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Fostering Corporate Entrepreneurship with the use of social media tools

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ABSTRACT

The strategic use of Social Media can leverage innovation, relationships with customers, and the entrepreneurial orientation of the firm, as it provides useful knowledge to find new opportunities for innovation. Despite the relevance of this phenomenon to current hyper-competitive environments, empirical research on the topic remains scarce. To advance knowledge of this issue, the main purpose of the paper is to examine how Social Media use impacts the different dimensions of Corporate Entrepreneurship. Building on a sample of 201 technological firms, findings confirm that the use of Social Media tools impacted all dimensions of Corporate Entrepreneurship and enhanced firm performance. This paper contributes to the literature by empirically confirming how Social Media use helps to create business value. The study results also have important implications for managers, as they show the pathway managers must follow to harness the benefits of Social Media use to become more entrepreneurial.

1. Introduction

The advent of Social Media technologies has completely changed the manner in which people and organizations communicate and interact (Ngai, Tao, & Moon, 2015). Social Media use has revolutionized the business world and represents one of the most transformative impacts of information technology in business, both within and outside firm boundaries (Aral, Dellarocas, & Godes, 2013). Social Media encompass a wide variety of tools and platforms (Social Networks, Blogs, Online communities…) with the common denominator of connecting users in ways that enable bridging of distance, networking, and other interactions (Olanrewaju, Hossain, Whiteside, & Mercieca, 2020). Social media have been defined as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content" (Kaplan & Haenlin, 2010, p. 61). The arrival of Social Media has not only transformed the way firms relate to customers; it is also changing internal processes and thus becoming an important strategic tool. Firms are using these tools increasingly to facilitate intra- and inter-organizational activities with customers, business partners, and suppliers—activities such as collaborative product development, creation of knowledge-sharing communities, market research, and collaborative learning and creativity (Ngai et al., 2015). Moreover, within organizations, Social Media use has the potential to transform knowledge exchange and thus to accelerate innovation and performance (Corral de Zubielqui et al., 2019). However, research on the topic remains scarce.

In recent years, the pace of technological and business innovation seems to have accelerated (Teece & Linden, 2017), and firms are surrounded by changing and turbulent environments with very intense competition. Under such circumstances, it is quite difficult for firms to maintain a competitive advantage unless they adapt quickly to changes. To maintain profitability over time in current changing markets, established firms must respond effectively to new opportunities by becoming entrepreneurial (Kuratko & Morris, 2018). As these authors highlight, not taking entrepreneurial action could be a recipe for failure in today's business world. In this vein, the dynamic capabilities framework considers entrepreneurial management as a key capability, one that can improve organizational flexibility and adaptability, enabling firms to act strategically and embrace new opportunities (Teece, 2016). Recognized an effective method for achieving high levels of performance (Kuratko & Audretsch, 2013), Corporate Entrepreneurship has become a fundamental topic in management research.

Corporate Entrepreneurship is defined as a process that occurs inside an existing firm, regardless of its size, and leads not only to new business ventures but also to other innovative activities such as development of new products, services, technologies, administrative techniques, competitive strategies, and even new business models (Antoncic & Hisrich, 2001; Kuratko & Audretsch, 2013). Corporate Entrepreneurship is considered as a strategic behavior or attitude by which individuals within organizations undertake new activities to

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extend the firm's domain of competence and enhance its opportunity set through innovation (Kuratko & Morris, 2018). The major impetus underlying Corporate Entrepreneurship is thus to revitalize leadership, creativity, and innovation in firms (Kuratko & Audretsch, 2013). Following prior research on the topic (Antoncic & Hisrich, 2001, 2003; Antoncic, 2007; García-Morales, Bolívar-Ramos, & Martín-Rojas, 2014), we conceptualize Corporate Entrepreneurship as a multidimensional construct that includes four dimensions: "new business venturing, product/service/process innovation, self-renewal and proactiveness" (Antoncic & Hisrich, 2001, pp. 498–499). New business venturing refers to the creation of new businesses related to existing products or markets; innovativeness refers to products and service innovations; self-renewal reflects strategy reformulation and organizational change; and proactiveness includes initiative, risk taking, and competitive aggressiveness (Antoncic, 2007). Recent empirical studies on the phenomenon also consider these four dimensions to measure Corporate Entrepreneurship (Boukamcha, 2019; Jiménez-Barrionuevo, Molina, & García-Morales, 2019).

Corporate Entrepreneurship is considered as a key element in organizational and economic development due to its beneficial effect on firm revitalization and performance (Rauch, Wiklund, Lumpkin, & Frese, 2009; Zahra, 1991). Over the past decades, research has shown that organizations undertake Corporate Entrepreneurship initiatives for several purposes, including increase in profitability, business creation, proactive behaviors, strategic renewal, innovativeness, international success, and enhanced competitiveness (Kuratko & Audretsch, 2013; Yunis, Tarhini, & Kassar, 2018; Zahra, 1993). Moreover, use of Information Technologies (IT) can promote Corporate Entrepreneurship because these technologies serve as platforms of knowledge that can improve the ability to identify new opportunities for innovation and become more responsive to their environments (Joshi, Kathuria, & Das, 2019). In fact, IT enables the testing of different situations and decision-making scenarios, learning, generation of effective business plans, access to databases, and enhanced communication and social networking (Yunis et al., 2018). Technology thus uses one of the main factors that foster entrepreneurship.

Social Media technologies can help to improve organizations' dimensions of Corporate Entrepreneurship (Parveen, Ismawati, & Ainin, 2016). These technologies have changed the way business is conducted, enabling open communication and valuable feedback form customers and partners. Social Media use helps organizations to understand customer needs and respond to them proactively, enhancing innovation success. Yet the influence of Social Media use on the entrepreneurial orientation of the firm has been rarely investigated (Parveen et al., 2016). Despite firms' eagerness to embrace Social Media tools to connect with customers and enhance innovation, much skepticism exists concerning their efficacy (Rishika, Kumar, Janakiraman, & Bezawada, 2013). As prior studies highlight, the field lacks research in a holistic framework to determine the impact of IT-based innovations like Social Media on organizational performance, while considering the mediating role of Corporate Entrepreneurship in this relationship.

In the technology sector, high-tech firms face an especially high-speed, global, knowledge-intensive environment. To compete effectively in the current competitive environment characterized by rapid technological change, technology firms must continuously acquire external knowledge and combine it with in-house developments to capture innovation opportunities and achieve competitive success (Martín-Rojas, García-Morales, & Bolívar-Ramos, 2013). By adopting an innovative, risk-taking, proactive attitude, technology firms can exploit entrepreneurial opportunities and increase their financial performance (Antoncic & Hisrich, 2001; Rauch et al., 2009). Strategic use of Social Media fosters connectivity, generating a more dynamic ecosystem for growth and innovation, especially in the fastest-growing, most dynamic sectors (Gnyawali, Fan, & Penner, 2013). All of the literature cited above suggests that Social Media and Corporate Entrepreneurship deserve additional research attention as catalysts of organizational performance in technology firms.

This paper addresses this gap in the literature by empirically investigating how Social Media use impacts the different dimensions of Corporate Entrepreneurship, also enhancing organizational performance through Corporate Entrepreneurship. The study thus aims to answer the question, "Does Social Media use enhance the entrepreneurial orientation of technology organizations?" The study is intended to extend knowledge on this topic by providing understanding of the path firms should take to benefit from Social Media in order to become more innovative and achieve higher organizational performance through the different components of Corporate Entrepreneurship and their interrelationships. To the best of our knowledge, this is the first empirical study to analyze the phenomenon by disaggregating it. Prior studies (e.g., Parveen et al., 2016) examine the impact of Social Media on the firm's entrepreneurial orientation but do not contemplate their effect on its different dimensions (new business venturing, innovativeness, self-renewal, and proactiveness). This study also aims to contribute to the dynamic capabilities literature by advancing understanding of how firms' different entrepreneurial capabilities relate or interact.

To achieve our goals, the article is structured as follows: The next section draws on the literature review conducted to propose the research model and describe our research hypotheses. We then present the methodology, data analysis, and discussion of the results. To close the study, we include concluding remarks, implications for scholars and managers, and limitations and lines for future research.

2. Theoretical framework and research hypotheses

The purpose of the study is to examine the impact of Social Media use on the different dimensions of Corporate Entrepreneurship and to show the pathway firms must follow to benefit from Social Media use and Corporate Entrepreneurship. To this end, we designed a comprehensive research model (see Fig. 1).

The model includes a total of 11 hypotheses reflecting: (a) the impact of Social Media use on the dimensions of Corporate Entrepreneurship (Hypotheses 1–4), (b) the interrelations among the different dimensions of Corporate Entrepreneurship (Hypotheses 5–9), and (c) the impact of the dimensions of Corporate Entrepreneurship on Organizational Performance (Hypotheses 10 and 11). All hypotheses are formulated based on prior research. This section presents the theoretical support for the proposed research model.

2.1. The influence of Social Media Use on New Business Venturing

New Business Venturing (also called Corporate Venturing) has been recognized as the first major category of Corporate Entrepreneurship. It includes various methods for creating, adding to, or investing in new businesses (Kuratko & Audretsch, 2013). New Business Venturing is considered as the most salient characteristic of intrapreneurship because it can result in new business creation within an existing organization by redefining the company's products (or services) and/or by developing new markets (Antoncic & Hisrich, 2001). Creation of a new business through market and product developments requires risk taking and information seeking to seize opportunities in the firm's competitive environment (Zahra, 1991). The process of new business venturing is thus strongly dependent on both existence and awareness of new opportunities to be developed and exploited (Martín-Rojas et al., 2017).

The use of Social Media tools facilitates connectivity and interactions with a wide range of agents (customers, suppliers, business partners, etc.), enabling development of exploratory-exploitative activities of internal and external knowledge transfer for innovation (Bhimani, Mention, & Barlatier, 2019). Increased connection improves a firm's ability to pursue innovative opportunities and gain competitive advantages. Organizations that use Social Media strategically to capture valuable knowledge from their stakeholders are thus more likely to shift

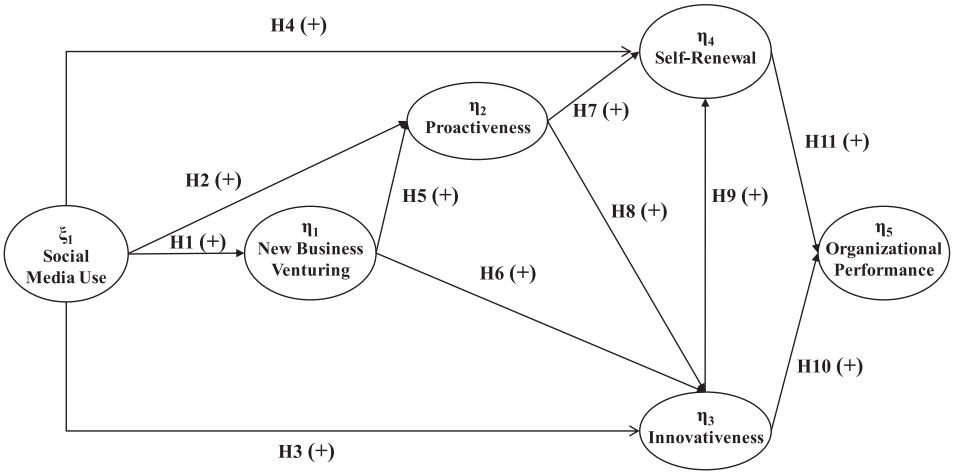

Fig. 1. Conceptual model.

from the traditional way of doing business to a more modern one (Parveen et al., 2016) by changing or creating business units. Social Media tools have become a rich source of information for companies, and companies are using digital platforms extensively to better understand the market and develop more personalized offers (Garrido-Moreno, García-Morales, Lockett, & King, 2018; Scuotto, Del Giudice, & Carayannis, 2017). Social Media platforms currently constitute an important source of business intelligence, providing information about trends in the marketplace, intelligence on competitors' products, and feedback on the firm's products (Roberts, Piller, & Lüttgens, 2016). Organizational usage of Social Media thus impacts new business venturing by enabling firms to better seize business opportunities by broadening their business lines or even finding new markets for their products.

The knowledge-intensive technology sector requires more specific knowledge to sense and scan new business opportunities (García-Morales et al., 2018). Scanning activities facilitate rapid acquisition of relevant data on industry trends and changes, enabling accumulation of information on new ventures initiated in the industry and informing managers of the main threats and opportunities in their firms' environment (Zahra, 1991). By using Social Media platforms, technological firms can quickly scan the market and workers can develop technological competences faster and more efficiently. Increased connectivity improves organizations' technological competences or capabilities and ability to pursue innovative opportunities and gain competitive advantages (García-Morales, Martín-Rojas, & Lardón-López, 2018). On the basis of these considerations, we formulate the following hypothesis:

H1: *Social Media use positively affects New Business Venturing.*

2.2. The influence of Social Media Use on Proactiveness

Proactiveness is defined as a forward-looking perspective that involves introducing new products or services ahead of competitors and acting on anticipation of future demand (Rauch et al., 2009). For Lumpkin and Dess (1996), proactiveness refers to how a firm relates to market opportunities by seizing initiative and assuming risks in order to shape the environment, thereby influencing trends and creating change. A proactive firm is inclined to take risks by conducting experiments, is often the first to take the initiative, and is bold and aggressive in pursuing market opportunities (Antoncic & Hisrich, 2001). An entrepreneurial company is then a proactive company that uses innovations to initiate strategies for new products, services, and business models to outperform the market competition (Yunis et al., 2018). Such a proactive orientation enables firms to anticipate their partners quickly by detecting future market needs, creating advantage over competitors by being the first to act (Martín-Rojas et al., 2017).

The rapidly changing business environment has led firms to rely increasingly on IT use to rapidly spot market opportunities and respond better to market changes (Yunis et al., 2018). Social Media tools especially are used with increasing frequency to capture the most recent information from the market and its trends. Use of Social Media tools enables firms to obtain useful knowledge, conduct market research, deliver customer service, and co-create products and services (Papa, Santoro, Tirabeni, & Monge, 2018). Social Media technologies thus facilitate external information flow, enabling firms to renew their knowledge and generate new ideas faster (Lam, Yeung, & Cheng, 2016).

In the current digital environment, adoption of IT tools such as Social Media grants firms two key advantages: to become more responsive to their competitive environment and to accelerate product development based on customer needs (Joshi et al., 2019).

First, organizations increasingly benefit from the superior interaction features of Social Media platforms. These platforms enhance collaboration and communication with key external actors, such as business partners, suppliers, or even competitors (Corral de Zubielqui, Fryges, & Jones, 2019; Ngai et al., 2015). In this vein, prior studies have extensively examined use of Social Media tools to enhance business networking with entrepreneurial purposes (Smith, Smith, & Shaw, 2017). Networking on Social Media enables firms to accrue valuable social capital, which can help them to identify and capitalize on business opportunities, increasing entrepreneurial success (Olanrewaju et al., 2020). Gathering information from market partners via Social Media can thus foster firms' proactiveness.

Second, one of the most important benefits Social Media can offer firms is the possibility of developing closer relationships with customers. Social Media platforms allow customers freely to express their needs and preferences for the firm's products and services, enabling firms to respond quickly to customer requirements (Lam et al., 2016). The information and immediate feedback that firms obtain from Social Media about customers enable them to take proactive measures to improve their offerings (Parveen et al., 2016). Building on dynamic capabilities theory, Mention, Barlatier, and Josserand (2019) argue that Social Media use is a valuable vehicle for improving firms' sensing capabilities. Through these platforms, firms can develop valuable activities such as trend and preference assessments or technological forecasting, which help them to sense, filter, and shape business opportunities to innovate (Mention et al., 2019). In the technology sector, in which user-driven innovations are a major source of product creation (Martín-Rojas et al., 2017), intensive use of Social Media can help firms to anticipate customer needs through faster development of new products based on customer requirements.

In a rapidly-changing and fast-moving environment, Social Media

use provides a strategic approach to fostering knowledge exchange with key agents, enhancing organizational learning and knowledge management (García Morales, 2004; Lam et al., 2016) and thus enhancing firm proactiveness. In this vein, Parveen et al. (2016) confirm empirically that organizations gather valuable information about new market trends from Social Media and that this information directly improves firm proactiveness, enhancing the firm's entrepreneurial orientation. Based on all of the above, we consider the following hypothesis:

H2: *Social Media use positively affects Proactiveness.*

2.3. The influence of Social Media Use on Innovativeness

Innovation capability or innovativeness is a firm's tendency to engage in and support new ideas, experimentation, and creative processes that may result in new products or services (Lumpkin & Dess, 1996). Traditionally, innovativeness has been considered as one of the key dimensions of Corporate Entrepreneurship (Kuratko & Audretsch, 2013) because it is an important means by which firms respond to the market and pursue new opportunities. In fact, firm innovativeness reflects a firm's predisposition to engage in creativity and experimentation through introduction of new products/services as well as technological leadership via R&D in new processes (Rauch et al., 2009). Firm innovativeness thus includes new product/service development, product/service improvements, and new production methods and procedures (Antoncic & Hisrich, 2001).

In current turbulent markets, innovativeness has become a key tool enabling firms to adapt to their competitive environment and overcome uncertainty (Martín-Rojas et al., 2017). In this context, firms need high-speed and high-volume information flows to capture market needs and generate new ideas. Social Media are increasingly adopted for organizational purposes such as increasing firm innovation capability (Lam et al., 2016). In a recent literature review, Bhimani et al. (2019) assert that Social Media and innovation capability are closely intertwined and note that literature on the topic has greatly increased in recent years. Firms are using Social Media platforms to gain insights from the market, interacting with external actors such as customers and other businesses to acquire external knowledge to generate innovations (Scuotto et al., 2017). Social Media tools drive connectivity and multiple interactions beyond market boundaries, fostering business intelligence for idea sourcing and co-creation (Bhimani et al., 2019). Strategic use of these platforms can enhance innovation capabilities, as it enables firms to target new markets and involve customers in the design of new products and services (Palacios-Marqués, Merigó, & Soto-Acosta, 2015). Technology companies such as Dell, IBM, and Nokia are actively using Social Media to engage customers in innovation activities (Bhimani et al., 2019), enhancing their innovation capability.

In an empirical study conducted in the technology sector, García-Morales et al. (2018) confirm that organizations that exploit Social Media tools in their innovation processes can develop successful innovation activities that improve their innovation capability and, in turn, the organization's overall long-term performance. Drawing on a sample of knowledge-intensive SMEs, Scuotto et al. (2017) demonstrate empirically that use of Social Media tools (in this case Social Networking Sites) accelerates and deepens firms' innovativeness at global level. In the same vein, Lam et al. (2016) collect secondary data in a longitudinal setting to confirm empirically that the development of Social Media initiatives facilitates information and knowledge sharing within and across organizations, enhancing firms' effectiveness and innovativeness. Palacios-Marqués et al. (2015) similarly confirm that use of online Social Networks directly impacts innovation capabilities. They also find that the relationship between Social Media use and performance is fully mediated by innovation capabilities. Considering all of the above, we formulate the following hypothesis:

H3: *Social Media use positively affects Innovativeness.*

2.4. The influence of Social Media Use on Self-Renewal

Strategic renewal or self-renewal consists of transforming organizations by modifying their foundational ideas (Antoncic & Hisrich, 2001). It includes redefinition of the business concept, reformulation of strategies, and development of new organizational structures that spur innovation and venturing (Zahra, 1993). Renewing the firm's business continually to achieve adaptability and flexibility is imperative to any entrepreneurial corporation (Antoncic & Hisrich, 2001; Martin-Rojas et al., 2017). Self-renewal entails system-wide changes that enhance creative organizational learning, increasing the firm's attention to its environment and ability to detect opportunities and respond creatively to them (Zahra, 1993).

To succeed in current markets, organizations must adapt to changing environmental conditions by renewing themselves, altering organizational characteristics such as structure and processes (Martin-Rojas et al., 2017). To achieve this goal, firms need the most recent information on the evolution of the environment and its main trends. Massive use of Social Media has led to generation of Big Data, providing firms with a vast amount of information they can analyze to extract information relevant to adapting the business to changing markets (Bouwman, Nikou, Molina-Castillo, & de Reuver, 2018). These authors empirically argue that the use of Social Media tools is an effective antecedent of adaptation through business model experimentation and business model innovation practices.

The use of Social Media has become pervasive in today's organizations, not only for communicating with external actors, but also as an important tool for internal communication. Among these internal uses, Social Media enable workers to bridge spatial and organizational boundaries, fostering new connections and opening new avenues for collaboration (Leonardi, Huysman, & Steinfield, 2013). This enhanced connectivity modifies the firm's internal learning processes, triggering self-renewal initiatives that change the way the business is organized. For Aral et al. (2013), Social Media use introduces new management and organizational questions because its implementation involves organizational change. To harness the full potential of Social Media use, firms must adapt their business structure, processes, leadership, culture, and training programs. Hence, we propose the following hypothesis:

H4: *Social Media use positively affects Self-Renewal.*

2.5. The influence of New Business Venturing on Proactiveness

Social Media allow users to communicate, cooperate, and interact, facilitating value creation and knowledge exchange (Sigala & Chalkiti, 2015). Increasing use of these platforms promotes new forms of learning and working, providing firms with new tools and resources that are changing traditional business models (Yunis et al., 2018). Numerous platforms for communication and social interaction have appeared, opening new horizons for enhanced relationships between institutions and users (Kargaran, Jami Pour, & Moeini, 2017).

These new communication possibilities based on IT tools are promoting development of key competences in new businesses, providing greater growth opportunities (Donahoe, Schefter, & Harding, 2001). Observing the remarkable increase of new opportunities in current markets, researchers emphasize the need for new businesses to take advantage of these opportunities to gain competitive advantage (Andries & Debackere, 2007; Martin-Rojas et al., 2017; Yunis et al., 2018). New business creation enables the firm to anticipate future market needs and thus to create an advantage over competitors by being the first to act (Lumpkin & Dess, 1996)—that is, by being proactive.

Proactive firms are prepared to anticipate actively and change internally. They work to find a better position in the market by acting quickly when changes occur and mobilizing resources in advance of their rivals (Hughes & Morgan, 2007), even when this means complementary knowledge or coordinate inter-organizational processes

(Chen, Chen, & Lu, 2013; Melander & Tell, 2014). The appearance of new businesses within an organization can enhance its proactiveness by enabling it to exploit new potential resources sooner than other competitors.

Dalmarco, Hulsink, and Blois (2018) confirm this assertion in technology companies by showing how creation of new business incubators and technology parks enhances the proactiveness of other companies—start-ups, established companies, and academic laboratories close to the university—by intensifying cooperative ties, business transactions with customers, vendors, and researchers through these business facilitators (Iansiti & Levien, 2004). New business creation often both affects a specific industry and provides an advantage across multiple industries (Walsh & Linton, 2002), highlighting firms' need to be proactive to face different competitive environments insightfully (Martín-Rojas, García-Morales, & Mihi-Ramirez, 2011; Martín-Rojas et al., 2013).

By performing new businesses scans for potential opportunities in new foreign markets, firms can evaluate available information and decide whether to exploit any of the opportunities found (Shane & Venkataraman, 2000). A proactive attitude in the search for opportunities can distinguish the features of entrepreneurial activities (Ciravegna, Majano, & Zhan, 2014; Lumpkin & Dess, 1996) to respond to rapid shifts, anticipate environmental changes, and attend customers better (Martín-Rojas et al., 2017). We can thus assert that:

H5*: New Business Venturing positively affects Proactiveness*.

2.6. The influence of New Business Venturing on Innovativeness

As explained above, Social Media use enables the creation of new ventures. New ventures access diverse technology and market information to enhance their innovativeness and performance (Lin, Chen, & Lin, 2018). They also rely on these interactions to create new product ideas and glean innovativeness from them. That is, new businesses creation can stimulate production of new technological knowledge, especially knowledge that focuses on features of innovativeness and competitiveness (Van Hemert & Nijkamp, 2010).

In today's turbulent environment, firms can rarely rely on their current products and services to ensure future success (Zahra, 1993; Lumpkin & Dess, 1996). Customers are increasingly involved as active participants in firms, since changing product creation processes enable new firms to innovate and give users the power to customize their products (Di Tollo, Tanev, De March, & Ma, 2012). Detecting new market needs based on customer interactions can lead to creation of new business organizations within the organizational domain that function as vehicles for innovation (Sharma & Chrisman, 1999).

In the field of technology, which is characterized by increased complexity in problem solving, new firm creation is a remarkable asset for encouraging the values of flexibility and innovativeness to generate entrepreneurial firms (O'Toole & McGrath, 2018). New business venturing is believed to lead to new competitive advantages (Giarratana & Torrisi, 2010), often motivating innovation to adapt these companies to new competitive arenas or to combine current and new business venturing (García-Morales et al., 2014) and enhance innovativeness (Cadoga, 2015). Such action can extend the firm's reach toward opportunities previously outside of its area of operations (Kanter, 1989).

Moreover, digitalization has been the driver of economic change, with ups and downs in all industries. Development of new business by building on innovative technology enables newcomers to challenge existing value chains with higher innovativeness and often disruptive business models (König, Ungerer, Baltes, & Terzidis, 2019). Firms thus need not only novel ideas or potential to create new ventures, but also expertise in technological knowledge to achieve more innovative tasks and resolve complex ones (Jin, Shu, & Zhou, 2019). A broad base in technological knowledge increases flexibility and adaptability, making new ventures less likely become locked into blind spots in existing technical domains and more likely to maintain their innovativeness in the market (Jin et al., 2019).

In sum, new business venturing enables innovativeness as well as development of innovative features in industrial developments, innovative processes to commercialize products, and innovative analysis and research to provide services beyond those of current companies (Cadoga, 2015; Martín-Rojas et al., 2017; Nosella, Petroni, & Verbano, 2006). Thus:

H6*: New Business Venturing positively impacts Innovativeness*.

2.7. The influence of Proactiveness on Self-Renewal

Proactiveness enables organizations to take the initiative to attempt to improve current circumstances or create other, new circumstances. It involves questioning the status quo more than adapting passively to current conditions (Crant, 2000). When using Social Media, connections from inter-organizational relationships require businesses to be proactive in accessing and extending appropriate relationships (Jones & Macpherson, 2006). Effective and proactive organizations recognize the risk of not acquiring this knowledge to support the development of processes, systems, and routines that distribute and institutionalize learning throughout the organization (Jones & Macpherson, 2006). Self-renewal, in contrast, requires collective change, which involves establishing new activities and new forms of knowledge in practice (Bechky, 2003). For instance, self-renewal may involve encouraging employee creativity and innovation; exploiting, exploring, and establishing a more effective export market; improving the firm's learning capabilities; and obtaining new knowledge and renewing current knowledge (Skarmeas, Lisboa, & Saridakis, 2016).

To access and exploit this knowledge, proactive companies must initiate strategic renewal and become more open so as to achieve new knowledge sources by first realizing the firm's needs and new knowledge inputs, and then actively engaging with other organizations. Creating this new knowledge requires an uninterrupted process of individual and organizational self-renewal (Jiménez-Barrionuevo et al., 2019; Nonaka & Takeuchi, 1995). Proactiveness is a strategic resource that acts on future market changes (Lumpkin & Dess, 1996), guides the firm's philosophy of business management and competition (Skarmeas et al., 2016) and extends networks by searching for possible sources of helpful information and knowledge (Jones & Macpherson, 2006). As part of entrepreneurial intention (Antoncic & Hisrich, 2001; Fernández-Pérez, Verdú-Jóver, & Benitez-Amado, 2013; Martín-Rojas et al., 2017), proactiveness requires strategic renewed orientation and change to obtain advantages over competitors (Martín-Rojas et al., 2017), especially with the current accelerating rate of change in business, society, and the world.

In spite of this turbulent environment, firms can survive by adapting businesses to innovation. Proactiveness can lead to discovery of new opportunities such as new sales and supplier contracts, enabling firms to adopt a very competitive, "undo-the competitors" posture to access advertising channels, financial capital, and important decisions, and participate in alliances and joint projects (Batjargal, 2007). Since progress in such cases involves infusing parallel and collective developments, which calls for significant organizational self-renewal (Burström & Wilson, 2015), being a proactive business requires ongoing self-renewal to face multiple challenges: greater market integration, the appearance of technological discontinuities, regulatory upheavals, geopolitical shocks, supply chain segmentation and disintermediation, abrupt shifts in consumer tastes, hordes of non-traditional competitors, increase of the consumer base, and tremendous technological and communications advances that magnify previous changes (De Oliveira Teixeira & Werther, Jr., 2013). Only through such renovation can businesses be entrepreneurially resilient and survive in the market.

Businesses that achieve proactiveness as a critical resource to obtain higher performance (Skarmeas et al., 2016) and identify their positions correctly in the industry's competitive network (Ciravegna et al., 2014) are more able to strengthen and manage opportunities and neutralize

negative implications of threats and weaknesses, thus obtaining greater flexibility and self-renewal than more conservative firms (Fernández-Pérez et al., 2013). Once a company has been proactive, it seeks to redesign its strategies to achieve joint optimization of new and old resources and capabilities (Martín-Rojas et al., 2017), that is, to encourage internal self-renewal. Motivating self-renewal thus leads companies to develop an inspiring corporate ambition – a shared dream about the future and the company's role in that future – and embed that ambition within the organization (Ghoshal & Bartlett, 1995, p. 153) through proactive and dynamic managerial behavior throughout organization (Burström & Wilson, 2015). In such situations, firms agree on newly created instructions or active procedures to support the self-renewal strategy. Moreover, being proactive enables leaders to look ahead, discern the issues that require attention (Aron, 2002). Such foresight enables organizations to have a longer life, since proactiveness involves dynamic fit over time to sustain competitive advantages in the face of change through strategic renewal or self-renewal (Agarwal & Helfat, 2009; Schmitt, Raisch, & Volberda, 2018). Thus:

H7*: Proactiveness positively affects Self-Renewal.*

2.8. The influence of Proactiveness on Innovativeness

Proactiveness is characterized by an opportunity-seeking and pioneering outlook that involves introducing new products and services before competitors and acting in anticipation of future demand (Covin & Slevin, 1989). To be proactive is thus to guide change in an intended direction and for the better (Bateman & Crant, 1999). In addition, a company's innovativeness may take several forms, such as simple willingness to try a new product line or experiment with a new advertising venue, or passionate commitment to mastering the latest trends in new products or technological advances (Kozubíková, Sopková, Krajcik, & Tyll, 2017; Lumpkin & Dess, 1996).

Based on these conceptualizations, proactiveness and innovativeness seem closely related, since proactivity involves creating change, not merely anticipating it. It requires not only the important attributes of flexibility and adaptability toward an uncertain future (Baterman & Crant, 1999), but also actually taking the initiative to improve and change business. Innovativeness is characterized by strong focus on R& D, being a leader in technology, and introducing new products, as well as changing existing products or service lines (Linton & Kask, 2017; Lumpkin & Dess, 1996). Consequently, proactiveness enables innovativeness in organizations.

Organizations benefit from the proactive behavior of their members when introducing new products, services, or processes (Bateman & Crant, 1999). Organizations with a high degree of proactiveness are more open and flexible to conceiving and implementing organizational innovations (García-Morales, Ruiz-Moreno, & Lloréns-Montes, 2007). Greater openness in perspective and technological behavior improves organizations' ability to increase their innovativeness or innovation capability, producing proactive behavior reflected in making things happen, anticipating and preventing problems, and seizing opportunities (Parker, 2010). This behavior involves searching for success by improving the work environment and building a different future by promoting new ideas, experiments, and creative processes (Bateman & Crant, 1999; Moreno & Casillas, 2008), thus increasing innovativeness. Depending on how the firm undertakes these efforts, they can shape the competitive landscape of the company or merely react to the moves of others; create demand and drive markets, and even determine whether the firm is a leader or a follower in an industry (Bateman & Crant, 1999).

Proactive companies' greater sensitivity to novel and external market needs often fosters new products, techniques, and technologies that appeal to many markets and help firms to achieve high levels of innovativeness when adapting their products for these new or changing markets (Dai, Maksimov, Gilbert, & Fernhaber, 2014). García-Morales et al. (2007) confirm this finding when studying the key role of proactiveness and absorptive capacity in innovativeness and organizational performance in a sample of 246 Spanish technology firms. Golonka (2015) also finds a positive relationship between proactiveness and innovativeness when considering the mediating role of complexity networks such as Social Media in a sample of 146 international firms. We thus propose that:

H8: *Proactiveness positively affects Innovativeness.*

2.9. The influence of Innovativeness on Self-Renewal

In recent decades, the literature has emphasized importance of becoming a leader in innovation in survival, self-renewal, and growth (e.g., Corral de Zubielqui et al., 2019; García-Morales et al., 2007; Nonaka & Takeuchi, 1995; Nonaka & Yamanouchi, 1989; Zaltman, Duncan, & Holbeck, 1973). Nevertheless, the positive relationship between innovativeness and self-renewal has not been broadly confirmed by empirical studies using a global sample of firms. Innovativeness or innovation capability and learning capabilities enable strategic processes, specialized technological knowledge (Llorens-Montes, García-Morales, & Verdu-Jover, 2004), stabilized networks, and patterns of cooperation that drive successful renewal in company capabilities (Heidenreich, 2005). These effects explain why innovativeness is an essential driver of technological change and competitive power (Çoban & Güles, 2011).

Companies with innovation capability can renew the source of their competitive advantage because this capability entails acquisition of new competences and aims at adapting the firm to changing market realities or shaping these realities (Nonaka & Yamanouchi, 1989; Schumpeter, 1934). Self-renewal is thus often seen simply as an integral part and consequential outcome of innovative activity (Mezias & Glynn, 1993), and the process of innovation is defined as non-routine, significant, and discontinuous organizational change (Mezias & Glynn, 1993).

In today's dynamic environments, technological changes and competitiveness require more and more companies to renew themselves to survive (Burström & Wilson, 2015; Skarmeas et al., 2016). An organizational transformation is occurring through redefinition of company principles, reorganization to promote innovativeness, and undertaking of changes in all systems within the company (Çoban & Güles, 2011). All of these novel ways of working lead to a new strategic direction and organizations' continuous self-renewal. Furthermore, in fast-changing environments, innovativeness is an essential criterion of competitive power and technological change that requires significant organizational change and leads to new products, services, or processes (Fichman, Dos Santos, & Zheng, 2014).

We thus stress that the process of renewing strategies can serve as a catalyst for the organization's self-renewal (Nonaka & Yamanouchi, 1989), and innovativeness in businesses promotes organizations' strategic renewal. By developing a new strategy or renewing an old one, members of a corporation are forced to come up with innovative approaches to problems, and these approaches can lead to shifts in the firm's thinking. Managers must deliberately make such changes in processes, organizational design, and technology use to be competitive and create internal value (Kohli & Melville, 2019).

Such action is especially relevant in digital businesses, where innovative modes of communication, information, and behavioral dynamics in complex ecosystems are modifying organizations' strategy (Ransbotham, Fichman, Gopal, & Gupta, 2016). A business's innovativeness may change the organization itself by enabling new business models, possibly through renovation of the culture, ways of working, routines, or framing of the work itself (Fichman et al., 2014). In terms of Social Media and ITs, the self-renewing organization is the entity that creates new information and knowledge. Such organizations remain competitive because they create information and knowledge by constantly coming up with new strategies, products, features, and ways of manufacturing, promoting, and distributing their products and services

(Nonaka & Yamanouchi, 1989). Organizations must foster ongoing innovativeness to transform the firm through renewal of its key ideas.

Innovativeness, which is responsible for the firm's ability to benefit from commercialization of invention, occurs when the entrepreneur develops strong trust in innovation (Çoban & Güles, 2011). The need to renew business continually to achieve adaptability and flexibility is a crucial characteristic of any entrepreneurial resilient corporation (Antoncic & Hisrich, 2001; Martín-Rojas et al., 2017). To survive and be competitive in the market, most companies must undergo organizational change, including reorganization and reformulation of their strategies.

Studying innovation management by comparing Canon, Inc. and Apple Computer, Inc., Nonaka and Kenney (1991) show that the innovation capability of any organization can propel the firm into a self-renewal process. Moreover, strengthening innovativeness can encourage firms' strategic renewal in firms through complexity (Corral de Zubielqui et al., 2016; Sparrow & Ringland, 2010). Improving innovation capability in existing businesses, proliferating start-up activities, and attracting new firms through intensification of stakeholders such as research facilities, academic institutions, company incubators, and technology-transfer institutions can foster successful renewal of the company (Heidenreich, 2005). All of this evidence suggests that:

H9: *Innovativeness positively affects Self-Renewal.*

2.10. The influence of Innovativeness on Organizational Performance

Innovativeness is considered as an integral dimension of organizational strategy. It encourages aggressive and creative strategies, which enable the organization to achieve higher levels of performance (Miles, Snow, Meyer, & Coleman, Jr., 1978). Innovativeness or innovation capability can influence product and process strategies, impacting different dimensions and sources of firm performance (Evangelista & Vezzani, 2010). For example, the impact of innovation capability on product strategy is expected to provide firms with competitive advantage via the technological novelty and improved performance of the product. Innovativeness also allows companies to create new products based on novel technologies and to improve current products continuously (Lyytinen, Rose, & Yoo, 2010). Alternatively, the impact of innovation capability on process strategy provides competitive advantage via efficiency/productivity gains obtained by introducing higher-performing ways of producing (pre-existing) products. Based on Schumpeter's view of the selection mechanism, both product and process strategies should generate a competitive premium in improved growth rates and market share gains (Evangelista & Vezzani, 2010).

In enabling firms to accept and adopt new ideas, innovativeness is a cultural trait that affects innovative capacity (Hurley & Hult, 1998). If innovativeness is truly an enduring trait, innovative firms will remain highly innovative over time. Furthermore, implementation of innovations energizes the adopting organizations and increases their organizational performance, as high levels of innovativeness are expected to lead to new organizational designs and improved effectiveness and efficiency (Deshpandé & Farley, 2004; Subramanian & Nilakanta, 1996). High levels of innovativeness should thus be associated with high levels of organizational performance (Subramanian & Nilakanta, 1996).

This understanding of innovativeness is especially crucial for technology firms, which often achieve competitive advantages by delivering new products to the market (Zheng, Liu, & George, 2010). As discussed in previous sections, Social Media use facilitates the transfer of innovation knowledge, enabling new collaborative practices that improve firms' innovation capability (Aral et al., 2013; Tsai & Ghoshal, 1998). Recent studies confirm empirically that innovativeness is positively related to enhanced business performance (Jiménez-Barrionuevo et al., 2019; García-Morales et al., 2018; Palacios-Marqués et al., 2015).

Based on all of the foregoing, we propose the following:

H10*: Innovativeness positively affects Organizational Performance.*

2.11. The influence of Self-Renewal on Organizational Performance

Strategic renewal or self-renewal has been defined as a specific type of strategic change (Burgelman, 1991), a managerial process promoting changes in a firm's core competences (Floyd & Lane, 2000). It involves redefinition of the firm's mission (Zahra, 1993), alignment of organizational competences with the environment (Flier, Van den Bosch, & Volberda, 2003), and the process, content, and outcome of refreshing and replacing the organization's own attributes (Agarwal & Helfat, 2009). Nearly all definitions in the strategy process literature stress the closeness of strategic-renewal to strategic change that leads firms to be more competitive and achieve better performance through renewal initiatives (Schmitt et al., 2018). Inherent in the concept is thus the need to make entrepreneurial efforts to revitalize existing firm businesses (Sharma & Chrisman, 1999) through redefinition of business concept, reorganization, and introduction of system-wide changes for innovation (Zahra, 1993).

In current turbulent markets, organizations must self-renew constantly to improve their competitive positioning. Only so can they transform corporations, their markets, and their industries to exploit opportunities for value-creating innovation (Crossan, Lane, & White, 1999). In an environment of rapid change and shortened product and business model lifecycles, the future profit streams from existing operations are uncertain and businesses must constantly seek out new opportunities (Rauch et al., 2009). The firm's strategies must thus change to detect new opportunities in the environment and transform firm competences and strategic intent. Since most organizations need to transform themselves at one time or another to achieve strong performance, recognizing, formulating, and executing these transformation processes are central issues in this literature (Schmitt et al., 2018).

Nevertheless, renewal activities have associated expenses. They may impact profits negatively if the self-renewal activity fails subsequently to generate incremental revenue that exceeds the incremental cost of the self-renewal activity (Fitzsimmons, Douglas, Antoncic, & Hisrich, 2005). Agca, Topal, and Kaya (2012) find that organizations must achieve wide-ranging strategic changes that improve organizational learning and problem solving abilities to face this situation. For Zahra (1993), perceived decline of industries could push companies into the need for increased renewal activities to obtain more growth and profitability, and thus improve their way of competing.

Organizational ability for constant renewal is one of the main success factors of business competitiveness in the knowledge economy (Junell & Ståhle, 2011) and a key consideration in understanding firms' long-term survival and prosperity. The survival and prosperity of an organization is thus based on its ability to constantly develop and renew itself (Jaw & Liu, 2004) through the process of creating an environment that improves business results through more efficient performance of tasks (Rauch et al., 2009). Organizations that perform frequent strategic and organizational renewal introduce new products and process technologies faster and more efficiently; they are also better able to survive in uncertain situations and industries (Martín-Rojas et al., 2017). This ability is specifically important to companies with a high technological base and those for which social networks are crucial (Fernandez-Perez, García-Morales, & Bustinza-Sanchez, 2012), as these companies are more likely to face uncertain, ambiguous environments. Such companies tend to generate their own changes internally by acting proactively and adapting to new business and innovations (Nadkarni & Narayanan, 2007) to enable growth and profitability of their (new and established) organizations. Accordingly, self-renewal initiatives expand the company's capabilities to acquire and use new competences, which can improve performance (Jiménez-Barrionuevo et al., 2019; Martín-Rojas et al., 2017).

Both established firms and new business units must adapt their initial business model often, due fundamentally to uncertainty and ambiguity in the environment (Martín-Rojas et al., 2017). Analyzing a sample of American firms, Zahra (1991) confirms empirically that

Table 1
Hypotheses of the research model and theoretical support.

Code	Effect from	To		References
H1	Social Media Use	→	New Business Venturing	García-Morales et al. (2018); Scuotto et al. (2017)
H2	Social Media Use	→	Proactiveness	Mention et al. (2019); Parveen et al. (2016)
H3	Social Media Use	→	Innovativeness	Corral de Zubielqui et al. (2019); Palacios-Marqués et al. (2015); Parveen et al. (2016)
H4	Social Media Use	→	Self-Renewal	Aral et al. (2013); Parveen et al. (2016)
H5	New Business Venturing	→	Proactiveness	Dalmarco et al. (2018); Martín-Rojas et al. (2017)
H6	New Business Venturing	→	Innovativeness	Martín-Rojas, Fernández-Pérez and García-Sánchez (2017); Nosella et al. (2006)
H7	Proactiveness	→	Self-Renewal	Burström and Wilson (2015); Martín-Rojas et al. (2017)
H8	Proactiveness	→	Innovativeness	Golonka (2015); Jiménez-Barrionuevo et al. (2019)
H9	Innovativeness	→	Self-Renewal	Martín-Rojas et al. (2017); Nonaka and Kenney (1991)
H10	Innovativeness	→	Org. Performance	García-Morales et al. (2018); Palacios-Marqués et al. (2015)
H11	Self-Renewal	→	Org. Performance	Martín-Rojas et al. (2017); Jiménez-Barrionuevo et al. (2019)

corporate renewal behaviors—such as mission reformulation, firm reorganization, and system-wide change—are significantly related to financial performance. System-wide changes make organizations more energetic, more sensitive to the external environment, and more skilled in reacting to threats and exploiting opportunities (Zahra, 1993). Through self-renewal, organizations explore and learn entirely new ways of using their core competences and competitive approaches (Floyd & Lane, 2000) to revitalize, redeploy, and replace their current organizational attributes (Agarwal & Helfat, 2009). Thus, we propose that:

H11*: Self-renewal positively affects Organizational Performance.*

Table 1 presents a summary of all hypotheses proposed and the theoretical support for them.

3. Research methods and results

3.1. Sample and procedure

To ensure content validity, a number of consultants, academics, and general managers with knowledge of the topic reviewed each item of the questionnaire prior to data collection to analyze its content, wording, and comprehensibility. The questionnaire was subsequently refined based on the comments received. We ran a pilot test of the revised questionnaire with a random sample of fifteen general managers. After incorporating changes based on the responses received, we proceeded to administer the final questionnaire to companies in the technology sector in Spain. We chose technology firms because they are strong forces driving R&D on innovativeness and entrepreneurship, characteristics that imply a corporate culture of technology (Martin-Rojas et al., 2011). We were especially interested in studying Social Media use and Corporate Entrepreneurship in a sector with high-technology elements, since these elements characterize shared values, beliefs, and symbols, as well as ways of doing in the firm (Grinstein & Goldman, 2006). Finally, we also chose technology-intensive firms because they are potential drivers of economic development through transfer of knowledge from the academic environment to the production sector and because they are strategic for a country's economy (Fontes, 2001) in generating high levels of employment and wealth.

The country selected for the analysis is Spain. Spain's economy is one of the largest in Europe. Further, the selection of a homogeneous legal, political, and cultural space reduces the impact of variables that cannot be controlled empirically (Fernández-Pérez, Lloréns-Montes, & García-Morales, 2014). As to our focus on the technology sector, we highlight that the Spanish market is relatively well developed and wholly integrated in the European Union. It has had a slightly better rate of growth in recent years than the European market overall (Real, Leal, & Roldan, 2006). Additionally, prior research show that Spanish firms show a more intensive use of Social Media tools, compared with other European countries (Garrido & Lockett, 2016). The SABI and Amadeus databases were used to select the sample.

The research uses CEOs as key informants due to their specific knowledge of the phenomenon studied, as CEOs are responsible for developing plans and actions that can impact entrepreneurial orientation and organizational performance (Baer & Frese, 2003; Westphal & Fredickson, 2001). Previous studies also show that CEO data are as reliable and valid as data from multiple informants (Zahra & Covin, 1993). Additionally, to ensure that CEOs were appropriate as key informants, we added specific questions in the pretest to evaluate the CEOs' knowledge of the variables analyzed in the research. The average score obtained for each item was good. A list of executive directors was drawn up with the help of partial funds from the Ministry of Science and Research of Spain and the Local Council of Economy, Innovation, and Science of the Junta de Andalucía. A simple random sample (a subset of individuals was chosen from a larger set or population) of 850 Spanish companies (Table 2). Each firm had the same probability of being chosen during the sampling process. The advantages of this method include its ease of use and accurate representation of the larger population. Simple random sampling is as simple as it is accurate, and these two characteristics give this method a strong advantage over other sampling methods when conducting research on a larger population. Calls and emails to the companies during January and March 2017 increased participation. To increase the response rate, we offered companies the possibility of obtaining a summary of the results of the research. We obtained 201 valid questionnaires. The response rate was 23.64%, a rate considered adequate for similar studies (Ghasemaghaei & Calic, 2019; Lin & Kunnathur, 2019; Foltean, Trif, & Tuleu, 2018) in which executives are respondents (Chahal, Gupta, Lonial, & Raina, 2019).

To reduce possible desirability bias, we ensured confidentiality and aggregate treatment of the information obtained. To test for non-response bias, we compared the number of employees and annual sales among respondent and non-respondent firms, and among early and late respondents. We found no statistically significant differences (Armstrong & Overton, 1977).

3.2. Measures

The survey used multi-item seven-point Likert scales to measure the study constructs. Validated measures from prior studies were adapted to make these more suitable in the current study. Appendix A shows

Table 2
Technical details of the research.

Sector	Technology sector
Geographical location	Spain
Methodology	Structured questionnaire
Universe of population	2023 firms
Sample size (response size)	850 firms (201 firms, 23.64%)
Sample error	6.9%
Confidence level	95%, p-q = 0.50; z = 1.96
Period of data collection	From January to March 2017

specific items used in the survey instrument.

Social media use: Based on previous scales (Choudhury & Harrigan, 2014; Sigala, 2011), this construct analyzes the frequency of use (1 "*Not very often,*" 7 "*Very often*") of different Social Media platforms (e.g., Facebook, Twitter, YouTube, LinkedIn, Blogs, Wikis, discussion forums). Confirmatory factor analysis (CFA) (χ^2_2 = 12.92, Normed Fit Index [NFI] = 0.98, Non-Normed Fit Index [NNFI] = 0.96, Comparative Fit Index [CFI] = 0.99, Goodness of Fit Index [GFI] = 0.99) was used to validate the scale and verify its one-dimensionality, demonstrating high validity and reliability.

New Business Venturing: The research used five items developed by Zahra (1993) to measure this variable. These items have been duly adapted to the present study. A seven-point Likert scale (1 "*Lower emphasis,*" 7 "*Higher emphasis*") indicated the emphasis the company gave to different actions related to new business creation. CFA (χ^2_5 = 10.84, NFI = 0.99, NNFI = 0.99, GFI = 0.99, CFI = 0.99) showed that the scale was one-dimensional and had validity and reliability.

Proactiveness: Drawing on a previous scale (Knight, 1997), we designed a four-item scale (1 *"Totally disagree,"* 7 *"Totally agree"*) to measure the construct. CFA was used to validate the scale (χ^2_2 = 1.94, NFI = 0.99, NNFI = 0.99, CFI = 0.99, GFI = 0.99) and demonstrated its one-dimensionality, validity, and reliability.

Innovativeness: This study used a seven-point Likert scale (1 "*Has significantly decreased,*" 7 "*Has significantly increased*") of four items developed by Knight, 1997 and Zahra (1993) to measure innovativeness. These items were adapted to the present study. We performed CFA to validate the scale (χ^2_2 = 6.02, NFI = 0.99, NNFI = 0.99, GFI = 0.99, CFI = 0.99), which proved to be one-dimensional and to have adequate validity and reliability.

Self-Renewal: Drawing on Zahra (1993), we used a seven-point Likert scale (1 "*Not at all,*" 7 "*To a great extent*") with eight items to measure how the company developed different Self-Renewal activities. CFA was performed to validate the scale (χ^2_5 = 18.13, NFI = 0.99, NNFI = 0.99, GFI = 0.99, CFI = 0.99). This scale was one-dimensional and showed validity and reliability.

Organizational Performance: We built a seven-point Likert scale (1 "*Much worse than my competitors,*" 7 "*Much better than my competitors*") with six items, drawing on Murray and Kotabe (1999), to measure organizational performance compared to main competitors. Recent studies also use subjective data to measure performance (García-Morales et al., 2014; Martín-Rojas et al., 2011, 2013), because prior research has shown high correlation of subjective and objective data (Palacios-Marqués et al., 2015). CFA validated the scale (χ^2_9 = 19.35, NFI = 0.99, NNFI = 0.99, GFI = 0.99, CFI = 0.99), showing its one-dimensionality and high reliability.

4. Data analysis

We then tested the proposed research model using structural equation modeling with the software LISREL 8.8. This research is based on the two-step approach (Anderson & Gerbing, 1988). The first stage evaluated the quality of the measurements (validation and reliability assessments of the measurement model). The second stage tested the hypotheses through the structural model (Hair, Anderson, Tatham, & Black, 2010).

4.1. Measurement model

First, we analyzed the psychometric properties of the measures used in this study (Table 3). To verify content validity, we examined factor loadings and their significance. All factor loadings were significant (t > 13.71) and took values higher than the recommended threshold (λ > 0.70). These findings confirm the convergent validity and one-dimensionality of the data (Bollen, 1989). Additionally, exploratory factor analysis was conducted for all items in the scale. A single factor emerged for each of the proposed constructs, supporting evidence of their one-dimensionality. In addition, the average extracted variance (AVE) for the different constructs was higher (AVE > 0.70, ranging from 0.704 to 0.874) than the recommended minimum value of 0.50 (Fornell & Larcker, 1981). Each item was significantly related to its construct, supporting the existence of convergent validity.

Second, we examined reliability of the constructs. The squared multiple correlations (R^2) of all items were higher than or equal to 0.5, supporting reliability. Cronbach's Alpha (α) exceeded the recommended value of 0.7 (α > 0.90), and the constructs' Composite Reliability (CR) (a more rigorous estimator for reliability than the Alpha) was higher than the recommended value of 0.70 (CR > 0.92, ranging from 0.926 to 0.972). Thus, the AVE, Cronbach's Alpha, and CR support the scales' reliability and internal consistency (Fornell & Larcker, 1981; Hair et al., 2010). Statistical values indicated that the measurement model has good fit (χ^2 (419 d.f.) = 665.40 (p > 0.01); NFI = 0.98; NNFI = 0.99; IFI = 0.99; Parsimony Goodness of Fit Index [PGFI] = 0.55; Estimated Non-centrality Parameter [NCP] = 246.40; Relative Fit Index [RFI] = 0.98; CFI = 0.99; Root Mean Square Error of Approximation [RMSEA] = 0.05).

Third, we tested for discriminant validity (Table 4). The levels of AVE were higher than the squared correlation between each pair of constructs, and the highest correlation between any two constructs had a value significantly different from 1.0. Additionally, no confidence interval in the estimation of the correlations between each pair of factors contained the value 1, supporting discriminant validity. These results prove that each construct differs from the others (Anderson & Gerbing, 1988; Fornell & Larcker, 1981). We also conducted a chi-square difference test between the values obtained for one constrained model (a model that constrains the estimated correlation parameter between each pair of latent factors to 1.0) and one unconstrained model (Anderson & Gerbing, 1988). The results supported the absence of perfect correlation among the constructs (discriminant validity).

Fourth, we must test for common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff & Organ, 1986). This study assured the survey respondents' anonymity, communicated the study goals, used random item order, and used previously validated scales to avoid this bias. Additionally, Harman's one-factor test showed that a single component did not explain the majority of the variance (the largest single component explained 55.31%, five components with eigenvalues > 1.0). The one-factor model was compared to the measurement model (the fit was worse for the one-dimensional model than for the measurement model). Finally, when a first-order factor (common latent factor) was added to all measures used as indicators in the researcher's theoretical model, the differences (between the previous indicator and the later indicator with the common latent factor) were below 0.200. All measurements indicated that common method bias was not a serious threat in this study.

4.2. Structural model

To test the research hypotheses, we used a recursive structural model with an exogenous latent variable (Social Media Use, ξ_1), a first-grade endogenous latent variable (New Business Venturing, η_1), and four second-grade endogenous latent variables (Proactiveness, η_2; Innovativeness, η_3; Self-renewal, ξ_4; and Organizational Performance, ξ_5). We used the covariance and asymptotic covariance matrix as input in SEM, estimating direct, indirect, and total effects (Table 5). The standardized path coefficients of the structural model (Fig. 2) provide evidence of the hypothesized relationships and indicate good overall fit of the structural model (χ^2 (423 d.f.) = 683.42 (p > 0.01); NFI = 0.98; NNFI = 0.99; IFI = 0.99; PGFI = 0.55; NCP = 260.42; RFI = 0.98; CFI = 0.99; RMSEA = 0.05).

The results support all of the proposed hypotheses on Social Media Use. They confirm effective direct relationships between Social Media Use and New Business Venturing (H1: γ_{11} = 0.46, p < 0.001), Social Media Use and Proactiveness (H2: γ_{21} = 0.17, p < 0.05), Social Media Use and

Table 3
Measurement-model results.

Completely standardized latent construct loading										
Latent variables	Items	Social media use α = 0.927	New business venturing α = 0.910	Proactiveness α = 0.931	Innovativeness α = 0.953	Self-renewal α = 0.967	Org. performance α = 0.974	R^2	C.R.	AVE
Social Media Use	SMU1	0.75*** (15.36)						0.56		
	SMU2	0.81*** (20.50)						0.65		
	SMU3	0.85*** (29.45)						0.72		
	SMU4	0.86*** (24.49)						0.74	0.943	0.704
	SMU5	0.94*** (54.77)						0.88		
	SMU6	0.78*** (17.78)						0.61		
	SMU7	0.87*** (28.98)						0.75		
New Business Venturing	NBV1		0.69*** (13.71)					0.50		
	NBV2		0.88*** (33.33)					0.78		
	NBV3		0.87*** (27.76)					0.76	0.926	0.718
	NBV4		0.89*** (27.08)					0.79		
	NBV5		0.89*** (35.93)					0.78		
Proactiveness	PROA1			0.79*** (18.02)				0.63	0.944	0.809
	PROA2			0.93*** (45.23)				0.86		
	PROA3			0.94*** (49.94)				0.88		
	PROA4			0.93*** (43.76)				0.87		
Innovativeness	INN1				0.93*** (54.55)			0.86	0.962	0.865
	INN2				0.93*** (67.23)			0.86		
	INN3				0.95*** (60.54)			0.89		
	INN4				0.91*** (47.51)			0.82		
Self-Renewal	SELRE1					0.95*** (75.57)		0.90	0.972	0.874
	SELRE2					0.98*** (147.52)		0.96		
	SELRE3					0.97*** (108.43)		0.95		
	SELRE4					0.90*** (43.62)		0.82		
	SELRE5					0.87*** (33.06)		0.77		
Org. Performance	PERF1						0.95*** (69.29)	0.91	0.972	0.863
	PERF2						0.97*** (121.23)	0.95		
	PERF3						0.95*** (78.51)	0.90		
	PERF4						0.95*** (62.30)	0.90		
	PERF5						0.87*** (14.46)	0.76		
	PERF6						0.88*** (14.75)	0.78		
Goodness-of-Fit Statistics	χ^2_{419} = 665.40 ($P > 0.01$) ECVI = 4.10 AIC = 819.40 CAIC = 1150.76 NFI = 0.98 NNFI = 0.99 IFI = 0.99 PGFI = 0.55 PNFI = 0.88 NCP = 246.40 RFI = 0.98 CFI = 0.99 RMSEA = 0.05									

Notes: λ* = Standardized structural coefficient (t-students are shown in parentheses); R^2 = Reliability; C.R. = Composite reliability; AVE = Average variance extracted; *** $p < 0.001$ (two-tailed).

Table 4
Discriminant validity.

Variable	1	2	3	4	5	6
1. Social Media Use	**0.704**	(0.34, 0.58)	(0.29, 0.56)	(0.36, 0.61)	(0.39, 0.61)	(0.51, 0.70)
2. New Business Venturing	0.192	**0.718**	(0.52, 0.74)	(0.64, 0.82)	(0.58, 0.79)	(0.58, 0.77)
3. Proactiveness	0.181	0.389	**0.809**	(0.64, 0.82)	(0.59, 0.79)	(0.56, 0.77)
4. Innovativeness	0.224	0.497	0.508	**0.865**	(0.75, 0.87)	(0.66, 0.81)
5. Self-Renewal	0.227	0.458	0.480	0.622	**0.874**	(0.51, 0.70)
6. Org. Performance	0.330	0.410	0.412	0.501	0.473	**0.863**

Notes: Numbers on the diagonal show the AVE. Numbers below the diagonal represent the squared correlation between the constructs. Numbers above the diagonal represent the confidence interval between each pair of constructs (95%).

Innovativeness (H3: $\gamma_{31} = 0.13$, $p < 0.05$), and Social Media Use and Self-Renewal (H4: $\gamma_{41} = 0.12$, $p < 0.05$). New Business Venturing also had direct and significant effects on both Proactiveness (H5: $\beta_{21} = 0.56$, $p > 0.001$) and Innovativeness (H6: $\beta_{31} = 0.42$, $p > 0.001$). Further, Proactiveness affected Self-Renewal (H7: $\beta_{42} = 0.19$, $p > 0.05$) and Innovativeness (H8: $\beta_{32} = 0.42$, $p > 0.001$) directly and significantly. These results support the relationship between Innovativeness and Self-Renewal (H9: $\beta_{34} = 0.62$, $p > 0.001$). Finally, Organizational Performance was significantly affected by Innovativeness (H10: $\beta_{53} = 0.50$, $p > 0.001$) and Self-Renewal (H11: $\beta_{54} = 0.30$, $p > 0.01$). All hypotheses were supported (with significant, positive relationships; see Table 5).

We also calculated the indirect and total effects. The results show an indirect effect of Social Media Use on Proactiveness (0.26 $p < 0.001$, see Bollen (1989) for calculation rules) through New Business Venturing (0.46 × 0.56) and an indirect effect of Social Media Use on Innovativeness (0.37 $p < 0.001$) through New Business Venturing (0.46 × 0.42), New Business Venturing/Proactiveness (0.46 × 0.56 × 0.42), and Proactiveness (0.17 × 0.42). We also find an indirect effect of Social Media Use on Self-Renewal (0.39 $p < 0.001$) through New Business Venturing/Proactiveness (0.46 × 0.56 × 0.19), New Business Venturing/Innovativeness (0.46 × 0.42 × 0.62), New Business Venturing/Proactiveness/Innovativeness (0.46 × 0.56 × 0.42 × 0.62), Proactiveness (0.17 × 0.19), Proactiveness/Innovativeness (0.17 × 0.42 × 0.62), and Innovativeness (0.13 × 0.62). The total influence of Social Media Use on Proactiveness, Innovativeness, and Self-Renewal is thus 0.43 ($p < 0.001$), 0.50 ($p < 0.001$), and 0.51 ($p < 0.001$), respectively. Comparison of the magnitudes of these effects shows that the global effect of Social Media Use on Self-Renewal is larger than the effect of Social Media Use on New Business Venturing, Proactiveness, or Innovativeness.

The results further confirm an indirect effect of New Business Venturing on Innovativeness (0.23 $p < 0.001$) through Proactiveness (0.56 × 0.42). The total influence of New Business Venturing on Innovativeness is thus 0.65 ($p < 0.001$). An indirect effect of Proactiveness on Self-Renewal (0.26 $p < 0.001$) through Innovativeness (0.42 × 0.62) was also observed. The total influence of Proactiveness on Self-Renewal is thus 0.45 ($p < 0.001$). The global effect of Proactiveness on Self-Renewal is larger than the effect of Proactiveness on Innovativeness, and we obtain an indirect effect of Innovativeness on Organizational Performance (0.19 $p < 0.01$) through Self-Renewal (0.62 × 0.30). The global effect of Innovativeness on Organizational Performance is thus 0.69 ($p < 0.001$). These indirect results also confirm all hypotheses (significant and positive relationships, see Table 5). Other indirect effects can be seen in Table 5.

Comparing the magnitudes of these effects shows that the global effect of Social Media Use on Self-Renewal is larger than the effect of Social Media Use on New Business Venturing, Proactiveness, Innovativeness, and Organizational Performance. Likewise, the effect of New Business Venturing on Innovativeness is larger than its effect on Proactiveness, Self-Renewal, and Organizational Performance. Finally, the effect of Proactiveness on Self-Renewal is larger than its effect on Innovativeness or Organizational Performance, and the effect of Innovativeness on Organizational Performance is larger than its effect on Self-Renewal. Globally, the results confirm that the model explains well New Business Venturing ($R^2 = 0.21$), Proactiveness ($R^2 = 0.42$), Innovativeness ($R^2 = 0.68$), Self-Renewal ($R^2 = 0.69$), and Organizational Performance ($R^2 = 0.59$).

Finally, we compared alternative models to confirm that the hypothesized model best represents the data (Hair et al., 2010). Comparing the proposed structural model (Model 1) to alternative models

Table 5
Results of proposed structural model (direct, indirect, and total effects).

Effect from	To		Direct effects[a]	*t*	Indirect effects[a]	*t*	Total effects[a]	*t*	*Hypothesis*
Social Media Use	→	New Business Venturing	**0.46*****	5.87			**0.46*****	5.87	**H1 supported**
Social Media Use	→	Proactiveness	**0.17***	2.27	0.26*	4.91	**0.43*****	5.41	**H2 supported**
Social Media Use	→	Innovativeness	0.13*	2.20	0.37***	6.86	**0.50*****	7.20	**H3 supported**
Social Media Use	→	Self-Renewal	0.12*	2.04	0.39***	6.39	**0.51*****	7.93	**H4 supported**
Social Media Use	→	Org. Performance			0.40***	6.86	0.40***	6.86	
New Business Venturing	→	Proactiveness	**0.56*****	6.63			**0.56*****	6.63	**H5 supported**
New Business Venturing	**v**	Innovativeness	**0.42*****	5.45	0.23	4.33	**0.65*****	9.75	**H6 supported**
New Business Venturing	→	Self-Renewal			0.51***	8.45	0.51***	8.45	
New Business Venturing	→	Org. Performance			0.48***	8.88	0.48***	8.88	
Proactiveness	→	Self-Renewal	**0.19***	2.31	0.26***	4.38	**0.45*****	5.59	**H7 supported**
Proactiveness	→	Innovativeness	**0.42*****	4.80			**0.42*****	4.80	**H8 supported**
Proactiveness	→	Org. Performance			0.34***	5.37	0.34***	5.37	
Innovativeness	→	Self-Renewal	**0.62*****	7.12			**0.62*****	7.12	**H9 supported**
Innovativeness	→	Org. Performance	**0.50*****	4.78	0.19**	2.86	**0.69*****	11.59	**H10 supported**
Self-Renewal	→	Org. Performance	**0.30****	2.73			**0.30****	2.73	**H11 supported**
Goodness of Fit Statistics	$\chi^2_{423} = 683.42$ ($P > 0.01$) ECVI = 4.15 AIC = 829.42 CAIC = 1143.56 NFI = 0.98 NNFI = 0.99 IFI = 0.99 PGFI = 0.55 NCP = 260.42 RFI = 0.98 CFI = 0.99 RMSEA = 0.05								

Note: [a]Standardized Structural Coefficients; *$p < 0.05$;**$p < 0.01$;***$p < 0.001$(two-tailed).

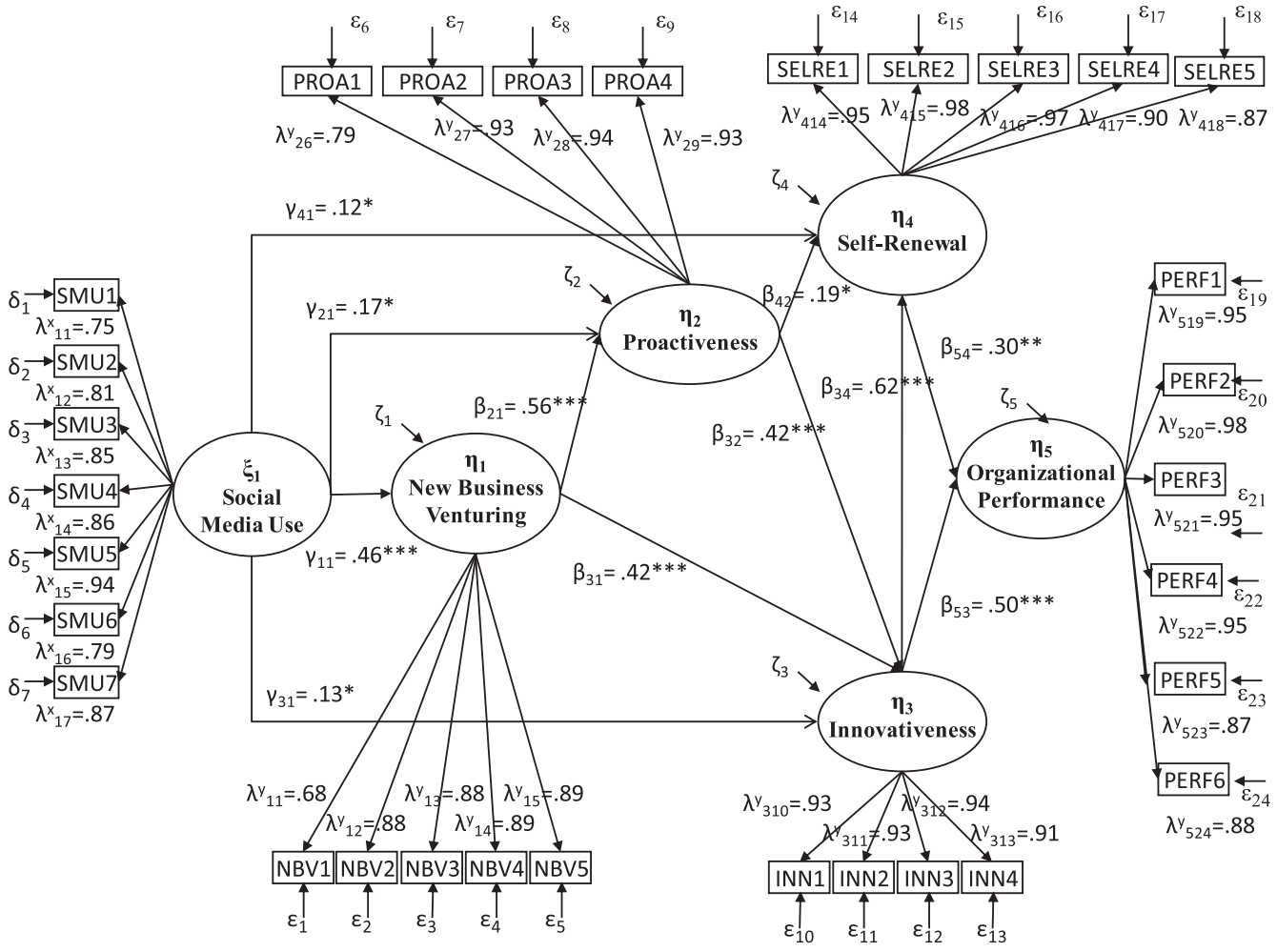

Fig. 2. Structural result of proposed model.

Table 6
Proposed structural model against alternative statistical model.

Model	Description	χ^2	$\Delta\chi^2$	RMSEA	ECVI	AIC	NCP
1	Proposed structural model	683.42		0.055	4.15	829.42	260.42
2	W.R. Social Media Use to Proactiveness	689.64	6.22	0.056	4.17	833.64	265.64
3	W.R. Social Media Use to Innovativeness	684.44	1.02	0.055	4.96	828.44	260.44
4	W.R. Social Media Use to Self-Renewal	685.42	2.0	0.056	4.15	829.42	261.42
5	W.R. New Business Venturing to Proactiveness	700.57	17.15	0.057	4.22	844.57	276.57
6	W.R. New Business Venturing to Innovativeness	704.00	20.58	0.057	4.24	848.00	280.00
7	W.R. Proactiveness to Innovativeness	696.49	13.07	0.057	4.20	840.49	272.49
8	W.R. Innovativeness to Self-Renewal	722.88	39.46	0.059	4.33	866.88	298.88
9	W.R. Innovativeness to Org. Performance	693.63	10.21	0.056	4.19	837.63	269.63
10	W.R. Self-Renewal to Org. Performance	690.61	7.19	0.056	4.17	834.61	266.61

Notes: W.R. = Without relationship.

shows that Model 1 is preferable—the most parsimonious and acceptable model—in supporting the relationships among the constructs analyzed (Table 6). For example, Model 8 had a worse RMSEA (Δ = 0.004), ECVI (Δ = 0.18), AIC (Δ = 37.46), and NCP (Δ = 38.46). The results confirm that Model 1 is preferred to Model 8 ($\Delta\chi2$ = 39.46) and to the other models.

5. Discussion

Impressive improvements in information systems, communication, and connectivity technologies are fundamentally reshaping traditional business strategies. In recent years, the importance of developing an effective digital business strategy has been highlighted via Social Media technologies (Aral et al., 2013; Garrido-Moreno et al., 2018), which are radically changing the ways in which we communicate, collaborate, consume, and create.

In current hyper-competitive markets, use of IT tools such as Social Media have completely changed the way business is conducted. These platforms enable firms to capture valuable knowledge from the environment and detect new business opportunities (Casanueva, Castro, & Galán, 2013), helping to improve the firm's entrepreneurial orientation. Empirical evidence on the topic remains scarce, however, especially in highly dynamic sectors like the technology industry. This study aims to shed light on the topic by empirically analyzing the impact of Social

Media use on the different components of Corporate Entrepreneurship, as well as the internal relationships among these components and their impact on organizational performance.

From a dynamic capabilities' lens, the results show the specific mechanism by which Social Media are transformed into business value: by enhancing new business venturing, promoting proactive behaviors, and increasing innovativeness and strategic renewal within the firm. The research findings have useful implications for both academics and practitioners.

5.1. Theoretical contributions

Drawing on the implications of *dynamic capabilities theory* and the fact that the firms analyzed in this study operate in the technology sector, this paper enriches the literature on IT-based networks, entrepreneurship, and strategic management in general. In these cases, most firms already use Social Media technologies widely on a daily basis, in new and meaningful ways (Whitaker, New, & Ireland, 2016). These technologies are thus said to increase firms' innovation capabilities.

Firstly, findings contribute to the IT literature, particularly Social Media studies, by empirically demonstrating the impact of use of these tools on the different dimensions of Corporate Entrepreneurship. The results confirm that Social Media use increases connectivity with key agents, enabling firms to better seize market opportunities (García-Morales et al., 2018) by developing new business venturing activities. In addition, the use of Social Media platforms enables firms to capture the most recent information from the market and its trends, which can be employed to quickly detect changes in customer needs and respond to them (Lam et al., 2016). The findings confirm that Social Media use enhances the firm's capabilities to act proactively and develop successful innovations. To become entrepreneurial and adapt to current changing markets, firms must also renew themselves internally, altering their organizational characteristics (Martin-Rojas et al., 2017). The results confirm that the use of Social Media tools significantly enhances self-renewal behaviors, both directly and indirectly. Since the influence of Social Media on firms' entrepreneurial orientations has rarely been investigated in prior research (Parveen et al., 2016), the current study provides important insights to academics interested in the topic.

Secondly, the study makes important contributions to the literature on Corporate Entrepreneurship. The findings demonstrate empirically the relationships among the distinctive components of the phenomenon. As prior studies highlight, research on this topic has recently increased, but the field still lacks a greater understanding of how the different components of Corporate Entrepreneurship relate and interact (Kuratko & Audrestch, 2013; Linton & Kask, 2017). To advance this understanding, the study results confirm that new business venturing directly affects proactiveness and innovativeness. That is, entering new businesses enables firms to respond quickly to market shifts, anticipate environmental changes, and develop innovations (Martin-Rojas et al., 2017). Proactiveness was also found to impact self-renewal and innovativeness. Proactive firms seem to be more open in their perspectives and better able to renovate themselves to undertake innovations. Finally, the results confirm a positive relation among innovativeness and self-renewal (Çoban & Güles, 2011), suggesting that innovation capability is a relevant factor in enabling strategic processes conducive to internal renewal behaviors.

Thirdly, the paper is useful for the strategic management literature, as it identifies the specific process firms must follow to benefit strategically from Social Media use. Prior studies stress the persistence of a significant research gap in analysis of how firms should interact with these new platforms to maximize benefit (Aral et al., 2013; Ngai et al., 2015). The results contribute to advancing knowledge on the topic by offering empirical evidence of the strategic adaptation firms must accomplish to create real value and enhance profitability by using social media. In this respect, the study highlights the key role played by Corporate Entrepreneurship capabilities as effective mediators between Social Media Use and organizational performance. In sum, the more developed the use of Social Media, the better the entrepreneurial capabilities firms obtain and, in turn, the better the performance achieved. This paper asserts that strategic use of Social Media technologies leads businesses to develop better dynamic capabilities (entrepreneurial capabilities), which translate into higher performance.

5.2. Managerial implications

The results of the study also yield important managerial implications. The findings can improve managers' understanding of how to benefit from Social Media initiatives to foster entrepreneurial processes within the firm and enhance business performance. To guide managers in achieving these objectives, we provide the following recommendations for practice.

First, managers should facilitate and promote inter- and intra-organizational use of Social Media platforms and create an organizational context that favors knowledge acquisition and sharing. Promoting a learning community in the firm is especially relevant to this goal, as we find that the creation of new units, growing renovation of firms with digital strategies, proactive focus, and innovativeness of the organization are involved in the process. Only after encouraging Social Media use within the firm for effective knowledge transfer did managers achieve more innovation, growth, and profitability. This result occurred especially when practical learning, business planning, interactive elements, or integrated feedback were shared (Aral et al., 2013; Corral de Zubielqui et al., 2019; Lyytinen et al., 2010).

Second, to promote effective use of Social Media within the firm, managers should be involved personally, expressing concrete support for these initiatives and providing the necessary resources in terms of training and incentives. Managers must realize that more proactive managerial involvement with Social Media actually pays off, increasing organizational performance by promoting entrepreneurial orientation of the firm.

Third, to stimulate entrepreneurial behavior within the firm, managers should build an appropriate organizational context, transforming the firm's strategic intent and capabilities (Schmitt et al., 2018) so that employees accept continuous change as natural, vital, and central to fruitful strategies. Innovativeness should be encouraged by fostering the tendency to experiment, promoting novel ideas, departing from established practices (Lumpkin & Dess, 1996), and using new tools such as Social Media to facilitate firms' adaptation to open-ended customer needs in the market. Managers must also nurture a proactive orientation, so that the firm can act to anticipate future problems, needs, or changes by introducing new products, services, or processes (Linton & Kask, 2017). Such action means underlining the importance of being proactive by taking initiative in the entrepreneurial process of creating, changing, or shaping the current environment.

6. Conclusions, limitations, and future research

Social Media use and Corporate Entrepreneurship are emergent topics with key popularity in today's dynamic and turbulent markets. Although they can help firms to become more innovative and gain competitiveness, empirical research on the topic remains scarce. To shed light on the phenomenon, this study examined the impact of Social Media use on the different dimensions of Corporate Entrepreneurship to identify the pathway firms must follow to benefit from Social Media and Corporate Entrepreneurship and to enhance business performance. The results confirm that use of Social Media platforms positively impacts all components of Corporate Entrepreneurship, fostering creation of new business units, and development of proactive and innovative capabilities to seize market opportunities through new business venturing. The findings benefit managers by providing a guide to leveraging Social Media use so that firms can become more entrepreneurial

to improve organizational performance.

6.1. Limitations and future lines of research

The study has several limitations, which suggest useful directions for future research.

First, although Harman's one-factor test and other tests did not identify common method variance, we recommend that future studies use measures of dependent and independent variables from different data sources to minimize the effects of any response bias (Konrad & Linnehan, 1995; Podsakoff & Organ, 1986; Podsakoff et al., 2003). Still, it is incorrect to assume that using a single method necessarily produces systematic bias (Spector, 2006). Additionally, to reduce social desirability bias due to self-report data (Podsakoff & Organ, 1986), the study assured respondents anonymity, reducing such bias even on sensitive topics (Konrad & Linnehan, 1995). Further, we contrasted subjective answers with existing objective data in certain variables and found no significant differences.

Second, as the sample focused on Spain, future studies should analyze other sectors and countries, with a larger sample, to determine whether significant differences exist between sectors and countries. Further, the hypotheses argue the relationships between Social Media use and the different components of Corporate Entrepreneurship, as well as how the former influence organizational performance. Future research could consider other aspects of Social Media in addition to use, such as skills, distinct competences, or managers' and employees' support for Social Media (Martín-Rojas et al., 2011, 2013; Real et al., 2006).

Third, future studies should provide longitudinal analysis due to the dynamic nature of some of the variables. Although the data in this study are cross-sectional, we did analyze the most plausible directions prior to configuration of the research model. We also examined the theory to provide logical grounding for the relationships analyzed and integrate time considerations into measurement of the variables (Hair et al., 2010). Fourth, although Social Media use has a significant impact on Self-Renewal and Innovativeness, the coefficients are low and additional investigation of these direct relationships is necessary. The indirect relationships do, however, indicate the existence of strong indirect and total effects of Social Media Use on Self-Renewal and Innovativeness. Fifth, this research combines very different forms of Social Media in a single construct. We used only seven items to measure specific forms of social media—Facebook, Twitter, YouTube, LinkedIn, Blogs, Wikis, and discussion forums. Future studies should analyze other Social Media tools to determine their separate effects on the different model variables.

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Appendix A

- **Social Media Use**

1. Facebook (www.facebook.com) (SMU1).
2. Twitter (www.twitter.com) (SMU2).
3. YouTube (www.youtube.com) (SMU3).
4. LinkedIn (www.linkedin.com) (SMU4).
5. Blogs (SMU5).
6. Wikis (SMU6).
7. Discussion Forums (SMU7).

- **Corporate Entrepreneurship**

1. New business Venturing

1.1. Stimulating new demand on your existing products in your current markets through aggressive advertising and marketing (NBV1).

1.2. Broadening business lines in your current industries (NBV2).

1.3. Pursuing new business in new industries that are related to your current business (NBV3).

1.4. Finding new niches for your products in your current markets (NBV4).

1.5. Entering new businesses by offering new lines and products (NBV5).

2. Proactiveness

2.1. In dealing with competitors, my firm is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc. (PROA1).

2.2. In general, the top management at my firm has a strong proclivity for high-risk projects (with chances of very high returns) (PROA2).

2.3. In general, the top manager at my firm believes that, owing to the nature of the environment, bold wide-ranging acts are necessary to achieve the firm's objectives (PROA3).

2.4. When confronted with decision-making situations involving uncertainty, my firm typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities (PROA4).

3. Innovativeness

4.1. Your company's spending on new product/process development activities (INN1).

4.2. The number of new products/processes added and introduced by your company (INN2).

4.3. Your company's emphasis on developing technologies and/or technological innovation (INN3).

4.4. Top management emphasis in R&D, technological leadership, and innovations (INN4).

4. Self-Renewal

3.1. Reorganizing units and divisions to increase innovation (SELRE1).

3.2. Coordinated activities among units to enhance company innovation (SELRE2).

3.3. Adopting flexible organizational structures to increase innovation (SELRE3).

3.4. Training employees in creativity techniques (SELRE4).

3.5. Redefining your business concept and/or the industries in which your company will compete (SELRE5).

- **Organizational Performance**

1. Return on Investment (ROI) (PERF1).
2. Return on Equity (ROE) (PERF2).
3. Return on Sales (ROS) (PERF3).
4. Recovery of Investments (PERF4).
5. Market Share Growth (PERF5).
6. Growth of sales in main product and/or services (PERF6).

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