing new business opportunities (Bartlett & Goshal, 1996). In addition, they must adapt the entrepreneurial processes created by top management through experimentation (Bhardwaj & Momaya, 2011). As a result, they build the foundation on which entrepreneurial initiatives can be implemented in established organizations (Covin & Slevin, 1991).

In CE-oriented companies, the lower management level is supported by middle management, which combines and controls the organization's resources and capabilities so entrepreneurial opportunities can be realized (Hornsby et al., 2009). Middle management is particularly important because these managers serve as the link between top management and the management at the lower hierarchical levels and control the information flow (Bhardwaj & Momaya, 2011). Because middle managers are responsible for the organizational framework and the combination of resources (Bartlett & Goshal, 1996), they have a major impact on the success of CE in established organizations (Bhardwaj & Momaya, 2011) and are considered as the heart of CE (Floyd & Wooldridge, 1999).

Finally, top managers act as institutional leaders and provide the strategic orientation for the company's employees. This enables them to foster employee engagement and improve business performance (Bhardwaj & Momaya, 2011). The main tasks of managers at this level is to formulate a clear vision and strategy, build an organizational structure and control the entire system (Bartlett & Goshal, 1996). Instead of creating formal structures, top managers in CE-oriented companies implement less restrictive management roles (Bartlett & Goshal, 1996) so employees at all levels are responsible together for the success of entrepreneurial actions (Hornsby et al., 2009).

Some researchers have contended that a bottom-up approach is the best way to promote innovation and entrepreneurial activity in large organizations (Day, 1994; Ginsberg & Hay, 1994). Abetti's (2000) empirical research found that ventures are significantly more innovative and successful if their innovations are initiated and developed by employees at the lowest hierarchical levels. In contrast, according to Hornsby et al. (2009), senior executives are more likely to benefit from top management support than lower management is. Therefore, the authors recommend a top-down approach by the top management. In summary, corporate entrepreneurs play a variety of roles and operate at all levels of the hierarchy, but the literature draws no consensus regarding whether the innovation process should be initiated by the lowest or the highest hierarchical level.

The *support of top management* and shareholders is a central aspect of the successful implementation of the CE concept (Chen et al., 2005) and is often considered as the most important influencing factor of CE (Martín-Rojas et al., 2011) because top management's decisions have a significant impact on whether an innovative project continues (Christensen, 2005). This view has also been confirmed by empirical studies, which show that of all internal determinants, management support has the highest correlation with the success of CE (Martín-Rojas et al., 2013). Therefore, the literature review identified top management support in 37 of the 129 relevant articles as a key driver of CE and as one of the most important determinants of CE.

In general, top management support describes the willingness of the highest managers to establish and promote entrepreneurial activity in their organizations (Bhardwaj & Momaya, 2011) by providing resources, promoting creative ideas (Garrett & Neubaum, 2013), and ensuring that employees see innovation as a company-wide task (Alpkan et al., 2010). Management should create business conditions that establish entrepreneurial behaviour as the focus of the company and as both desirable and achievable for every employee (Fini et al., 2012). Management support includes strategic and financial support (Martín-Rojas et al., 2013), allocation of resources (Hitt et al., 1999) and the active involvement of the management in innovation projects (Mumford & Hunter, 2005). In summary, management's

task is to transfer vision and values, to increase flexibility in the organization, to provide the necessary resources and to support a high level of employee participation and open communication structures (Echols & Neck, 1998).

Another determinant of CE that is part of the people dimension is *risk-taking*. The willingness to take risks consciously and actively in order to realize opportunities (Dess & Lumpkin, 2005) was identified by a total of 19 researchers as an important driver of CE. Risk can be described as a possibility of loss (Antoncic & Hisrich, 2003). Entrepreneurial initiatives are usually linked to high risk, because resources such as time, budget and employees must be invested in advance with no guarantee of return (Ling et al., 2008). For long-term success, CE-oriented companies must continually take risks to develop new markets and generate high returns (Dess & Lumpkin, 2005). To implement this behaviour pattern consistently within the company, a certain tolerance and acceptance of mistakes is required (Gómez-Haro et al., 2011). Employees must be motivated to take risk so they can develop unusual and useful ideas within the organization (Amabile et al., 1996). In this context, studies although show that a low degree of management's risk tolerance is demotivating to employees (Marvel et al., 2007). Therefore, the establishment of a willingness to take risks that encourages creative employees to realize entrepreneurial opportunities should be the focus in established organizations (Fini et al., 2012). Various studies have investigated that the willingness to take risks has a positive effect on the success of CE intensity in companies (Felicio et al., 2012; Ling et al., 2008).

An additional driver of CE that can be classified as being in the people dimension is the *corporate culture*. Nineteen of the 129 articles identified it as a relevant determinant of CE, so it plays therefore a subordinate role in the literature. However, all of the determinants in the people dimension are part of the corporate culture to a certain degree and be influenced of its characterization. Especially the leadership style, top management support and the willingness to take risks are elementary factors for creating and influencing a corporate culture. For CE-oriented companies, an environment that enables employees to realize their full potential is more important than recruiting creative and innovative individuals (Amabile et al., 1996). Without a corporate culture that explicitly supports entrepreneurial initiatives within organizations, the CE concept cannot contribute to a high innovation intensity (Morse, 1986).

Morris et al. (1994) defines culture as the result of all learned and socially transmitted patterns of behaviour. An innovation-driven corporate culture offers intrapreneurs the necessary internal conditions to realize market opportunities. Therefore, the corporate culture must consider individual roles and relationships in the organization (Bartlett & Goshal, 1996). In addition, the culture should include a high degree of autonomy for employees so they can realize their entrepreneurial ideas (McLean, 2005). Employees also need the freedom to experiment without fear of failure (Fry, 1987). In summary, a CE-orientated corporate culture is a complex system because it forces employees to leave their comfort zone and deviate from their routines, so it can be lived across the company only if the management reflects the corporate values and behaviour in every decision and activity (Russell, 1999). The objective of a CE-orientated corporate culture is to ensure that intrapreneurs can react quickly and with agility as independent entrepreneurs (Alpkan et al., 2010).

The last determinant of the people dimensions is *resources*. In the literature, the resources are considered in 27 of the 129 articles as a determinant of CE. Even if all other determinants are present, the ability of a company to implement CE successfully and efficiently always

depends on the availability and the right combination of resources (Covin & Slevin, 1991). Engagement in CE measures requires new combinations of resources to expand a company's current business activities by means of innovations (Zahra et al., 2009). The different types of organizational resources such as money, time, employees and knowledge (Christensen, 2005) provide intrapreneurs the flexibility to pursue their most promising creative ideas (Mumford & Hunter, 2005). The effective allocation of limited resources to innovation projects is one of the most important management tasks (Mumford & Hunter, 2005).

Although researchers have agreed that resources are a crucial requirement for entrepreneurial behaviour in an organization, two different areas of research were identified regarding the relationship between resources and innovation (Plambeck, 2011). The first research stream is based on the assumption that larger companies generate more innovation because they have more resources to develop and launch new products (Ettlie & Rubenstein, 1987) and are able to overcome failures of innovation projects (Plambeck, 2011). In contrast, other researchers believe that a high availability of resources in large companies can hinder the development of innovations because of complex organizational structures and formal procedures and policies (Plambeck, 2011). Large enterprises often focus on the efficient production of their existing products, so resources are not always invested in the innovation projects that need them (Dougherty & Hardy, 1996). While there is no consensus between the two research streams, researchers have agreed that gaining approval for large investments, whether in a large company or a smaller one, is always a major challenge for innovators (Abetti, 2000).

3.4 Rewards Dimension

Rewards can be understood as any type of bonus, recognition or the prospect of interesting future tasks (Holt et al., 2007) and are mentioned in 29 of the 129 relevant research papers as an important determinant of CE. Management uses reward systems as a tool to influence the organizational behaviour and employees' attitudes about entrepreneurial initiatives (Christensen, 2005). An effective remuneration system includes defined objectives and individual responsibility for each employee (Marvel et al., 2007). To increase awareness of CE in the company, innovation activities should be part of performance evaluation and reward systems (Tushman & Nadler, 1986). Empirical studies have found a high correlation between long-term oriented reward systems and the successful implementation of CE (Ling et al., 2008).

In many large organizations, managers are rewarded for minimizing risk and maintaining strict functional roles and rules. Therefore, various studies have argued that there must be different reward systems for managers in established organizations and new ventures (Bhardwaj & Momaya, 2011). If intrapreneurs deliver the same performance as external entrepreneurs, they should be remunerated accordingly (Thornberry, 2003), but traditional reward systems that are based on money, power and status are not suitable for intrapreneurs since promotion to a management position usually results in less creative and innovative activities and does not fit their interests (Duncan et al., 1988).

In summary, the development of an efficient and entrepreneurial reward system is very complex, because many different aspects must be considered. Due to the fact, that not all intrapreneurs are equally motivated and factors like corporate culture influence their

perceptions regarding appropriate remuneration, there is no universal reward system that can be implemented successfully in every organization (Christensen, 2005).

Conclusions

Because of the increasingly dynamic and complex corporate environment (Schmelter et al., 2010), the importance of CE for competitive advantage has increased (Corbett et al., 2013). Although numerous studies have confirmed CE's importance for companies' innovation, growth, profitability and survival of companies (Guth & Ginsberg, 1990; Zahra & Covin, 1995), the characteristics of the different determinants of CE and their interplay remain under-researched (Ireland et al., 2009).

This review focused on identifying the most important internal organizational determinants of CE, their characteristics, and how these determinants should be operationalized to enhance creativity and innovation in established companies. Based on the systematic review of the current state of research on this topic, we developed an integrated CE framework consisting of four main dimensions of organizational design: strategy, organization, people and rewards. This structural approach offers the possibility to integrate and consolidate the literature of the various research streams on the CE concept. Due to the classification of the internal CE determinants into the main dimensions of organizational design, the mutual interdependencies and relationships between the individual determinants can be understood quickly and easily. Thus, this review unravels the interplay among the main dimensions of the determinants and provides further detail on the respective sub-dimensions. The findings could also be of high importance in the practical implementation of the CE concept in companies by helping managers to focus on the most important drivers of CE and to derive the mutual relationships among them for their pursuit of sustainable entrepreneurial success.

The review confirmed that strategy is one of the most important pillars of CE's success and is responsible for the formulation of all other CE determinants (Ireland et al., 2009). Therefore, the strategy should always be considered first when planning to implement measures in support of CE and must be considered when defining and changing the other determinants. The strategy has a particularly strong influence on factors that can be directly influenced by top management, such as the organizational structure and the associated degrees of autonomy (Govindarajan & Trimble, 2005), the availability of resources (Zahra et al., 2009) and the reward system (Christensen, 2005). Since the strategy's vision also includes the company's goals and values, it also has a direct influence on the entire people dimension (Kelley, 2011). In particular, a company's core values influence leadership behaviour, the willingness to take risks and the corporate culture in general (Kelley, 2011).

The review also showed that the people dimension, with its six determinants of CE, is of major importance for CE. Because the determinants that make up the people dimension have a strong impact on each other (Martín-Rojas et al., 2011), it makes sense to consider the whole dimension as an independent construct for the implementation of CE. Therefore, managers should pay attention to the mutual influences within this dimension and should not change the determinants in isolation from each other. The corporate culture and how the organization deal with failure are important aspects in the CE concept and affect all human relationships and decisions across the company (Ireland et al., 2006). The corporate culture has the strongest mutual relationships with the other determinants in the framework because it is

influenced by every change of the other CE drivers and in turn, it affects the whole organization (Russell, 1999).

Using the literature review, we also highlighted points of agreement and disagreement in the current understanding of CE determinants and their characteristics. The literature has reached a consensus that the combination of certain organizational determinants is necessary to create and establish CE in an organization (Ireland et al., 2009), that the organization's strategy (Bhardwaj & Momaya, 2011) and top management support (Alpkan et al., 2010) are the most important CE determinants and that they influence all other factors. A CE-oriented strategy and continuous management support are central to capturing the value from CE, as they facilitate long-term-oriented resource allocation. Empirical evidence has shown that companies that fulfil these requirements improve their competitive position and have also the opportunity to change the market towards their advantage (Kuratko et al., 2009).

However, the literature review also revealed three main points of disagreement. First, the role of freedom and control in the context of CE is seen very differently in the literature (Ireland et al., 2006). While some researchers consider formal control systems as obstacles to entrepreneurial behaviour (Zahra, 1991) with a negative impact on CE (Ireland et al., 2006), others understand control as a necessary element for the assessment and steering of entrepreneurial investment (Antoncic & Hisrich, 2001). The issue of the optimal balance between autonomy and control has not been answered unanimously by the current CE literature. Second, related to the people dimension, researchers still discussing, whether a company's innovative and entrepreneurial activities should be implemented by using a bottom-up or a top-down approach. Some researchers have argued that employees at the lower management level are more creative and customer-focused because they are closer to the operations part of the business (Bartlett & Goshal, 1996), which justifies a bottom-up approach in large organizations as the best way to promote innovation and entrepreneurial activity (Day, 1994). In contrast, Hornsby et al (2009) empirical study found that the management level influences the relationship between the support of top management and the organization's innovation performance. According to this view, senior executives are more likely to benefit from top management's support than the lower management is, so a top-down approach is recommended (Hornsby et al., 2009). Finally, regarding resources in the people dimension, there has been no agreement concerning the impact of company size on companies' innovation capacity. Some researchers have argued that larger companies generate more innovations because they have more resources to develop and launch new products (Ettlie & Rubenstein, 1987) and that their considerable resources allow them to remain strong even if an innovation project fails (Plambeck, 2011). In contrast, other researchers have contended that large companies' considerable resources can hinder the development of innovations since the complexity of a huge organizational structure leads to more and more formal procedures and policies (Plambeck, 2011).

This paper advanced the current CE research by systematically consolidating and integrating top management literature invoking multiple research streams and discussing several directions for further research. The developed framework reflects the current state of CE research and hence can serve as a guide for successful implementation of CE in established organizations, as well as for the further investigation of the CE concept. Thus, this paper

makes an important contribution to solving the puzzle of successful implementation of CE in established corporations.

Several potential research directions and issues for further study can be identified from our findings on the relationships among the identified determinants of CE. There is still research to be done on (1) how control systems are able to ensure efficiency in companies while also maintaining the ability to innovate at the same time. Further topics to investigate more in detail are, (2) whether a company's entrepreneurial activities should be implemented with a bottom-up or top-down approach and (3) whether innovations are developed more successfully in large companies with huge resource bases or in smaller ones. Answering these questions will contribute to the successful implementation of CE in organizations.

However, the results of our paper are restricted by methodological limitations that future research could address. First, the scope of the literature search is limited to the specific research area of CE. An extension of the literature review into the areas of innovation and creativity could identify additional determinants contributing to advance innovation within CE. Second, the results of this paper have to be considered in respect of its lack of differentiation between quantitative and qualitative empirical studies since generalizable evidence can be provided only by quantitative studies.

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