Theoretical approach of innovation in organizations: Background and research perspectives

Aproximación teórica de la innovación en las organizaciones: Antecedentes y perspectivas de investigación

Antonio Alejandro Arriaga Martínez*
Víctor Manuel Roque López**

Abstract

To identify the perspectives in the study of innovation from the management field seen in recent literature (3-4 years). Review of publications with a high degree of impact (SCImago Journal Rank-SJR 2013) from management journals during 2012, 2013 and 2014. Perspectives identified: theoretical models of innovation, studies in the innovation process and studies of innovation in organizations. The number of articles and sources considered in the literature review can be considered as limited. Academic basis for future studies of the topic of innovation in the organizational context. Topics to boost innovation in organizations: creativity, knowledge generation and absorption, collaboration networks and strategic orientation.

Keywords: Innovation, literature review, organizational performance, entrepreneurship.

* Universidad Anáhuac México, Campus Sur. E-mail: antonio.arriaga.martinez@gmail.com
** Universidad Anáhuac México, Campus Sur. E-mail: vroquel@hotmail.com

Revista de El Colegio de San Luis • Nueva época • año VIII, número 17 • septiembre a diciembre de 2018 • El Colegio de San Luis
ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Resumen

El objetivo de este trabajo es identificar las perspectivas en la investigación de la innovación en el campo de la administración observadas en la literatura reciente (3-4 años). Se empleó la metodología de revisión de publicaciones, en específico, con alto grado de impacto (SCImago Journal Rank-SJR 2013) de las revistas de administración durante 2012, 2013 y 2014. Las perspectivas identificadas son: modelos teóricos de innovación, estudios del proceso de innovación y estudios de innovación en las organizaciones. En cuanto a las limitaciones de la investigación, el número de artículos y fuentes consideradas en la revisión de literatura puede ser estimado como limitado. Respecto a los aportes, esta investigación es una base académica para la realización de futuros estudios en innovación en el contexto organizacional. Se concluye que los temas para impulsar la innovación organizacional son la creatividad, la generación-absorción de conocimiento, las redes de colaboración y la orientación estratégica.

Palabras clave: Innovación, revisión de la literatura, desempeño organizacional, emprendimiento.

Recepción: 28 de septiembre de 2016.
Dictamen 1: 3 de mayo de 2017.
Dictamen 2: 1º de junio de 2017.

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Introduction

Innovation involves a wide range of approaches for study. From an initial vision of innovation focused primarily on the economic process and the functioning of markets (Schumpeter, 1934, 1942), the study of innovation moved towards the invention of products and processes, technology, leadership and industry-wide factors, among others. Research on this subject has progressed and considers more specific aspects such as those related to the capabilities of organizations, processes of creativity and implementation of innovations, and improvement of organizational performance.

According to the most recent literature, innovation can be visualized as a process that considers both the production of creative ideas (stage of idea generation) and the implementation of these ideas toward better procedures, practices, or products (stage of implementation), and can be defined that innovation at work are the processes, results and products of attempts to develop and introduce new and better ways of doing things, asserting that this process can occur at individual, team, organizational, or a combination of these levels (Anderson et al., 2014).

At the international level research on the topic of innovation in organizations tends to focus on studies to corroborate the theory coming from Anglo-Saxon and European countries mainly. Although there are studies on the subject, in the case of emerging countries, this type of studies has not been sufficiently developed, and at the Latin American level research is almost inexistent in this subject.

There is a lack of studies of innovation in the context of Mexican organizations, and innovation as an important trigger for a country such as Mexico is of major importance considering the current trend as a maquiladora country in most production and service activities.

In Mexico developing research on innovation represents an area of opportunity to approach, from the perspective of administrative sciences, theoretical foundations and empirical research on innovation in small and medium-sized enterprises and contribute to laying the foundations for future studies in the national context.

The current situation in the Mexican context is reflected in the lack of literature on the subject and in the limited management and generation of ideas and knowledge for innovative products and services, which impacts the levels of innovation and productivity of the national economy.

Due to the lack of research on the subject of innovation in Latin America and in particular in Mexico, the prevailing economic situation in Mexico as a country oriented primarily to the maquila of products and services and the acquisition of

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

foreign technology, and the importance for small and medium-sized Mexican companies of supporting the generation of employment, it is detected as a fundamental research problem to identify the perspectives in innovation research in the administration field observed in the recent literature and its categorization in themes and sub-themes that provide an academic basis for future studies to deepen and gain new knowledge on the phenomenon of innovation in organizations.

Therefore, the objective of the present article seeks to answer the following research question: from the management field, what are the perspectives in the study of innovation identified in recent literature (3-4 years)? The strategy to answer the research question included a review of the literature in the area of management during 2012, 2013 and 2014, considering on one hand the impact factor (at or around 3.00) and secondly the relevance of the content for purposes of this article.

This work highlights the importance of innovation for the performance of organizations and is particularly relevant to support future studies in emergent or developing countries, taking into account the lack of studies on this topic. Although the work done is theoretical in nature, the results provide benefits not only for academia but also for companies because the findings emphasize the importance of innovation in organizations.

Despite cultural differences in diverse regions of the world, it is possible to identify the common elements associated with successful innovation processes and generate knowledge to be transferred to other contexts such as Latin American countries, in order to reduce difficulties in the generation of innovations.

Methodology

A comprehensive search of innovation literature was conducted by the authors, and a total of 62 articles relevant to innovation in management were selected for this review using the following criteria: the impact of the publication within the management area and the relevance of the article content in the innovation topic.

The review of the literature focuses on publications with a high degree of impact according to the measurement of the indicator SCImago Journal Rank (SJR) (http://www.scimagojr.com) developed by the Scimago Lab using the Google PageRank ™ algorithm, which shows the visibility of the journals in the Scopus® data base from the year 1996. For this study the SJR indicator for 2013 was used and journals were selected in the area of management addressing the issue of innovation

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

in organizations, considering on one hand the impact factor (at or around 3.00) and secondly the relevance of the content for purposes of this article. The journals selected were: *Academy of Management Review, Journal of Management, International Entrepreneurship and Management Journal, Academy of Management Journal, Organization Science, Research Policy, British Journal of Management, Journal of Business Research, International Journal of Advanced Manufacturing Technology, European Management Journal, International Journal of Production Research, Papers In Regional Science, Structural Change and Economic Dynamics, Australian Economic Review, Innovar, Australasian Journal of Regional Studies*, and *Eurasian Business Revie*w.

Thematic analysis was performed to review and integrate the findings from the selected articles considering the method developed for literature review by Singh and Hardaker (2014). This analysis involves reading and identifying key concepts from studies hat were relevant to the aims of the literature review. Each section of the text was highlighted and codes developed. The assigned codes identified a feature of the data that was linked to innovation in organizations. Every section had at least one code applied. The next phase involved sorting these codes into themes. Essentially, this entailed reviewing the codes and deciding how these could be combined to form an overarching theme.

A theme captured something important about the data in relation to the research question. The themes were dependent in terms of whether it captures something important in relation to the overall research question.

The final phase involved reviewing the themes and sub-themes. During this process it was noted that some themes did not have enough data to support them and some here collapsed into each other and some themes were broken down into separate themes or sub-themes. From the codes a total of 10 sub-themes and 3 themes were created.

In summary, the selected references were divided into three categories or general perspectives of studies and ten sub-categories or research lines. Figures 2, 3 and table 1 shows the total number of articles selected for this study, and their classification in categories and sub-categories.

While the search process, as far as possible, aims to be systematic, it is not claimed that it provides a complete survey of the innovation ideas in the literature as there may be articles in journals, conferences, or other sources not covered by this search. The purpose of this literature review is to provide illustrative perspectives from research articles on innovation in organizations.

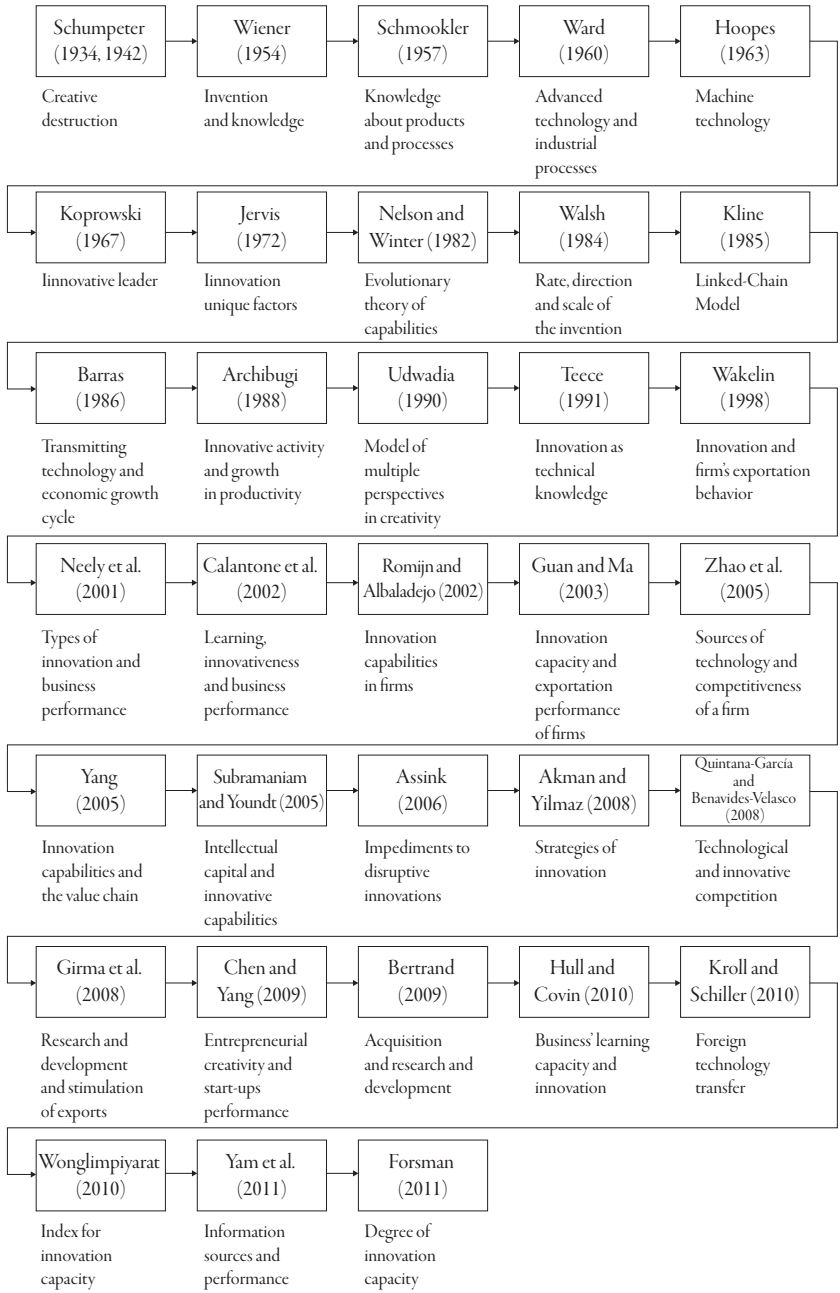
ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Background: the study of innovation

Originally, the study of innovation can be found in the early 1930's with studies by Schumpeter (1934, 1942) who focuses on the process of opening new markets for companies, called a process of creative destruction, and is considered one of the driving forces of capitalism. Wiener (1954) noted that invention is the result of a careful and comprehensive search for knowledge by a group of competent scientists. Schmookler (1957) defines invention as an activity directly aimed at the discovery of new and useful knowledge about products and processes. Ward (1960) states that our culture is built on a highly advanced technology with complex industrial processes in which the economy is clearly a matter of interrelated parts. Hoopes (1963) notes that in the future the machine of technology, which has inevitably led to the depersonalization of our society, will not be disposed of, since scientific and technological progress has an irreversible quality. Koprowski (1967) states that a new breed of executive, the innovative leader, has become vital for the new technological world. Jervis (1972) argues that innovation is a complex process and that every attempt at innovation has its unique factors. Walsh (1984) examines the determinants of the rate, direction and scale of the invention, innovation and economic activity. Nelson and Winter (1982) developed an evolutionary theory of the capabilities and behavior of firms operating in a market environment. Kline (1985) proposes a model called Linked-Chain Model in which there are five paths toward innovation. Barras (1986) argues that examination of the process of transmitting technology helps explain the dynamics underlying the economic growth cycle. Archibugi (1988) points out that innovative activity is understood as the causal variable for growth in productivity, volume of international trade, competitiveness of products, differential economic growth in countries and the dynamics of social systems. Udwadia (1990) presents a model of multiple perspectives that focuses on individual characteristics associated with creativity. Teece (1991) sees innovation as technical knowledge which tells us how to do things better than the existing state of art. Wakelin (1998) examines the role of innovation in determining a firm's exportation behavior. Neely et al. (2001) propose a new framework to study how different types of innovation and external factors can improve business performance. Calantone et al. (2002) develop a framework for the study of orientation towards learning, innovativeness and business performance. Romijn and Albaladejo (2002) explore the determinants of innovation capabilities in small electronics and software firms in the UK. Guan and Ma (2003) consider the role of the dimension of innovation capacity and characteristics of the

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

FIGURE 1. EVOLUTION OF INNOVATION (1934-2011)



Source: Developed by the authors.

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

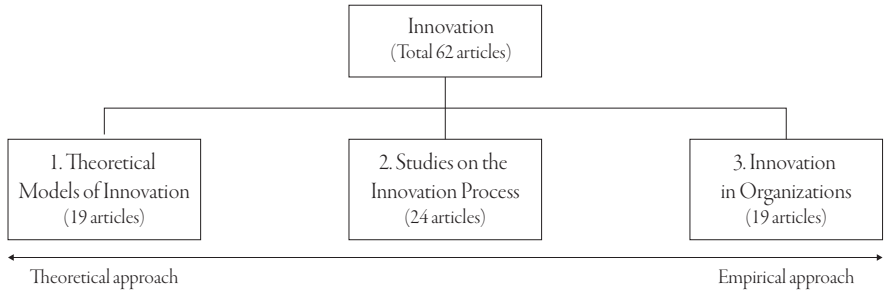
firm in determining the exportation performance of the firms. Zhao et al. (2005) note that the sources of technology become critical to maintaining the competitiveness of a firm. Sher and Yang (2005) explore the influence of innovation capabilities and effects of clusters of firms on the value chain. Subramaniam and Youndt (2005) study how aspects of intellectual capital influence the innovative capabilities of organizations. Assink (2006) examines the impediments to developing disruptive innovations in large companies. Akman and Yilmaz (2008) examine strategies of innovation, market orientation and technological orientation and its effects on the capacity for innovation in small and medium businesses in developing countries. Quintana-García and Benavides-Velasco (2008) investigate technological diversification and its effects on the rate and specific types of innovative competition. Girma et al. (2008) argue whether research and development stimulates exports. Chen and Yang (2009) used the acknowledgement of opportunity and entrepreneurial creativity to group the types of business start-ups and explore differences in performance. Bertrand (2009) investigates the acquisition of innovative French manufacturing companies by foreign companies and especially the effects on research and development of the domestic firms acquired. Hull and Covin (2010) research the effect of the interaction of the business' learning capacity and the technological parity of the industry in each of three generic modes of innovation. Kroll and Schiller (2010) show that many domestic Chinese firms continue to rely on foreign technology transfer and have limited access to domestic technologies. Wonglimpiyarat (2010) proposes a methodology to develop an index for innovation capacity and assesses efficiency in the industrial innovation system in Thailand. Yam et al. (2011) explore the relationship between the Regional Innovation System and the Business Innovation System considering that businesses that make better use of information sources available within the Regional Innovation System perform better. Forsman (2011) explores the types of innovations and the degree of innovation capacity in small manufacturing and service companies in Finland.

Innovation research perspectives identified

The literature review found articles in international journals with high impact factor at international level at or around 3.00 published during 2012, 2013 and 2014. The identified research perspectives of innovation (Fig. 2) are validated with the articles of the literature review.

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Figure 2. Perspectives identified in the innovation study



Source: Developed by the authors.

Theoretical models of innovation

Approaches to Innovation. Eisenman (2013) offers a holistic theory of design in the context of technological production, arguing that the visible attributes allow producers to: explain what their products do and how to use them better, excite users to generate sales, and extend the basic functionality of the products by highlighting their symbolic meanings to consumers. Levine and Prietula (2014) define open collaboration, establish principles and identify the factors affecting performance, proposing that it is a robust engine for innovation and production. It can be noted that the study of the new paradigm of open innovation opens up new possibilities for organizing innovation within an ecosystem and generates new drivers of value creation in order to impact the strategic position of the business and generate a superior financial performance (Herskovits et al., 2013). McKinley et al. (2014) distinguish between flexible and inflexible innovations as factors that can lead to successful organizational change or failure, building four scenarios for organizations that innovate or respond rigidly or flexibly to organizational decline. Sgourev (2013) notes that radical innovation is possible if there are players present in the periphery likely to lead to radical ideas and despite being poorly positioned to promote innovative ideas. Landström et al. (2013) question whether innovation and entrepreneurship can be considered as two separate research fields or as parts of a broader scientific field and with the same knowledge base.

Detonators of Innovation. Yeung et al. (2007) study the impact that organizational learning has on innovation, internal efficiency, customer satisfaction, and financial performance, explaining that these impacts depend on the organizational

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

context of the firm. Alexy et al. (2013) suggest that selective disclosure of knowledge can provide an effective alternative to the known mechanisms of cooperation, noting that the selective disclosure of knowledge is a strategic mechanism to reconfigure the collaborative behaviour in an innovative ecosystem. The capacity for innovation in hybrid organizations (public-private) has a partial dependence on the results of the process of change in these organizations, due to internal and external conflicts over the interpretation of the success or failure of the process of change experienced and the combination of logics in which such organizations operate (Jay, 2013). The momentum of continuous innovation is examined, arguing that businesses have coordination incentives to introduce innovations in a temporally consistent manner, noting that the experience in innovation is a facilitator of innovation patterns consistent over time and the increasing organizational age is an inhibitor (Turner et al., 2013). Anderson et al. (2014) propose an inclusive definition of innovation, assuming creativity and implementation as essential parts of the same process, using a framework study of levels of analysis to review existing research on innovation. Seidel and O'Mahony (2014) confront the study of coherent representations of the concept of the product, identifying practices to produce a consensus on the concept and build understanding of the desired product attributes. Li et al. (2013) develop a theory of attention of senior management teams, noting that the search and selection of fields of information and knowledge that contain new, vivid and important information, as well as persistent intensity in the search for information, can lead to an increase in the introduction of new products. Alexander and Van Knippenberg (2014) analyze the drivers of innovation that enable teams to work effectively facing the challenges in developing radical innovations such as high uncertainty and risk of failure and unanticipated challenges requiring concerted efforts of the teams to complete the project.

Value Creation Processes. Ahuja et al. (2013a) study how businesses appropriated value from their inventions (appropriability) considering two types of appropriability, primary (effectiveness in exploiting a given invention) and secondary or generative (effectiveness in capturing future inventions generated by existing inventions). James et al. (2013) provide the foundation for addressing the gaps existing in the knowledge of the characteristics of industries, businesses and individual technologies that affect the selection of particular value capture mechanisms to help innovative firms achieve a consistently superior performance. König et al. (2013) propose a theoretical model to explain how the interested parties adopt discontinuous technologies, more heterogeneously than homogeneously, integrating

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

the impact of the family system on the business system in the decision to adopt innovations. Kotha et al. (2013) examine the reasons why the commercialization of interdisciplinary research, especially from distant scientific domains, is different from the commercialization of inventions from specialized or upcoming scientific domains. Verre et al. (2014) present the case of an Argentine company in the field of high-tech bio-pharmaceuticals, analyzing the strategy used by the firm to appropriate the results of technological innovation and the mechanisms emitted for this purpose.

Studies on the innovation process

Organizational Learning. Jiménez-Jiménez and Sanz-Valle (2011) find a positive relationship between organizational learning, both in performance and innovation, noting that both variables contribute positively to business performance and that organizational learning affects innovation. Cepeda-Carrion et al. (2012) consider the capacity to absorb knowledge as a determining factor to develop innovation, and they identify potential contexts and capabilities that can act as their driving factor. Wang et al. (2014) point out that innovation is doubly embedded in a social network of collaboration between researchers and a knowledge network composed of links between elements of knowledge, presenting two structural elements: structural gaps and degree of centrality in the mentioned networks. It has been found that although the geographic proximity of colleagues in an industry can encourage performance, the effects are moderated by intra-organizational network structures (Funk, 2014). Also, Molina-Morales et al. (2014) explore the relative influence of geographical and cognitive proximity to explain innovation performance. Hu (2014) examines the effect of business models in technological innovation performance through the mediating role of organizational learning.

Leadership and Organizational Culture. García-Morales et al. (2008) study the interrelationships between transformational leadership and organizational performance through the effects of the generation and revelation of knowledge, the ability to absorb knowledge, tacit knowledge, organizational learning and innovation. Furthermore, the influences of transformational leadership on organizational performance through the dynamic capabilities of organizational learning and innovation are analyzed, empirically corroborating the influences identified theoretically (García-Morales et al., 2012). Noruzy et al. (2013) determine the

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

relationship between transformational leadership, organizational learning, knowledge management, organizational innovation and organizational performance among manufacturing companies using structural equation modeling. Nissan et al. (2012), considers that there is a direct and indirect effect of culture on innovation through new business ventures, and that innovation is a key to economic progress in terms of product quality factor. Wallace et al. (2013) propose and test a multilevel model that examines the effects of the climate of employee involvement in the innovation process that takes place at the individual level, linking the focus on the regulation of employee innovation to a sense of thriving and learning at work. Criscuolo et al. (2013) note that unofficial or informal research and development efforts help individuals develop innovations based on exploring unmapped territory and delayed evaluation of ideas in embryonic stage.

Institutional Support for Innovation. Hsu and Lim (2013) study the ability to apply knowledge from a technical domain to innovate in another and its impact on innovation performance. Somech and Drach-Zahavy (2013) investigated innovation in a team setting as a phenomenon of a two-stage process, differentiating the creativity stage from the implementation stage, noting that the team composition affects its creativity which promotes the implementation of innovation when team climate for innovation is high. Moreover, Cai et al. (2014) introduce and test the moderating effects of policies to support entrepreneurship in the relationship between market orientation and technological innovation. Vila et al. (2014) analyze the propensity of individuals to innovate in professional environments, focusing on the profile of specific competences of individuals who play a role in incorporating product, technological and knowledge innovation in their work. Strategically, market-driven innovation is analyzed through acquisitions, developing a study to differentiate the organizational process of integration of resources belonging to innovation led by the market, compared to innovation carried by technology from acquisitions (Lee and Kim, 2014). Zuniga and Crespi (2013) examine the impact of innovation strategies in employment growth in three Latin American countries (Argentina, Chile and Uruguay), relating the employment to three innovation strategies: exclusively creating innovation, exclusively purchasing innovation, and creating and buying innovation (mixed strategy). Goedhuys and Veugelers (2012) identify innovation strategies from data of Brazilian manufacturing firms, considering two types of strategies, internal development (creation of technology) and external acquisition (purchase of technology), observing their effects on the success of product and process innovation.

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

External factors. Castaño-Martínez (2012) studies the determinants of innovation of products for entrepreneurs in the transformation industry considering relevant factors to human capital, such as technology, the degree of competition in the market and expectations on economic performance. Also Mueller et al. (2013) research the institutional conditions under which businesses benefit more from innovation considering the national culture and socioeconomic conditions. Ahuja et al. (2013b) examine the impact of diversification of the business as a technological response to external shocks due to changes in the price of oil, considering a paradigm-changing investment to develop technologies that use substitute inputs or a paradigm-deepening investment to develop technologies in order to improve the efficiency of the existing input. Tsai and Yang (2014) investigate how technological and market turbulence have an effect on the firm's innovation and business performance, noting that technological turbulence enhances the positive effect of innovation on the firm in business performance, but market turbulence does not. Palmer (2014) states that governments around the world are recognizing the importance of international collaboration in science and research and are investing heavily in and developing programs for this purpose. The United States and European countries have maintained the advantage in scientific collaboration, but new superpowers are emerging in Asia.

Innovation in organizations

Knowledge and Innovation. Grigoriou and Rothaermel (2014) emphasize the importance of relationships between individuals to perform effectively in the activities of knowledge generation, based on intra-organizational knowledge networks that emerge through individual collaboration. Rogan and Mors (2014) identify the networking of managers to gain knowledge and information in driving forces of their skills to balance the decision between exploring new businesses and exploiting existing businesses. Capaldo et al. (2014) point out that the scientific value of an innovation increases with maturity of the knowledge on which it is based, but beyond that point the value declines. Tuertscher et al. (2014) study collaborations between multiple stakeholders to develop and deploy complex technological systems, noting that the processes that give rise to technological systems involving experimentation and adjustments can serve as a basis for organizational transformation. Wu et al. (2014) propose that the need for cognition or the tendency of individuals to

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

engage and enjoy thinking is associated with the innovative individual behavior, suggesting that this need becomes more important when people are facing a low autonomy and low time pressure at work. Ugalde-Binda et al. (2014) analyze the influence of intellectual capital and personal characteristics of entrepreneurs in innovation results. The case study shows the relevance of intellectual capital, specifically the characteristics of the entrepreneur, for the success in innovation, encouraging investment in this capital in order to achieve better long-term results.

Business Creation and Innovation. Trimi and Berbegal-Mirabent (2012) study the firms based on new technologies and highlight the advantages of having a flexible, well-designed business model for entrepreneurship as a source of innovation and continual improvement. Also, the link between entrepreneurship and innovative behavior at an industrial level are analyzed to determine the extent to which the pattern of generation/absorption of knowledge affects the industrial ability to create new firms (Alba et al., 2013). Omri and Ayadi-Frikha (2014) develop a model of mediation for the growth of small businesses, evaluating the relationship between the entrepreneurs' human, social and financial capital, innovation and the firm's growth. Dhakal et al. (2013) consider that small and medium businesses face more uncertainties related to resources (financial, human and social) compared to large businesses, and are lacking in cooperation mechanisms to boost the innovation capabilities of regional firms. Kotey (2014) examines the innovation implemented by small businesses in rural Australia with the intention of dealing with the effects of drought, noting that radical innovations were highly risky, but made notable contributions to the communities and suggesting that careful planning and access to resources can help mitigate some of the risks associated with these innovations.

Innovation Capabilities. Zortea-Johnston et al. (2012) find that firms with an entrepreneurial orientation not only create new markets or re-accommodate those already existing to launch new products or services, but also cause consumers to alter their behavior. Fernandes et al. (2013) address the study of the driving force behind innovation in the company, understood as the capacity to acquire, generate and apply knowledge, and they analyze the effects of these catalysts in financial performance. Martínez-Román and Romero (2013) explore the nature and determinants of incremental innovation and substantial innovation in products of small businesses, considering factors such as personal characteristics of the entrepreneur and management of the organization. Kotabe et al. (2014) investigate how the organizational ability of firms to acquire resources through

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

political networks of interaction with government officials compliments their knowledge absorption capacity to increase incremental and radical innovations. Crespi et al. (2014) describe the innovative behavior of manufacturing firms in Latin America and the Caribbean using the Business Surveys 2010. The authors note the principle characteristics of innovative firms and generate evidence of the innovation process, identifying the firms with high research and development performance and those characteristics that correlate with their high performance in the region. Paunov (2012) considers that the long-term impact of a global crisis depends on the capability of businesses to innovate, providing data from eight Latin American countries as quantitative, empirical evidence to understand which firms suffered these effects more so than others. Mare et al. (2014) examine the relationship between the characteristics of the local workforce, especially the presence of immigrants and local skills and the likelihood of innovation in the firms. Feria and Hidalgo (2012) focus on the analysis of the transfer of scientific and technological knowledge in four Mexican companies, and present the research results through a case study.

Results of the literature analysis

From the universe of selected journals in the literature review, we observed that 35% of the journals in question are of American origin (United States), 47% are European (United Kingdom and Netherlands), 5% are Oceanic (Australia), 5% are Asian (Turkey), and 5% are Latin American (Colombia). The number of contexts or places where the studies were developed was 27 in total, shown in the following distribution: 32.2% of investigations were carried out in the United States, 12.9% in Spain, 6.4% in China, 4.8% in the global context, 4.8% in Australia, 3.2% in New Zealand, and United States and Europe together 3.2%. The remaining 32.2% of the studies was distributed among: Argentina; Argentina, Brazil, Chile, Colombia; Costa Rica; Argentina, Chile, and Uruguay; Brazil; Costa Rica; France; Germany and Switzerland together; Iran; Israel; Latin America and the Caribbean; Mexico; Netherlands; Spain and Portugal together; Switzerland; Taiwan; Tunisia; United States and Finland together; United States and United Kingdom together; United States, Europe and Asia together; United States, Japan and Canada together; each with 1.6 % of the contexts.

Considering the type of study (empirical-theoretical), 47 studies (75.8%) were

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

empirical and 15 theoretical (24.1%), and as for the approach to the methodology (quantitative-qualitative) that was used to develop studies, 41 studies (66.6%) were quantitative and 21 (33.9%) were qualitative. The geographical coverage of articles spans five continents, with the following distribution: America: 20 articles (32.2%); Europe: 13 articles (20.9%); Asia: 7 articles (11.2%); Latin America: 7 articles (11.2%); Oceania: 5 articles (11.2%); as well as Africa: 1 article (1.6%). Additionally, some studies focused on several geographic areas at once: America and Europe with 4 items (6.4%), America and Asia with 1 item (1.6%), the Americas, Europe and Asia also 1 item (1.6%), and all areas with worldwide coverage: 3 items (4.8%).

In view of the context of Latin America, we can see that there are not many studies on the topic of innovation in publications with a high impact factor, but there are important publications on the topic from which we mention the following: Crespi et al. (2014), Zuniga and Crespi (2013), Paunov (2012), Goedhuys and Veugelers (2012), Ugalde-Binda et al. (2014), Feria and Hidalgo (2012), and Verre et al. (2014). On the other hand, in the case of Oceania some relevant studies were identified as follows: Mare et al. (2014), Dhakal et al. (2013), Kotey (2014), and Palmer (2014).

As a result of the literature analysis, general perspectives and specific research topics were identified in the area of innovation, which are shown in the following figure and table.

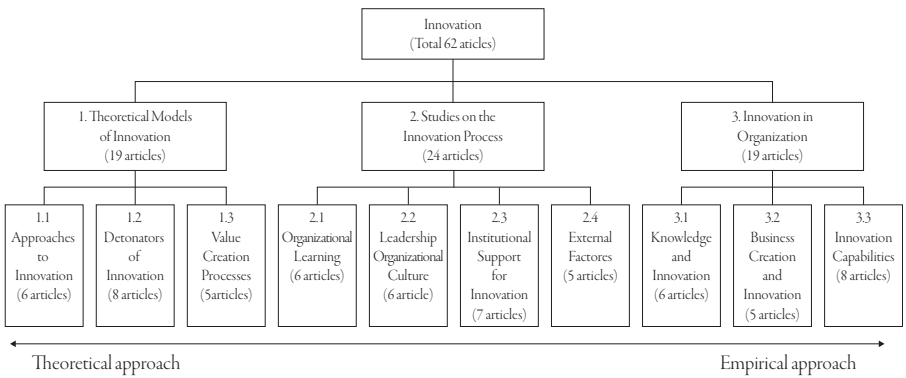


FIGURE 3. DISAGGREGATED PERSPECTIVES IN THE STUDY OF INNOVATION

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Source: Developed by the authors.

TABLE 1. RESEARCH PERSPECTIVES IDENTIFIED IN THE LITERATURE REVIEW

Perspectives	Authors (62 articles)			
Years	Previous (relevant)	2012	2013	2014
1. Theoretical Models of Innovation (Total 19 articles)				
1.1 Approaches to Innovation (6 articles)			Eisenman (2013) Levine and Prietula (2014) Herskovits et al. (2013) Sgourev (2013) Landström et al. (2013)	McKinley et al. (2014)
1.2 Detonators of Innovation (8 articles)	Yeung et al. (2007)		Alexy et al. (2013) Jay (2013) Turner et al. (2013) Li et al. (2013)	Anderson et al. (2014) Seidel and O'Mahony (2014) Alexander and Van Knippenberg (2014)
1.3 Value Creation Processes (5 articles)			Ahuja et al. (2013a) James et al. (2013) König et al. (2013) Kotha et al. (2013)	Verre et al. (2014)
2. Studies on the Innovation Process (Total 24 articles)				
2.1 Organizational Learning (6 articles)	Jiménez-Jiménez and Sanz-Valle (2011)	Cepeda-Carrion et al. (2012)		Wang et al. (2014) Funk (2014) Molina-Morales et al. (2014) Hu (2014)
2.2 Leadership and Organizational Culture (6 articles)	García-Morales et al. (2008)	García-Morales et al. (2012) Nissan et al. (2012)	Noruzy et al. (2013) Wallace et al. (2013) Criscuolo et al. (2013)	
2.3 Institutional Support for Innovation (7 articles)		Goedhuys and Veugelers (2012)	Hsu and Lim (2013) Somech and Drach-Zahavy (2013) Zuniga and Crespi (2013)	Cai et al. (2014) Vila et al. (2014) Lee and Kim (2014)

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Table 1. Research perspectives identified in the literature review

Perspectives	Authors (62 articles)			
Years	Previous (relevant)	2012	2013	2014
2.4 External factors (5 articles)		Castaño-Martínez (2012)	Mueller et al. (2013) Ahuja et al. (2013b)	Tsai and Yang (2014) Palmer (2014)
3. Innovation in Organizations (Total 19 articles)				
3.1 Knowledge and Innovation (6 articles)				Grigoriou and Rothaermel (2014) Rogan and Mors (2014) Capaldo et al. (2014) Tuertscher et al. (2014) Wu et al. (2014) Ugalde-Binda et al. (2014)
3.2 Business Creation and Innovation (5 articles)		Trimi and Berbe-gal-Mirabent (2012)	Alba et al. (2013) Dhakal et al. (2013)	Omri and Ayadi-Frikha (2014) Kotey (2014)
3.3 Innovation Capabilities (8 articles)		Zortea-Johnston et al. (2012) Paunov (2012) Feria and Hidalgo (2012)	Fernandes et al. (2013) Martínez-Román and Romero (2013)	Kotabe et al. (2014) Crespi et al. (2014) Maré et al. (2014)

Source: Developed by the authors.

From the perspectives identified in recent years, it is observed that open collaboration will support the creation of value in products and services, requiring a strategy focused on creativity and the generation of knowledge and its revelation.

The introduction of new products with high technological and market value will be produced in ecosystems that foster organizational learning, absorption of knowledge and rely on collaborative networks to maximize the intellectual capital and accumulated experience of the innovators.

It is also noted that organizations with a culture of entrepreneurship and supported in their operation with leaders open to change and willing to experiment with new ventures will develop the learning and innovation skills necessary to face competition and achieve growth in the market.

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Discussion

The review of recent literature found in international journals during the years 2012, 2013 and 2014, allowed to identify three recent general perspectives on innovation research: theoretical models of innovation, studies of the process of innovation and innovation in organizations.

The content review of the articles made possible to classify them according to their methodological approach that goes from theoretical to theoretical-empirical and predominantly empirical. From the three general perspectives identified for the study of innovation were derived ten specific classifications to locate more precisely the investigations considered in this article that may be a useful reference resource for future studies.

From the literature review is observed a trend towards integrating the concept of innovation as a process that includes creativity and implementation of ideas as essential elements. Theoretical studies are conceptually enriching the theme of innovation and theoretical-empirical and empirical studies have been developed in organizational contexts to corroborate the emerging theories on the subject.

The approaches to study innovation are quantitative and qualitative, taking elements from the economic and engineering analysis such as the design and creation of products or services and patents, as well as humanistic aspects from psychology as leadership and organizational culture.

It is appreciated from the summary of contributions that the authors have focused their efforts on the study of aspects such as knowledge, organizational learning and the triggers of innovation. The approximation in the studies shows a trend toward empirical validation and the use of quantitative approaches for the corroboration of the theory that has been generated recently.

The content of the literature leads us to expect in the near future research on the development of the organization's capacities for the generation of creativity in its personnel, elements that can potentiate the conversion of ideas into products and services oriented to the market, the implementation of new ideas in the early stages and their validation for the development of products and services, the effect of innovative ideas in the design of products and services for consumer satisfaction. As part of the end results of innovation in organizations, studies are expected of the effects of innovation on improving organizational performance and its success in the future.

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Conclusions

Recent studies in the literature include both theoretical and empirical studies which are reflected in the diversity of the work done and the different approaches to the study of this subject. From the review of recent literature, the following perspectives are identified in the study of innovation: Studies on Theoretical Models of Innovation, Studies on the Innovation Process and Studies on Innovation in Organizations.

Within the 10 areas of research, creativity, knowledge generation and absorption, as well as the establishment of collaboration networks and strategic orientation are seen as the specific topics to be developed in order to boost the generation of innovation in organizations.

Most articles included in the review of the literature refer to studies conducted in developed countries, and only a few articles discuss research in emergent or developing countries. In particular it is noted that most of the theoretical innovation studies were developed in the context of the United States, and in the case of empirical studies, there is an increased participation from countries in diverse geographical areas. Both theoretical and empirical research on the topic of innovation in Latin American countries is reduced, which indicates an opportunity for the development of new studies in the region.

In the review of the literature, we can observe a tendency in the characteristics of studies in innovation: the development of empirical studies with quantitative approaches in the context of developed countries such as the US and Spain. Therefore, it is desirable in the near future to develop empirical studies with both qualitative and quantitative methodological approaches in Latin America and Asia in order to further generate empirical evidence, generalize the findings in other contexts and contrast existing theories.

Future Studies and Limitations

Innovation has favorable effects on the performance of organizations, thus future research may focus on examining factors such as organizational learning, organizational climate, organizational culture, generation of knowledge, and creativity, among others. These factors can promote an environment favorable to innovation and the formation of innovative ecosystems that impact organizations and the participants who are close to their operation. Additionally, business models that

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

promote innovation and new business ventures can be subject to greater studies in order to determine the factors that promote innovative behavior, and by this means, derive policies to encourage innovation in small and medium-sized businesses. Additional research on the topic of innovation in other contexts, as in the case of Latin American countries, may help explain further innovation and its effects on performance in business and will help researchers remain at the forefront on this issue.

The number of articles and sources considered in the literature review can be considered as limited; however, the impact index of the publications allows us to observe a tendency in the studies developed by prominent researchers on the subject. A large portion of the articles considered in the review of the literature refer to theoretical and empirical studies conducted in developed countries, and only a few articles refer to studies in the context of emerging or developing countries which highlights an area of opportunity for future studies on innovation in developing countries. The area of innovation presents dynamic behavior in development and research, so it is advisable to maintain an attitude of openness to studies from other academic sources related to the topic. Similarly, given the pace of research and generation of knowledge in this area, it is possible that some relevant work with high impact might not be considered in the literature review presented because it may be in the process of publication.

The present study represents an initial effort to identify areas of opportunity to develop research on specific aspects within the management field that allow the detonation of change and generation of innovation in organizations.

The results of the study can be used to develop empirical works that can be developed within the organizations, and especially, serve as inputs to support the research of innovation in Mexican companies.

It is expected that the information generated from the present study will enable entrepreneurs and owners of small and medium-sized companies to have a vision on the key elements to make innovation an important part of their activities.

It is hoped, in the future, to contrast the theoretical support integrated in the present study through the development of studies within the context of Mexican organizations, as well as the incorporation of new contributions to the subject.

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

References

Ahuja, G., Lampert, C. M., & Novelli, E. (2013a). The second face of appropriability: Generative appropriability and its determinants. *Academy of Management Review*, *38*(2): 248-269. DOI: https://doi.org/10.5465/amr.2010.0290

Ahuja, G., Lampert, C. M., & Tandon, V. (2013b). Paradigm-changing vs. paradigm-deepening innovation: How firm scope influences firm technological response to shocks. *Organization Science*, *25*(3): 653-669. DOI: https://doi.org/10.1287/orsc.2013.0867

Akman, G., & Yilmaz, C. (2008). Innovative capability, innovation strategy and market orientation: An empirical analysis in Turkish software industry. *International Journal of Innovation Management*, *12*(01): 69-111. DOI: https://doi.org/10.1142/S1363919608001923

Alba, M. F., García Álvarez-Coque, J. M., & Mas-Verdú, F. (2013). New firm creation and innovation: Industrial patterns and inter-sectoral linkages. *International Entrepreneurship and Management Journal*, *9*(4), 501-519. DOI: https://doi.org/10.1007/s11365-011-0210-3

Alexander, L., & Van Knippenberg, D. (2014). Teams in pursuit of radical innovation: A goal orientation perspective. *Academy of Management Review*, *39*(4): 423-438. DOI: https://doi.org/10.5465/amr.2012.0044

Alexy, O., George, G., & Salter, A. I. (2013). Cui Bono? The selective revealing of knowledge and its implications for innovative activity. *Academy of Management Review*, *38*(2): 270-291. DOI: https://doi.org/10.5465/amr.2011.0193

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations. A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management*, *40*(5): 1297-1333. DOI: https://doi.org/10.1177/0149206314527128

Archibugi, D. (1988). In search of a useful measure of technological innovation (to make economists happy without discontenting technologists). *Technological Forecasting and Social Change*, *34*(3): 253-277. DOI: https://doi.org/10.1016/0040-1625(88)90071-6

Assink, M. (2006). Inhibitors of disruptive innovation capability: A conceptual model. *European Journal of Innovation Management*, *9*(2): 215-233. DOI: https://doi.org/10.1108/14601060610663587

Barras, R. (1986). Towards a theory of innovation in services. *Research Policy*, *15*(4): 161-173. DOI: https://doi.org/10.1016/0048-7333(86)90012-0

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Bertrand, O. (2009). Effects of foreign acquisitions on R&D activity: Evidence from firm-level data for France. *Research Policy*, *38*(6): 1021-1031. DOI: https://doi.org/10.1016/j.respol.2009.03.001

Cai, L., Liu, Q., Zhu, X., & Deng, S. (2014). Market orientation and technological innovation: The moderating role of entrepreneurial support policies. *International Entrepreneurship and Management Journal*, *11*(3):1-27. DOI: https://doi.org/10.1007/s11365-013-0290-3

Calantone, R. J., Cavusgil, S. T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. *Industrial Marketing Management*, *31*(6): 515-524. DOI: https://doi.org/10.1016/S0019-8501(01)00203-6

Capaldo, A., Lavie, D., & Petruzzelli, A. M. (2014). Knowledge maturity and the scientific value of innovations: The roles of knowledge distance and adoption. *Journal of Management*, *43*(2): 503-533. DOI: https://doi.org/10.1177/0149206314535442

Castaño-Martínez, M. (2012). Product innovation and R&D policy: The case of the transformation industries in developed and developing. *International Entrepreneurship and Management Journal*, *8*(4): 421-436. DOI: https://doi.org/10.1007/s11365-012-0228-1

Cepeda-Carrion, G., Cegarra-Navarro, J. G., & Jimenez-Jimenez, D. (2012). The effect of absorptive capacity on innovativeness: Context and information systems capability as catalysts. *British Journal of Management*, *23*(1): 110-129. DOI: https://doi.org/10.1111/j.1467-8551.2010.00725.x

Chen, M. H., & Yang, Y. J. (2009). Typology and performance of new ventures in Taiwan: A model based on opportunity recognition and entrepreneurial creativity. *International Journal of Entrepreneurial Behaviour & Research*, *15*(5): 398-414. DOI: https://doi.org/10.1108/13552550910982997

Crespi, G., Arias-Ortiz, E., Tacsir, E., Vargas, F., & Zuñiga, P. (2014). Innovation for economic performance: The case of Latin American firms. *Eurasian Business Review*, *4*(1): 31-50. DOI: https://doi.org/10.1007/s40821-014-0001-1

Criscuolo, P., Salter, A., & Ter Wal, A. L. (2013). Going underground: Bootlegging and individual innovative performance. *Organization Science*, *25*(5): 1287-1305. DOI: https://doi.org/10.1287/orsc.2013.0856

Dhakal, S. P., Mahmood, M. N., Wiewora, A., Brown, K., & Keast, R. (2013). The innovation potential of living-labs to strengthen small and medium enterprises in regional Australia. *Australasian Journal of Regional Studies*, *19*(3): 456-474.

Eisenman, M. (2013). Understanding aesthetic innovation in the context of technological evolution. *Academy of Management Review*, *38*(3): 332-351. DOI: https://doi.org/10.5465/amr.2011.0262

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Feria, V., & Hidalgo, A. (2012). La cooperación en los procesos de transferencia de conocimiento científico-tecnológico en México. Una evidencia empírica. *Revista Innovar Journal. Revista de Ciencias Administrativas y Sociales*, *22*(43): 145-164. Retrieved from https://revistas.unal.edu.co/index.php/innovar/article/view/35519/35914

Fernandes, C. I., Ferreira, J. J., M., & Raposo, M. (2013). Drivers to firm innovation and their effects on performance: An international comparison. *International Entrepreneurship and Management Journal*, *9*(4): 557-580. DOI: https://doi.org/10.1007/s11365-013-0263-6

Forsman, H. (2011). Innovation capacity and innovation development in small enterprises. A comparison between the manufacturing and service sectors. *Research Policy*, *40*(5): 739-750. DOI: https://doi.org/10.1016/j.respol.2011.02.003

Funk, R. J. (2014). Making the most of where you are: Geography, networks, and innovation in organizations. *Academy of Management Journal*, *57*(1): 193-222. DOI: https://doi.org/10.5465/amj.2012.0585

García-Morales, V. J., Jiménez-Barrionuevo, M. M., & Gutiérrez-Gutiérrez, L. (2012). Transformational leadership influence on organizational performance through organizational learning and innovation. *Journal of Business Research*, *65*(7): 1040-1050. DOI: https://doi.org/10.1016/j.jbusres.2011.03.005

García-Morales, V. J., Lloréns-Montes, F., & Verdú-Jover, A. J. (2008). The effects of transformational leadership on organizational performance through knowledge and innovation. *British Journal of Management*, *19*(4): 299-319. DOI: https://doi.org/10.1111/j.1467-8551.2007.00547.x

Girma, S., Görg, H., & Hanley, A. (2008). R&D and exporting: A comparison of British and Irish firms. *Review of World Economics*, *144*(4): 750-773. DOI: https://doi.org/10.1007/s10290-008-0168-6

Goedhuys, M., & Veugelers, R. (2012). Innovation strategies, process and product innovations and growth: Firm-level evidence from Brazil. *Structural Change and Economic Dynamics*, *23*(4): 516-529. DOI: https://doi.org/10.1016/j.strueco.2011.01.004

Grigoriou, K., & Rothaermel, F. T. (2014). Structural microfoundations of innovation: The role of relational stars. *Journal of Management*, *40*(2): 586-615. DOI: https://doi.org/10.1177/0149206313513612

Guan, J., & Ma, N. (2003). Innovative capability and export performance of Chinese firms. *Technovation*, *23*(9): 737-747. DOI: https://doi.org/10.1016/S0166-4972(02)00013-5

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Herskovits, R., Grijalbo, M., & Tafur, J. (2013). Understanding the main drivers of value creation in an open innovation program. *International Entrepreneurship and Management Journal*, *9*(4): 631-640. DOI: https://doi.org/10.1007/s11365-013-0267-2

Hoopes, T. (1963). Creativity: Key to organizational renewal. *Business Horizons*, *6*(4): 35-42. DOI: https://doi.org/10.1016/0007-6813(63)90061-2

Hsu, D. H., & Lim, K. (2013). Knowledge brokering and organizational innovation: Founder imprinting effects. *Organization Science*, *25*(4): 1134-1153. DOI: https://doi.org/10.1287/orsc.2013.0863

Hu, B. (2014). Linking business models with technological innovation performance through organizational learning. *European Management Journal*, *32*(4) : 587-595. DOI: https://doi.org/10.1016/j.emj.2013.10.009

Hull, C., & Covin, J. G. (2010). Learning capability, technological parity, and innovation mode use. *Journal of Product Innovation Management*, *27*(1) : 97-114. DOI: https://doi.org/10.1111/j.1540-5885.2009.00702.x

James, S. D., Leiblein, M. J., & Lu, S. (2013). How firms capture value from their innovations. *Journal of Management*, *39*(5): 1123-1155. DOI: https://doi.org/10.1177/0149206313488211

Jay, J. (2013). Navigating paradox as a mechanism of change and innovation in hybrid organizations. *Academy of Management Journal*, *56*(1): 137-159. DOI: https://doi.org/10.5465/amj.2010.0772

Jervis, P. (1972). Innovation in electron-optical instruments. Two British case histories. *Research Policy*, *1*(2): 174-207. DOI: https://doi.org/10.1016/0048-7333(72)90017-0

Jiménez-Jiménez, D., & Sanz-Valle, R. (2011). Innovation, organizational learning, and performance. *Journal of Business Research*, *64*(4): 408-417. DOI: https://doi.org/10.1016/j.jbusres.2010.09.010

KLINE, S. J. (1985). Innovation is not a linear process. *Research Management*, *28*(4): 36-45. DOI: https://doi.org/10.1080/00345334.1985.11756910

König, A., Kammerlander, N., & Enders, A. (2013). The family innovator's dilemma: How family influence affects the adoption of discontinuous technologies by incumbent firms. *Academy of Management Review*, *38*(3): 418-441. DOI: https://doi.org/10.5465/amr.2011.0162

Koprowski, E. J. (1967). Toward innovative leadership. *Business Horizons*, *10*(4): 79-88. DOI: https://doi.org/10.1016/0007-6813(67)90013-4

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Kotabe, M., Jiang, C. X., & Murray, J. Y. (2014). Examining the complementary effect of political networking capability with absorptive capacity on the innovative performance of emerging-market firms. *Journal of Management*, *43*(4): 1131-1156. DOI: https://doi.org/10.1177/0149206314548226

Kotey, B. (2014). Small business innovation in the hostile environment of Australia's drought stricken rural communities. *Australasian Journal of Regional Studies*, *20*(2): 325-350. Retrieved from http://anzrsai.org/assets/Uploads/PublicationChapter/Kotey-final.pdf

Kotha, R., George, G., & Srikanth, K. (2013). Bridging the mutual knowledge gap: Coordination and the commercialization of university science. *Academy of Management Journal*, *56*(2): 498-524. DOI: https://doi.org/10.5465/amj.2010.0948

Kroll, H., & Schiller, D. (2010). Establishing an interface between public sector applied research and the Chinese enterprise sector: Preparing for 2020. *Technovation*, *30*(2) : 117-129. DOI: https://doi.org/10.1016/j.technovation.2009.10.003

Landström, H., Åström, F., & Harirchi, G. (2013). Innovation and entrepreneurship studies: One or two fields of research? *International Entrepreneurship and Management Journal*, *11*(3): 493-509. DOI: https://doi.org/10.1007/s11365-013-0282-3

Lee, J., & Kim, M. (2014). Market-driven technological innovation through acquisitions: The moderating effect of firm size. *Journal of Management*, *42*(7): 1934-1963. DOI: https://doi.org/10.1177/0149206314535439

Levine, S. S., & Prietula, M. J. (2014). Open collaboration for innovation: Principles and performance. *Organization Science*, *25*(5): 1414-1433. DOI: https://doi.org/10.1287/orsc.2013.0872

Li, Q., Maggitti, P. G., Smith, K. G., Tesluk, P. E., & Katila, R. (2013). Top management attention to innovation: The role of search selection and intensity in new product introductions. *Academy of Management Journal*, *56*(3): 893-916. DOI: https://doi.org/10.5465/amj.2010.0844

Maré, D. C., Fabling, R., & Stillman, S. (2014). Innovation and the local workforce. *Papers in Regional Science*, *93*(1): 183-201. DOI: https://doi.org/10.1111/j.1435-5957.2012.00479.x

Martínez-Román, J. A., & Romero, I. (2013). About the determinants of the degree of novelty in small businesses product innovations. *International Entrepreneurship and Management Journal*, *9*(4): 655-677. DOI: https://doi.org/10.1007/s11365-013-0269-0

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Mckinley, W., Latham, S., & Braun, M. (2014). Organizational decline and innovation: Turnarounds and downward spirals. *Academy of Management Review*, *39*(1): 88-110. DOI: https://doi.org/10.5465/amr.2011.0356

Molina-Morales, F., García-Villaverde, P. M., & Parra-Requena, G. (2014). Geographical and cognitive proximity effects on innovation performance in SMEs: A way through knowledge acquisition. *International Entrepreneurship and Management Journal*, *10*(2): 231-251. DOI: https://doi.org/10.1007/s11365-011-0214-z

Mueller, V., Rosenbusch, N., & Bausch, A. (2013). Success patterns of exploratory and exploitative innovation A meta-analysis of the influence of institutional factors. *Journal of Management*, *39*(6): 1606-1636. DOI: https://doi.org/10.1177/0149206313484516

Neely, A., Filippini, R., Forza, C., Vinelli, A., & Hii, J. (2001). A framework for analysing business performance, firm innovation and related contextual factors: Perceptions of managers and policy makers in two European regions. *Integrated Manufacturing Systems*, *12*(2): 114-124. DOI: https://doi.org/10.1108/09576060110384307

Nelson, R., & Winter, S. G. (1982). *An evolutionary theory of economic change*. Cambridge, Massachusetts, United States of America: Belknap Press of Harvard University Press. Available at SSRN: http://ssrn.com/abstract=1496211

Nissan, E., Galindo, M. A., & Méndez Picazo, M. T. (2012). Innovation, progress, entrepreneurship and cultural aspects. *International Entrepreneurship and Management Journal*, *8*(4): 411-420. DOI: https://doi.org/10.1007/s11365-012-0229-0

Noruzy, A., Dalfard, V., Azhdari, B., Nazari-Shirkouhi, S., & Rezazadeh, A. (2013). Relations between transformational leadership, organizational learning, knowledge management, organizational innovation, and organizational performance: An empirical investigation of manufacturing firms. *International Journal of Advanced Manufacturing Technology*, *64*(5-8): 1073-1085. DOI: https://doi.org/10.1007/s00170-012-4038-y

Omri, A., & Ayadi-Frikha, M. (2014). Constructing a mediational model of small business growth. *International Entrepreneurship and Management Journal*, *10*(2): 319-342. DOI: https://doi.org/10.1007/s11365-012-0223-6

Palmer, L. A. (2014). Science, technology and innovation policy and collaboration in the asian century. *Australian Economic Review*, *47*(3): 386-394. DOI: https://doi.org/10.1111/1467-8462.12079

Paunov, C. (2012). The global crisis and firms' investments in innovation. *Research Policy*, *41*(1): 24-35. DOI: https://doi.org/10.1016/j.respol.2011.07.007

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Quintana-García, C., & Benavides-Velasco, C. A. (2008). Innovative competence, exploration and exploitation: The influence of technological diversification. *Research Policy*, *37*(3): 492-507. DOI: https://doi.org/10.1016/j.respol.2007.12.002

Rogan, M., & Mors, M. L. (2014). A network perspective on individual-level ambidexterity in organizations. *Organization Science*, *25*(6): 1860-1877. DOI: https://doi.org/10.1287/orsc.2014.0901

Romijn, H., & Albaladejo, M. (2002). Determinants of innovation capability in small electronics and software firms in southeast England. *Research Policy*, *31*(7): 1053-1067. DOI: https://doi.org/10.1016/S0048-7333(01)00176-7

Schmookler, J. (1957). Inventors past and present. *The Review of Economics and Statistics*, *39*(3): 321-333. DOI: https://doi.org/10.2307/19266048

Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Cambridge, Massachusetts, United States of America: Harvard University Press.

Schumpeter, J. A. (1942). *Capitalism, socialism and democracy*. New York, United States of America: Harper & Row.

Scimago. (2007). SJR. SCImago journal & country rank. Retrieved from http://www.scimagojr.com

Seidel, V. P., & O'Mahony, S. (2014). Managing the repertoire: Stories, metaphors, Prototypes, and concept coherence in product innovation. *Organization Science*, *25*(3): 691-712. DOI: https://doi.org/10.1287/orsc.2013.0879

Sgourev, S. V. (2013). How Paris gave rise to Cubism (and Picasso): Ambiguity and fragmentation in radical innovation. *Organization Science*, *24*(6): 1601-1617. DOI: https://doi.org/10.1287/orsc.1120.0819

Sher, P. J., & Yang, P. Y. (2005). The effects of innovative capabilities and R&D clustering on firm performance: The evidence of Taiwan's semiconductor industry. *Technovation*, *25*(1): 33-43. DOI: https://doi.org/10.1016/S0166-4972(03)00068-3

Singh, G., & Hardaker, G. (2014). Barriers and enablers to adoption and diffusion of eLearning: A systematic review of the literature — a need for an integrative approach. *Education+ Training*, *56*(2/3): 105-121. DOI: https://doi.org/10.1108/ET-11-2012-0123

Somech, A., & Drach-Zahavy, A. (2013). Translating team creativity to innovation implementation: The role of team composition and climate for innovation. *Journal of Management*, *39*(3): 684-708. DOI: https://doi.org/10.1177/0149206310394187

Subramaniam, M., & Youndt, M. A. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal*, *48*(3): 450-463. DOI: https://doi.org/10.5465/AMJ.2005.17407911

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Teece, D. J. (1991). Innovation, trade, and economic welfare: Contrasts between petrochemicals and semiconductors. *North American Review of Economics and Finance*, *2*(2): 143-155. DOI: https://doi.org/10.1016/1042-752X(91)90004-J

Trimi, S., & Berbegal-Mirabent, J. (2012). Business model innovation in entrepreneurship. International *Entrepreneurship and Management Journal*, *8*(4): 449-465. DOI: https://doi.org/10.1007/s11365-012-0234-3

Tsai, K. H., & Yang, S. Y. (2014). The contingent value of firm innovativeness for business performance under environmental turbulence. *International Entrepreneurship and Management Journal*, *10*(2): 343-366. DOI: https://doi.org/10.1007/s11365-012-0225-4

Tuertscher, P., Garud, R., & Kumaraswamy, A. (2014). Justification and interlaced knowledge at ATLAS, CERN. *Organization Science*, *25*(6): 1579-1608. DOI: https://doi.org/10.1287/orsc.2013.0894

Turner, S. F., Mitchell, W., & Bettis, R. A. (2013). Strategic momentum: How experience shapes temporal consistency of ongoing innovation. *Journal of Management*, *39*(7): 1855-1890. DOI: https://doi.org/10.1177/0149206312458704

Udwadia, F. E. (1990). Creativity and innovation in organizations: Two models and managerial implications. *Technological Forecasting and Social Change*, *38*(1): 65-80. DOI: https://doi.org/10.1016/0040-1625(90)90018-Q

Ugalde-Binda, N., Balbastre-Benavent, F., Canet-Giner, M. T., & Escribá-Carda, N. (2014). The role of intellectual capital and entrepreneurial characteristics as innovation drivers. *Innovar. Revista de Ciencias Administrativas y Sociales*, *24*(53): 41-60. DOI: https://doi.org/10.15446/innovar.v24n53.43793

Verre, V., Petelski, N., & Milesi, D. (2014). Cooperación y estrategia de apropiación en alta tecnología: El caso de una empresa biofarmacéutica argentina. *Innovar. Revista de Ciencias Administrativas y Sociales*, *24*(1Spe): 41-53. DOI: https://doi.org/10.15446/innovar.v24n1spe.47545

Vila, L. E., Pérez. P. J., Coll-Serrano, V. (2014). Innovation at the workplace: Do professional competencies matter? *Journal of Business Research*, *67*(5): 752-757. DOI: https://doi.org/10.1016/j.jbusres.2013.11.039

Wakelin, K. (1998). Innovation and export behaviour at the firm level. *Research Policy*, *26*(7): 829-841. DOI: https://doi.org/10.1016/S0048-7333(97)00051-6

Wallace, J. C., Butts, M. M., Johnson, P. D., Stevens, F. G., & Smith, M. B. (2013). A multilevel model of employee innovation. Understanding the effects of regulatory focus, thriving, and employee involvement climate. *Journal of Management*, *24*(4): 982-1004. DOI: https://doi.org/10.1177/0149206313506462

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X

Walsh, V. (1984). Invention and innovation in the chemical industry: Demand-pull or Discovery-push? *Research Policy*, *13*(4): 211-234. DOI: https://doi.org/10.1016/0048-7333(84)90015-5

Wang, C., Rodan, S., Fruin, M., & Xu, X. (2014). Knowledge networks, collaboration networks, and exploratory innovation. *Academy of Management Journal*, *57*(2): 454-514. DOI: https://doi.org/10.5465/amj.2011.0917

Ward, J. W. (1960). The organization society. *Princeton University Magazine*, September. Box 2: folder 24. Retrieved from http://asteria.fivecolleges.edu/findaids/amherst/ma87_main.html

WIENER, N. (1954). *The human use of human beings: Cybernetics and society*. Boston, Massachusetts, United States of America: Da Capo Press.

Wonglimpiyarat, J. (2010). Innovation index and the innovative capacity of nations. *Futures*, *42*(3): 247-253. DOI: https://doi.org/10.1016/j.futures.2009.11.010

Wu, C. H., Parker, S. K., & De Jong, J. P. (2014). Need for cognition as an antecedent of individual innovation behavior. *Journal of Management*, *40*(6): 1511-1534. DOI: https://doi.org/10.1177/0149206311429862

Yam, R., Lo, W., Tang, E. P., & Lau, A. K. (2011). Analysis of sources of innovation, technological innovation capabilities, and performance: An empirical study of Hong Kong manufacturing industries. *Research Policy*, *40*(3): 391-402. DOI: https://doi.org/10.1016/j.respol.2010.10.013

Yeung, A. L., Lai, K., & Yee, R. Y. (2007). Organizational learning, innovativeness, and organizational performance: A qualitative investigation. *International Journal of Production Research*, *45*(11): 2459-2477. DOI: https://doi.org/10.1080/00207540601020460

Zhao, H., Tong, X., Wong, P. K., & Zhu, J. (2005). Types of technology sourcing and innovative capability: An exploratory study of Singapore manufacturing firms. *The Journal of High Technology Management Research*, *16*(2): 209-224. DOI: https://doi.org/10.1016/j.hitech.2005.10.004

Zortea-Johnston, E., Darroch, J., & Matear, S. (2012). Business orientations and innovation in small and medium sized enterprises. *International Entrepreneurship and Management Journal*, *8*(2): 145-164. DOI: https://doi.org/10.1007/s11365-011-0170-7

Zuniga, P., & Crespi, G. (2013). Innovation strategies and employment in Latin American firms. *Structural Change and Economic Dynamics*, *24*(March): 1-17. DOI: https://doi.org/10.1016/j.strueco.2012.11.001.

ISSN-E: 2007-8846 • DOI: http://dx.doi.org/10.21696/rcsl8172018802 • ISSN IMPRESO:1665-899X