

Interfaces entre estrategias empreendedoras e innovadoras y la gestión del conocimiento

Interfaces between entrepreneurial and innovative strategies and knowledge management

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Abstract

This research aimed at mapping the international production over the interface between entrepreneurial and innovative strategies and knowledge management in the ISI Web of Science database with a 20-year temporal cut by highlighting the theoretical and methodological aspects to be explored. It is a bibliometric study in which the data were collected from the Web of Science database and processed through the HistCite™ bibliometric analysis and visualization software. Through the research it was possible to identify the distribution of publications by year, the journals with the most articles published on the subject, the main authors, the country of origin of the publications, the principal journals, the theoretical gaps on the interface between the themes researched and the main methodological approaches. As a managerial contribution, this research shows the comprehension that the entrepreneurial and innovative strategies and KM must be linked to the business strategies, whereas the business strategy design needs, above all, to take the shape of a learning process overtime, which can be enabled through the organizational Knowledge Management model. Through this research, it was also possible to identify emerging themes on the interface between entrepreneurial, innovative strategies and knowledge management.

Key words: *interface. Entrepreneurial strategies. Innovative strategies. Knowledge management. Bibliometric study.*

Resumen

El objetivo de esta investigación fue mapear la producción internacional sobre la interfaz entre estrategias emprendedoras e innovadoras y la gestión del conocimiento en la base de datos ISI Web of Science con el recorte temporal de 20 años evidenciando aspectos teóricos y metodológicos a ser explotados. Se trata de un estudio bibliométrico en el que los datos se plantearon en la base Web of Science y tratados con la utilización del software de análisis y visualización bibliométrica HistCite™. A través de la investigación, fue posible identificar la distribución de publicaciones por año, las revistas con más artículos publicados sobre el tema, los principales autores, el país de origen de las publicaciones, las principales revistas, las brechas teóricas en la interfaz entre los temas investigados y el principales enfoques metodológicos. La investigación aporta como contribución administrativa, el entendimiento de que las estrategias emprendedoras e innovadoras y el KM deben estar vinculados a las estrategias comerciales, mientras que la formulación de la estrategia comercial debe, sobre todo, tomar la forma de un proceso de aprendizaje a lo largo tiempo, que puede ser posible gracias al modelo organizacional de Gestión del Conocimiento. A través de esta investigación, también fue posible identificar temas emergentes en la interfaz entre las estrategias emprendedoras e innovadoras y la gestión del conocimiento.

Palabras clave: *interfaz. estrategias emprendedoras. estrategias innovadoras. gestión del conocimiento. estudio bibliométrico.*

1. INTRODUCTION

Entrepreneurship, innovation and knowledge are topics which have called the attention of academics and researchers in the past few decades, especially after the last global economic crisis that started in 2008 for, according to Kanter (2006), each new economic wave raises concepts, ideas and strategies, such as the idea that the surviving companies must outsource non-essential skills and learn with the collaborative entrepreneurship, the idea of virtual and online organizations, and the reputational capital that investigates the virtual currency market.

Knowledge, in particular, has proved to be the main resource behind concepts, ideas and strategies for the organizations' maintenance and development in the market through the capacity of quickly adapting to

the changes that take place in their business environments (Nelson & Winter, 1982; Schumpeter, 1961).

As entrepreneurship resides in the role of actors, such as people, groups, organizations and governments which act as promoters of innovation who are removing physical, commercial and cultural barriers, globalizing and renewing economic concepts, opening new jobs, investing in research and development, breaking paradigms, generating wealth, seeking society's trust by investing time, talents and resources in national or community projects, encouraging people from one country to serve in another and producing an enormous capacity to renew and overcome crises (Kanter, 2006).

The adoption of entrepreneurial strategies represents the decisions and the actions taken by these actors to enable new opportunities, maximize their benefits and minimize their risks (Mendes, 2017; Hisrich, Peters & Shepherd, 2014). These strategies trigger the set of knowledge on science and technology, and on administrative and technical knowledge which are incorporated into the organizational systems (routines, processes, norms, beliefs, values, management techniques, among others), in the technical-physical systems (equipment, data base, software, diagrams and production systems, for example), in products and services, and in people's minds (tacit knowledge, skills, attitudes and talents), which, through the technological learning, can perform production activities of goods and services and of innovation (Figueiredo, 2015).

In order for the entrepreneurs to be successful in their objectives and in the use of knowledge, it is important that their entrepreneurial and innovative strategies are aligned with the implementation of Knowledge Management, endowing the organizations with a greater capacity to combine several sources of knowledge for the development of competences in order to innovate and become more competitive (Ferreira, Fernandes & Ratten, 2017). Thus, generating knowledge became a determining factor in the organizations and human beings' capacity to deal with the environment that shifts and changes rapidly since the current market scenario is complex, uncertain, dynamic, contradictory and follows a

network, showing there are no geographical barriers between people, groups, organizations, territories and nations for sharing knowledge in a setting of intensive use of information and communication technology and of new work relations.

Combining entrepreneurship and Knowledge Management innovation can create a picture of growth and a new strategic attitude in the organizations, for example, since this can make the creation of new products, services and the decision-making processes more valuable.

Considering the importance of an efficient knowledge management for the adoption of entrepreneurial and innovative strategies in the organizations, the following question on the study comes to mind: what is the current scientific international publications' panorama about the interface between entrepreneurial and innovative strategies and Knowledge Management?

The objective of this research was to map the international production about the interface between entrepreneurial and innovative strategies and KM in the ISI Web of Science (WoS) database with a 20-year temporal cut highlighting theoretical and methodological aspects to be explored.

The article is justified for mapping the origin of a competitive advantage from the study on interface between the entrepreneurial and innovative strategies and organizational knowledge. Besides, there is the need to intensify the theoretical studies about the interface among the themes, since there is still no highlight for the authors or periodicals and specific periodicals' issues.

Through a bibliometric analysis, the following classifications were set: the distribution of issues by year, the periodicals with the highest number of articles published, the authors with the highest number of publications, the countries with the highest number of articles published on the theme, the articles most frequently cited on the WoS in the temporal cut used. The main results and the theoretical and methodological aspects of the most cited manuscripts were also surveyed.

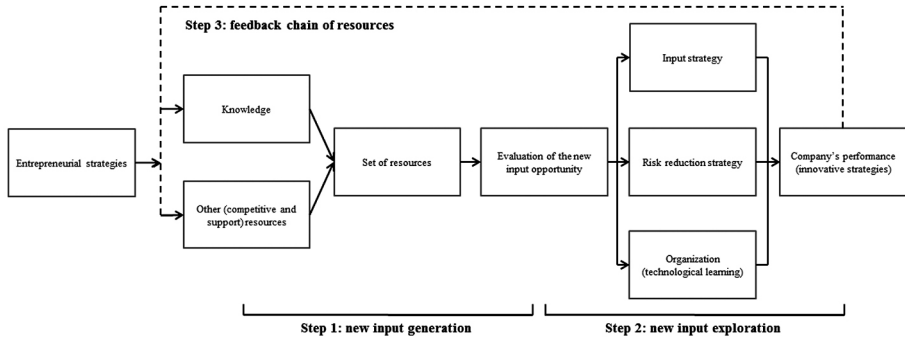
2. ENTREPRENEURIAL AND INNOVATIVE STRATEGIES AND THEIR INTERFACE WITH KNOWLEDGE MANAGEMENT

Mendes (2017) describes the entrepreneur as a creative individual who is able to transform obstacles into business opportunities. Entrepreneurship is the process of creating value and changing behavior in business through the innovation of products and services offered (Vale & Corrêa; Reis, 2014).

The entrepreneurial strategies are “the set of decisions, actions and reactions which first generate and, then, explore, a new input overtime so as to maximize the benefits of the innovations and minimize their costs” (Hisrich *et al.*, 2014, p. 47). These strategies originate in the central approach and the intentions exist as a leader’s personal view and are adaptable to new opportunities. It is about a deliberate strategy which searches for an organizational purpose (Prahalad & Hamel, 2005; Mintzberg & Waters, 1985).

For Tondolo, Bitencourt & Tondolo (2011, p. 366), “strategic entrepreneurship is the integration of perspectives to strategically undertake (an opportunity-seeker behavior) (the search for advantages) in the development and taking of actions directed to the creation of value”.

In this context, a new input/opportunity is related to: (1) offering a new product to an established or new market, (2) offering an established product to a new market, (3) creating a new organization, despite the fact that either the product or the market is new to competitors or to clients (Hisrich *et al.*, 2014). According to the authors, an entrepreneurial strategy follows three steps: 1) the generation of a new input opportunity; 2) the exploration of a new input opportunity; and 3) a feedback chain of information on the generation and the exploration of a new input directed to the generation of new opportunities (step 1), according to Figure 1. Therefore, the core of entrepreneurial strategies is to create new opportunities, whether associated to a new product, a new market and/or a new organization in the search for a competitive advantage.



Source: Adapted from Hisrich et al. (2014).

Figure 1. Entrepreneurial strategy: the generation and the exploration of new input opportunities

According to Figure 1, the generation of a new input triggers the processing of a set of competitive resources (production, marketing, finances, research, knowledge, among others) and of support (personnel, information and communication technology, processes, competences, among others), with knowledge as the most important of all.

In this sense, the resources are the basic parts for a company's operation and performance. Differently combined, they can provide a higher performance for the organizations. Thus, in order to understand the impact of a resource, it is necessary to consider its set. This is about an approach which considers that the companies exist because, in their essence, they use the resources available to them to organize the production, for the organizations are much more than only the sum of individuals who work for them (Braga, 2016; Perry-Rivers, 2016; Hitt, Xu & Carnes, 2016).

For Liao, Chen, Hu, Chung and Yang (2017), the focus resides in the capacity of technological learning. According to Figueiredo (2015, p. 10), "the technological learning is a process that involves several mechanisms which collect several types of technological knowledge from the company" for "the companies exist because they are able to coordinate a collective learning process more efficiently than the organized production in the markets" (Braga, 2016, p. 27).

In this collection, the way the companies organize themselves in order to manage knowledge and incorporate it into the organizational, managerial and institutional systems, into the technical-physical systems and into people's minds prescribes its technological capacity for innovation in products and services through activities to modify existing technologies and production systems which have a direct impact over their market competitiveness (Figueiredo, 2015).

Thus, the innovative strategies are a management behavior directed to continuous planning, generating, selecting, implementing and evaluating the innovations and this will ensure the ideas will be converted into markets tomorrow (Parry & Roehrich, 2013). The innovative strategies challenge the executives to develop the sector's projection capacity, to define a strategic intention, to promote resources and revitalize the creation process of new businesses (Prahalad & Hamel, 2005). Therefore, organizing a consistent entrepreneurial strategy, one that clearly demonstrates how a business can leave a certain stage and reach higher grounds, must be priority to the management of any organization, country or territory (Korableva & Litun, 2014).

According to the Knowledge Economy Program (Brinkley, 2006) report, knowledge appreciation, as well as administrative-economic appreciation for people, groups, organizations and nations can be noticed, for instance, under the following recommendations: a) exploring knowledge through networks and information and communication technology in order to profit from a competitive advantage; and b) sharing knowledge with others in a certain economy (for example, with suppliers, partners and clients).

In this sense, the KM model can be the key for the organizations' technological capacity since it is formed by an integrated set of actions to identify, capture, manage and spread all the organization's intellectual assets of knowledge in the search for innovation (Jasimuddin, Connell & Klein, 2014). This is about an implementation of an organizational culture of continuous learning in which the training for work is configured as the backbone of the organizations' management, for it becomes the enabling process for transforming the employees' tacit knowledge (knowledge articulated in a formal, codified, structured and systematized language)

into explicit knowledge (personal knowledge incorporated into the work experiences, skills, expertise and which involves intangible factors such as beliefs, values, personal objectives, among others), besides being the workers' competences developer and the organizations' competences core in order to foster a continuous innovation (Nonaka & Takeuchi, 2004).

Besides, in the organizational context, it also involves the new meaning of personnel management area for learning the skills related to the development of a facilitating structure (structural capital) and the application of information and communication technologies (technological capital) (Kianto, Sáenz & Aramburu, 2017; Faeni, 2017; Obeidat, Tarhini, Masadeh & Aqqad, 2016; Schiuma, 2012).

For Braga (2016); Tondolo *et al.* (2011), the central competitive dimension of the organizations' existence is based on the fact that what the companies really know is how to efficiently create and transfer knowledge within an organizational context, since knowledge "is a fluid mixture of condensed experiences, values, contextual information and experimented insight, which provides a structure for the evaluation and incorporation of new experiences and pieces of information" (Davenport & Prusak, 1998, p. 6).

Therefore, knowledge helps people understand the dimensions of reality, widely capturing and expressing its meanings as if in a spiral which reverberates the epistemological dimension (tacit and explicit knowledge) into the ontological level (individual, group, organization and interorganization) (Nonaka & Takeuchi, 2004), for, when an organization is committed to using knowledge in order to take advantage of a new opportunity it is because it hopes to draw a competitive advantage from it and bring some benefits out of it for a certain time.

According to Stewart (1998) this is a never-ending cycle, since the organization that tries to dynamically deal with the changes needs to continually create and generate knowledge and innovation, and this requires the members of the organizations to be active agents of innovation – Knowledge Workers (Fukunaga, Macedo, Santos, Carvalho & Almeida, 2015). This way, the employees present their point of view in which the organization recreates by destroying the system of knowledge which prevails and finds

new ways of thinking and doing things. This process of construction and reconstruction “involves uniting different types and parts of knowledge and transforming them into new useful products and services either for the market or for society” – innovation (Figueiredo, 2015, p. 23). This leads to the methodological procedures used in the research.

3. METHODOLOGICAL PROCEDURES

The methodological procedures in this research are the exploratory-descriptive type through a bibliometric study, which is a quantitative and statistical technique to measure production indexes and knowledge dissemination. According to Mattar, Oliveira and Motta (2014), the exploratory research endows the researcher with higher knowledge about the topic that is being approached or the research issue. It is used in the first stages, when the investigator tries to acquire knowledge, to become familiar and to better understand the phenomena, and can be used as an initial step for a continuous process of studies.

The importance of the bibliometric study is supported by the need to know and evaluate productivity, identify tendencies and growth, users and authors, check the magazines’ coverage, measure the information dissemination and also formulate policies (Souza, 2013). Bibliometrics “works like cartography to [...] point out the main theoretical lenses used to investigate a topic, and raise the methodological tools used in previous works” (Chueke & Amatucci, 2015, p. 1).

The research is anchored to the Laws of Bradford (periodicals), Lotka (authors) and to the Law of Zipf (words) (Machado Junior, Souza, Parisotto & Palmisano, 2016).

For this research, the data retrieval was performed at the ISI Web of Science base in its main collection. This base has an international coverage and contains bibliographic information and quotations of approximately 40 million scientific articles. Besides, it offers standardized bibliographic records, which enable the data to be processed through software that helps with the data score, standardization and organization (Souza, 2013).

For the development of the bibliometric study, the following steps were established: a) selection of the articles to be used as sources for the data collection; b) definition of the terms in order to reach the intended results – “entrepreneurial* strategy*” and “innovative* strategy*” and “knowledge management” or “organizational knowledge”, based on the area literature. Boolean operators, such as “and” and/or “or”, were used in order to find entries in titles, key words and abstracts. Quotes (“ ”) were also used to search for descriptors by accuracy, as well as the asterisk (*) to show the possibility of descriptors’ pluralization; c) article screening (i) by type of document (article), (ii) by language (English) and (iii) by areas of knowledge (management, public administration, business, business finance or planning development), since they encompass contents associated to the descriptors used in the research; d) the collected data were processed through the HistCite™ bibliometric analysis and visualization software; e) the publications were mapped through a 20-year period, from 1998 to 2017, with data survey through the months of May and Aug 2018.

Five hundred and fifty-five published works were identified and used as the bibliometric analysis corpus. The publications found were analyzed and aimed at identifying: a) the distribution of publications by year; b) the 10 periodicals with the highest number of articles published on the topic; c) the 10 authors with the highest number of publications; d) the 10 countries (through the author-linked institutions) with the highest number of publications on the topic; and e) the 10 most cited articles in the WoS through the temporal cut used.

Besides the results generated by the HistCite™ software, theoretical and methodological aspects from texts in the most cited articles were elucidated with the objective to try to identify their main contributions to the interface between the topics researched. The results of these analyses are presented in the following section.

4. RESULTS

After performing the bibliometric survey in the WoS main collection, 555 articles on the interface between entrepreneurial strategies, innovative strategies and KM were identified (besides some related terms accor-

ding to description in the previous section). These articles are published in 143 periodicals indexed to the respective database and were written by 1,155 authors who are linked to 615 institutions located in 53 countries. For the construction of these articles, 23,881 references were used, with an approximate average of 43 references by article.

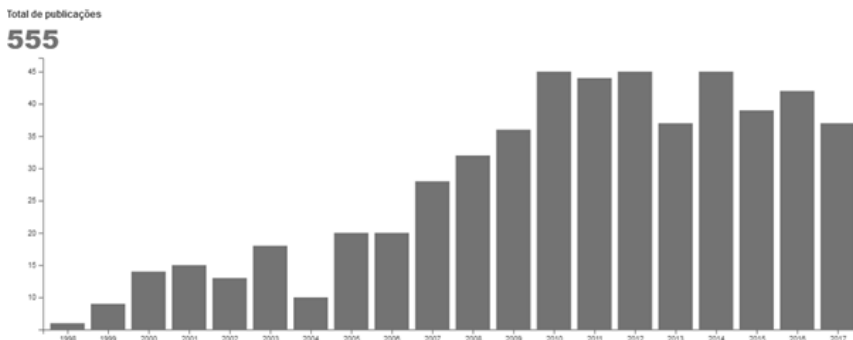
If the general terms were used solely and separately, with the application of the same filters (type of document/language/categories), the results would show:

- a) “Innovative* strategy*” term: 38 entries in academic works indexed to the database, 28 of these were published within the last 10 years;
- b) “Entrepreneurial* strategy*” term: 30 entries of works published and indexed to the database, 21 of these were published within the last 10 years;
- c) “Knowledge management” term: 2,614 entries in the published works, 1,962 of these were published within the last 10 years;
- d) “Organizational knowledge” term: 581 entries of works published, 444 of these were published within the last 10 years.

This result by terms shows that “innovative* strategy*” and “entrepreneurial* strategy*” are still under an evolving-type theoretical process. Therefore, there is room for decantation of these topics in the academy. As for the terms “knowledge management” and “organizational knowledge”, together they surpass the quantity of works which deal with the interface between the topics by six fold, showing a certain theoretical maturity. Commonly speaking, there are the topics that have developed mainly in the last decade, possibly motivated by the world crisis which started in 2008, for, according to Kanter (2006), these topics appear and reappear recurrently as the main focus on the strategies of the organizations’ maintenance and growth.

Considering the time period (1998-2017), Figure 2 shows the work by Inkpen and Dinur (1998), published in the 1998 July-August issue of the

Organization Science periodical, which was the first entry identified on the interface between entrepreneurial and innovative strategies and KM. This work described the importance of management and organizational knowledge processing in strategic alliances between North American and Japanese companies. According to the authors, the company is a dynamic system of processes that involve different types of knowledge, and the main strategies used for the acquisition and management of new knowledge were: the sharing of technology, the interaction between the alliance companies, the transfers of personnel and the strategic integration (the sharing of a business strategy, of an organizational culture and of innovation).



Source: Extracted from the WoS (2018).

Figure 2. Distribution of the publications by year

Generally speaking, the interface between this research's topics started to have a continuous growth only from 2005, with a peak in the years 2010, 2012, 2014, when a major part of the literature was focused on the structuring strategies of the fragmented knowledge (Norese & Salassa, 2014), on the simplification, transfer and sharing of knowledge (Chen, Lin & Yen, 2014), on the effects of the entrepreneurial and innovative strategies over knowledge management about organizational performance (Lin, 2014), on the effects of proximity or geographical and cognitive distance in joint ventures and alliances about the performance of the innovative strategies (Molina-Morales, Garcia-Villaverde & Parra-Requena, 2014), on the influence of the social networks over the organizations' management strategies (Kim, Sauk Hau, Song & Ghim, 2014),

on the positioning and the strategies of competitiveness based on KM (Rusly, Corner & Sun, 2012; Song & Chatterjee, 2010), on strategies of relationship learning, network and knowledge flow (Yang & Lai, 2012; Huggins, Johnston & Thompson, 2012), among others.

Table 1, then, identifies the mostly represented international periodicals. The 143 periodicals indexed to the WoS were analyzed in relation to the number of articles published and the total of citations in the database. The total sum of works published in these ten periodicals showed 215 entries, which corresponds to 38.7% of the total number of works identified for this study. The periodical with the highest number of publications is the Journal of Knowledge Management, with 66 entries. This periodical is classified in the Journal Citation Reports (JCR) with a 2.551 factor and has a 90 h-index in the Scimago Journal & Country Rank, which shows it is a production periodical with high quality, productivity and impact.

Table 1. Periodicals with the highest number of articles published on the topic

Periodicals	JCR	H-index	Number of Articles	%	Citations	%
Journal of Knowledge Management	2.551	90	66	11.9	1030	4.3
Knowledge Management Research & Practice	0.864	27	35	6.3	153	0.6
Management Learning	1.516	66	20	3.6	475	2.0
Organization Science	3.027	196	18	3.2	5468	22.9
Journal of Management Studies	5.329	145	17	3.1	1688	7.1
Information & Management	0.683	135	15	2.7	922	3.9
Organization	2.701	81	13	2.3	447	1.9
Organization Studies	3.133	120	11	2.0	760	3.2
Strategic Management Journal	5.482	232	11	2.0	1739	7.3
International Journal of Technology Management	0.869	48	9	1.6	94	0.4

Source: Elaborated by the authors from WoS data (2018).

However, with the objective to identify those periodicals with the greatest representativeness, an index, through which it is possible to check the relationship between the number of citations and the number of articles published in each one of them, was calculated. From this index it was possible to notice the impact of the articles identified in these periodicals under the total number of mentions in the database at issue. This way, it is evident that the periodical with the highest index of citations is the *Organization Science*, with 18 articles published and 5,468 citations.

After analyzing the periodicals, the authors who hold the highest number of entries in the publications about the interface between this research's topic were identified. Table 2 shows the listing with these authors' name, their link institution and country of origin of the institution. Ten authors with the highest number of entries per rate were selected. Among the authors with the highest number of publications on the topic are George Von Krogh, with seven publications, and Sue Newell, who currently works at the University of Sussex, England, with five articles published. It was also possible to see that most works come from European countries, especially Switzerland.

Table 2. Authors who hold the highest number of publications on the topic

Authors	Number of Articles	Link Institution	Country
Von Krogh G	7	ETH Zurich	Switzerland
Newell S	5	Bentley University	England
Bloodgood JM	4	Kansas State University	USA
Bontis N	4	McMaster University	Canada
Hendriks PHJ	4	Radboud University	The Netherlands
Rothberg HN	4	Ithaca College	USA
Beamish PW	3	Western University	Canada

Continúa...

Authors	Number of Articles	Link Institution	Country
Carayannis EG	3	George Washington University	USA
Chan YE	3	York University	Canada
De Saa-Perez P	3	University of Las Palmas Gran Canaria	Spain

Source: Elaborated by the authors from WoS data (2018).

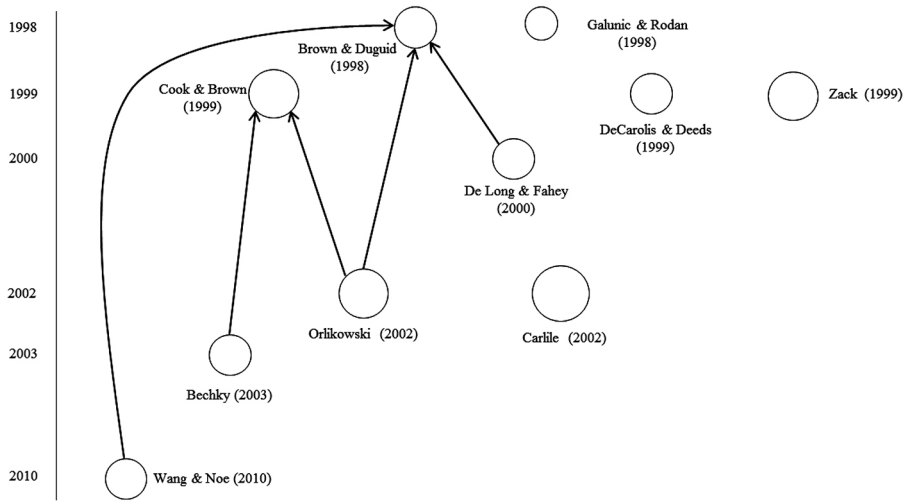
In order to visualize the representativeness of the link institutions' countries of origin from the 1,155 authors out of the 555 works mapped in this bibliometric study, countries were identified by rate, with a higher scientific production in the interface field between the topics researched in this study, which can be seen in Table 3, with emphasis on the USA, which presented the highest number (170) of articles published and linked to their teaching institutions.

Table 3. Countries with the highest number of articles published (through the authors' link institutions)

Country	Number of Articles	%
USA	170	30,6
UK	78	14,1
Canada	37	6,7
China	33	5,9
Spain	33	5,9
Taiwan	31	5,6
Unknown	30	5,4
Australia	28	5
Germany	22	4
Sweden	22	4

Source: Elaborated by the authors from WoS data (2018).

In the research corpus, we tried to identify the most representative works on the topic, which ones have citation connections (lines that connect the circles) and which ones are mostly cited in the group (different circle sizes). For such, the mostly cited articles were identified in the entire database within the time period used, according to Figure 3.



Source: Elaborated by the authors from WoS data (2018).

Figure 3. The 10 most cited works in the WoS within the temporal range from 1998 to 2017

Chronologically speaking, there is the work by Brown and Duguid (1998), which was cited by Wang and Noe (2010), Orlikowski (2002) and Long and Fahey (2000); on the other hand, the publication by Cook and Brown (1999) was cited by Bechky (2003) and by Orlikowski (2002). In both cases, author John Seely Brown stands out. He comes from the University of Southern California and is the Co-President of the Deloitte Center for the Edge. For Vasconcelos, Castro and Brito (2018), these articles are “the main references”, for they are articles which serve as a basis for the others. Although the other articles are frequently cited, they are not attached to each other. The numbers of mentions and the main reference information and methodological classification of these works are shown in Table 4.

Table 4. The mostly cited works in the WoS about the topic

WoS Citations	Works' Titles	Publication Source	References	Classification
1,074	A pragmatic view of knowledge and boundaries: Boundary objects in new product development	Organization Science, 13 (4): 442-455	Carlile (2002)	Theoretical
1,018	Knowing in practice: Enacting a collective capability in distributed organizing	Organization Science, 13 (3): 249-273	Orlikowski (2002)	Empirical
910	Bridging epistemologies: The generative dance between organizational knowledge and organizational knowing	Organization Science, 10 (4): 381-400	Cook and Brown (1999)	Empirical
670	Developing a knowledge strategy	California Management Review, 41 (3): 125-145	Zack (1999)	Empirical
565	Sharing meaning across occupational communities: The transformation of understanding on a production floor	Organization Science, 14 (3): 312-330	Bechky (2003)	Empirical
555	Diagnosing cultural barriers to knowledge management	Academy of Management Executive, 14 (4): 113-127	De Long and Fahey (2000)	Empirical
543	Organizing knowledge	California Management Review, 40 (3): 90-111	Brown and Duguid (1998)	Empirical
525	The impact of stocks and flows of organizational knowledge on firm performance: An empirical investigation of the biotechnology industry	Strategic Management Journal, 20 (10): 953-968	DeCarolis and Deeds (1999)	Empirical
469	Knowledge sharing: A review and directions for future research	Human Resource Management Review, 20 (2): 115-131	Wang and Noe (2010)	Theoretical
432	Resource recombination's in the firm: Knowledge structures and the potential for Schumpeterian innovation	Strategic Management Journal, 19 (12): 1193-1201	Galunic and Rodan (1998)	Empirical

Source: Elaborated by the authors from WoS data (2018).

5. DISCUSSION

Considering the number of citations in the WoS, and according to Table 4, the work by Carlile (2002) stands out. Through a theoretical study in this work, the author stated that, as the organizations become more specialized and the society becomes more complex, the challenge is not only about knowledge management for innovation, but also the capacity of knowledge representation through innovative strategies in a scenery where the knowledge can also become a barrier.

Then, following the citation order, the work by Orlikowski (2002) brings in the notion that some special attention must be given to knowledge sharing and to the transfer of the “best practices” in the organizations with the objective to foster entrepreneurial strategies and develop innovative strategies for global products. Therefore, according to the author, “paying attention to organizational knowledge can complement our comprehension about organizational efficacy” (p. 271).

Cook and Brown (1999) start off their work by stating that the researches’ focus on the interface between entrepreneurial and innovative strategies and KM is continuously linked to the externalization of knowledge – from tacit to explicit, and, consequently, to the use of the explicit knowledge to generate these strategies. According to the authors, more than an epistemology of knowledge possession, the one focused on knowledge acquisition, a parallel epistemology is necessary, one of practice in which knowledge is considered a strategy of self-learning within the interaction with the physical and social world.

Following the citation order in Table 4, Zack (1999) starts his empiric work by stating that several initiatives undertaken to develop and explore the organizational knowledge are not explicitly linked to the strategies of business in the organizations. The author’s objective was to offer a structure to make a connection between knowledge and strategy, and evaluate an organization’s competitive position in relation to its resources and intellectual capacities. “My research with more than 25 companies found out that the most important context to guide knowledge management is the company’s strategy” (Zack, 1999, p. 126). For the author, the

strategic context helps to identify initiatives of knowledge management to meet the organization's purpose or mission in order to strengthen its competitive position and create value for the stakeholders. The author uses the Resource-Based Theory (RBT) and the Knowledge-Based Theory (KBT), for he suggests that the companies must be strategically positioned based on their resources and unique, valuable and inimitable capacities instead of products and services derived from these capacities since, while products and markets may come and go, resources and capacities last longer (Zack, 1999). Therefore, a strategy based on resources offers a longer-term view in uncertain and dynamic competitive environments.

Also, according to Zack (1999), the sustainability of a knowledge advantage, then, comes from knowing more about some things than the competitors. For such, the author recommends that the organizations perform a SWOT analysis based on knowledge (strong and weak points, opportunities and threats), comparing their knowledge to that of their competitors' and with the knowledge necessary to run its own strategy, since that is the key to identifying niches of unique and valuable knowledge and focus the managing effort of knowledge in order to develop or keep them (Zack, 1999). For Zack (1999), the organizations must, therefore, look for areas of learning and experimentation which may potentially add value to the existing knowledge through a synergic combination. Then, the knowledge strategy of an organization must be translated into an organizational and technical architecture to support knowledge creation, management and processes of application in order to close down the gaps of knowledge the organizations might have.

As for the work by Bechky (2003), it tried to describe how the occupational communities acted to comprehend and understand the knowledge that was shared to generate innovative strategies in products and production strategies in a competitive setting. In this sense, the author suggests that the occupational communities use a tangible object as a reference for knowledge sharing in order to contextualize dialogue, or even that the sharing activity is carried out through stories which will foster entrepreneurial strategies and redound innovative ones.

De Long and Fahey (2000) pointed out that the organizational culture creates a context of social interaction which determines how knowledge will be used in the organizational strategies. The authors classified their study as a diagnosis and stated that a diagnosis is the first step for the development of a strategy and interventions to align an organizational culture with entrepreneurial and innovative strategies for a more efficient use of knowledge.

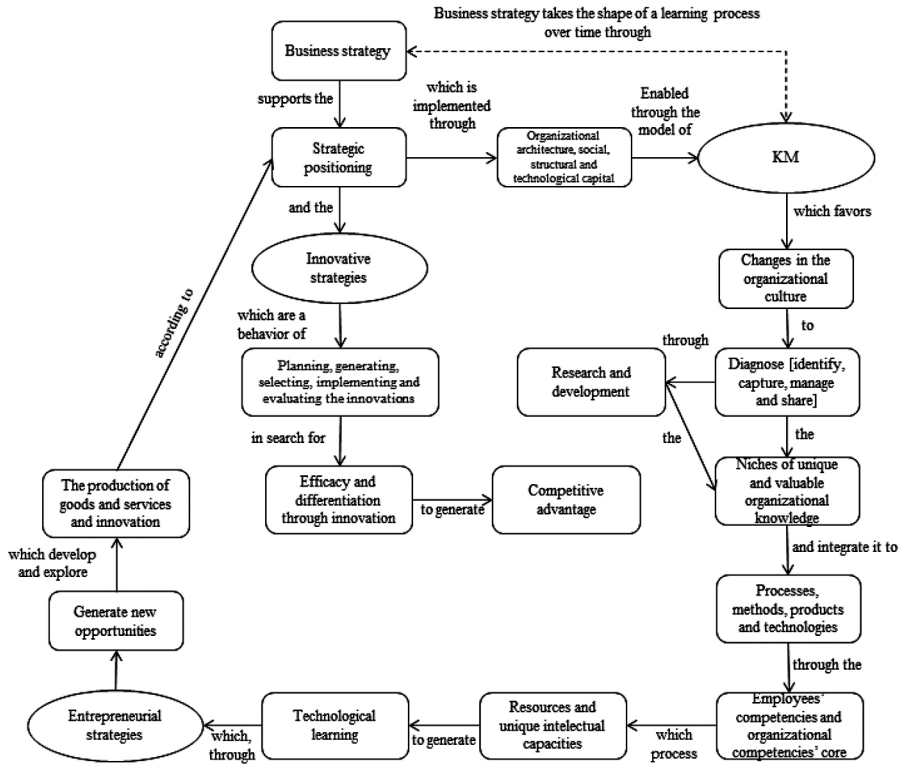
Concerned about understanding the role the organizations play in promoting the knowledge synergic production and development, Brown and Duguid (1998) state that: (i) it is necessary to acknowledge the limits brought by work division and knowledge division, since the intention for knowledge production and development must overcome the organizational infrastructure and, (ii) the authors argue about the use of organizational and technological architecture in order to improve knowledge social production for they know that knowledge is a non-friction and limitless good which will redound into innovative strategies.

As for the work by Decarolis and Deeds (1999), it is supported by the Theory of the Firm, by the RBT and the KBT, and tried to attest the relationship between stocks, flows of knowledge and organizational performance in order to explain how it is possible to capture knowledge construction. The authors concluded that the intensive research and development environment favors the flow of knowledge, which influences the performance of innovative strategies for the development of new products.

Wang and Noe (2010) reinforced the premise raised by Orlikowski (2002) and Bechky (2003) that KM depends on knowledge sharing. In a theoretical research, the authors identified five areas of emphasis on knowledge sharing research, which are: organizational context, interpersonal and team features, cultural features, individual features and motivational factors. From these five areas, Wang and Noe (2010) point out to the need to deepen the researches turned to the practical implications of knowledge sharing about the organizations' performance in the construction of innovative strategies through shared knowledge.

Based on the RBT, Galunic and Rodan (1998) explored the notion of resources recombination within the organizations. This recombination would be about the use of the employees' competencies and would peak during new resources syntheses (knowledge) to generate innovative strategies. In order to enable the resources combination (knowledge and support resources), the authors propose a model of probabilities to be adopted by the organizations to maximize the benefits of their resources and generate innovative strategies.

Therefore, the most relevant works within the last 20 years and the theoretical reference approached by this study about the interface between entrepreneurial and innovative strategies and KM are focused on market, more specifically on the construction of an organizational efficacy culture in management [sharing, development and exploration] of knowledge to foster entrepreneurial strategies and develop innovative strategies for new products. Within this context, the entrepreneurial and innovative strategies and KM must be linked to business strategies, whereas the business strategy formulation needs, above all, to take the shape of a learning process over time. Figure 4 tried to represent this research's findings, which, in the organizations' context, don't happen linearly but spirally from the epistemological dimension to the ontological dimension, according to Nonaka & Takeuchi (1997).



Source: Elaborated by the authors (2018).

Figure 4. A conceptual map of the interface between the entrepreneurial and innovative strategies and KM

The theoretical gaps suggested by the main manuscripts used as the corpus in the research for the development of future researches mostly rest on the following theoretical aspects: investigating the impact of the entrepreneurial and innovative strategies on the interface with KM in the organizations' economic-financial performance; investigating which KM processes or which antecedents and facilitating terms mostly contribute to promoting entrepreneurial strategies and develop innovative strategies in the organizations; raising the entrepreneurial profile and the management behavior of those who act as decision makers and which promote the change, the efficacy and new opportunities in the organizations and in the society; and investigating which sources of knowledge are being

combined into entrepreneurial and innovative strategies to enable new products and services in the search for a competitive advantage.

Besides, discussing about which barriers to knowledge sharing in intensive organizations about knowledge and technology to complement the comprehension of the organizational efficacy; building a board of analysis to evaluate the organizations' competitive position in relation to their resources and intellectual capacities; and, raising which elements from a learning culture enable the entrepreneurial and innovative strategies for a more efficient use of knowledge. In order [for the theoretical aspects] to be explored through strict empiric studies and longitudinal studies, along with the structured methods of data triangulation to ensure the internal and external validity and reliability of future researches about the interface between the entrepreneurial and innovative strategies and KM.

6. CONCLUSIONS

The research mapped 555 manuscripts published by 1,155 authors with emphasis to George Von Krogh and Sue Newell. One hundred and fourteen periodicals were used by the authors and most of the manuscripts were published in the *Journal of Knowledge Management*, and most citations come from *Organization Science*. The scientific production mapping also allowed the identification that the United States is the authors' link country where most articles about the interface between the topics come from.

The propositions for the advancement in the researches about the topics point out for lines of research focused on the organizations' economic and financial performance; on the facilitators' investigation, entrepreneurial profiles and sources of knowledge which are combined to enable new products and services in the search for a competitive advantage in the market; in the development of boards of analysis to evaluate the organizations' competitive position in relation to their resources; and to raise the elements which make up an organizational culture that enables entrepreneurial and innovative strategies for a more efficient use of knowledge. On the other hand, the methodological propositions point out to strict empiric studies to assess the interface result between entrepreneurial and innovative strategies and KM, in practice.

As a managerial contribution, this research shows the comprehension that the entrepreneurial and innovative strategies and KM must be linked to the business strategies, whereas the business strategy design needs, above all, to take the shape of a learning process overtime, which can be enabled through the organizational Knowledge Management model.

The exclusivity of the use of the *Web of Science*TM database can be presented both as a reach limitation and as an indicator of this study's expansion possibilities. Besides the lines of research and the study typologies for future researches previously marked as this work's objective, checking the most recent works about the interface between entrepreneurial and innovative strategies and KM in other reference databases, as the Scopus base in order to identify, in a comparative study, possible alterations of a theoretical or methodological path.

Acknowledgements

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – Brasil (CAPES) – Finance Code 001.

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