The Scientific Production Exploring Innovation as Competitive Strategy
Wilciney José VILLAN¹, Silvio Bitencourt da SILVA and Sílvio Parodio Oliveira CAMILO

Abstract
In the recent years, studies in the field of strategy are aligning to other fields of knowledge. In this sense, the present study intends, from the summary review of literature, to analyze the scientific production in the country that explores innovation as a strategy in studies presented in ANPAD (Brazilian Association of Postgraduate and Research in Management) events. By means of bibliometric strategy, features of researches publicized in EnANPADs, 3Es and Symposium, from 2002 to 2013, were analyzed. Results show that the production that attaches strategy and innovation is not yet significant. There is a balanced division in the studies identified, emphasizing the emerging and deliberate strategy. This approach is mostly at business level and uniformly presented concerning the adoption of one of the “generic strategies”. Emphasis is given to the function “research and development”. There is no features of an essential competence related to the innovation and technology element. The studies analyzed did not show an interaction level between schools in such a way that researchers work through a solid network, that is, there is an inexpresse density in relationships. The authors did not identify centrality in the interactions, much less substantive schools in such a way as to be more influent in a given derived line of integration between strategy and innovation. This shows that innovation as a strategy, in Brazil, still is a field to explore, theoretically or theoretical-empirically.

Key words: Publications; Studies; Competitiveness; Competitive Advantage

INTRODUCTION
The field of strategy has been widely investigated under different ways of viewing. Rumelt (1974), for instance, explored the relationships relevant to the strategic diversification, corporate structure and its performance, whilst Miles and Snow (1978) developed the typology of competitive strategies. Various authors provided the development of this line of research; however, there is much reference to the studies of Porter (1980, 1985). His studies, based on the structure-conduct-performance paradigm, have been providing a significant contribution to the perspective of industrial economy, influencing researchers and managers.

The studies of Wernerfelt (1984) and Barney (1991) address strategy under a distinctive view if related to the theoretical assumptions of Porter. These assumptions comprise the company’s vision-based resource (VBR). Wernerfelt is a pioneer in this context, whilst Barney develops a model that allows the identification of features and strategic resources in order to contribute to the acquisition of competitive advantage.

Studies with an economical approach also influenced studies in the field of strategy, such as those concerning transaction costs (Williamson, 1975, 1985) and the agency theory (Jensen & Meckling, 1976). With a focus on the development and perpetuation of organizations in the environment, evolutionary theories (Nelson & Winter, 1982), as well as the theory of resource dependency (Pfeffer & Salancik, 1978) are taken into consideration, with subjects related to the field of strategy.

In summary, strategy is inherent to the studies concerning competitiveness and the achievement of competitive advantage, analyzed under different views, such as financial and marketing, however, innovation is a field used as a strategy to the acquisition of competitive advantages. Nevertheless, the dynamism of innovations keeps the competitive advantages for an indefinite period. Market changes affect the competitive position of organizations, and, aiming to sustain competitive advantages, the

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traditional approaches of strategy do not provide the same dynamism than that provided by innovations (Christensen & Raynor, 2003; Holtzman, 2014; McGrath, 2013). The understanding of innovation as a strategy aligns to empirical studies concerning knowledge fields of management, becoming relevant in Brazilian academy, in which different academic events provide exchange opportunities among teachers, researchers and students. Among them, the more outstanding to scientific production in the field of management, in divisions and subjects that explore competitive advantage, strategy and innovation are the ANPAD Meeting (EnANPAD), the 3Es promoted by the Academic Division of Studies in Strategy and the Symposium of Technological Innovation Management (Symposium).

Nevertheless, the knowledge of native academic production over these subjects and their connections seems to be an unexplored field within the research in administration. Thus, identifying features of a scientific production in the field of administration that explores innovation as a strategy in ANPAD events becomes the main goal of this study.

With the objective of accomplishing this goal, one will use a set of concepts referred to competitive advantage, strategy and innovation and their interrelations. Another goal is to hold a bibliometrical analysis designed to understand a scientific production under the view of a specific context, which tends to value situations of research debating innovation as an alternative to organizations that search the acquisition of competitive advantage. Taking this goal into account, the studies identified are evaluated in relation to how innovation, while strategy, can be deliberated or emerging in a manner that choices are made to stand out in relation to competition in terms of competitiveness at corporate level, in business and functional levels or even related to resources and organizational capabilities.

Besides this introduction, the text contains four sections: the second sets out the theoretical framework used to support research; the third one deals with the methodological procedures undertaken; the fourth concerns the results and discussion of the study; and, finally, the conclusions offer suggestions for developing the field and discussions.

THEORETICAL REFERENCE
This section addresses the theoretical foundations concerning competitive advantage, strategy and innovation.

STRATEGY FOR ACQUISITION OF COMPETITIVE ADVANTAGE
In the search for a concept of strategy, heterogeneities of different authors are found. They also adopt different terms, such as mission, organizational purpose, goals, objectives, resources and capabilities, among others.

Strategy is defined as the direction chosen by the organization for acquisition of competitive advantage. Direction relates to options taken by the organization to stand out in the competitive arena in terms of how to compete in business levels or even, depending on the features and capabilities that control. These approaches are not opposing or mutually exclusive, as the sector and effects produced by the company explain different dimensions in relation to organizational performance (Spanos & Lioukas, 2001).

The intended strategy is the expression of the desired strategic direction, deliberately made or planned. Thus, the strategy performed is the actually one followed by an organization. However, the deliberate strategy refers to that in which the company anticipates events and develops a plan in response to these events in order to maximize their results. It is also possible to develop an emerging strategy that occurs from the routines, activities and processes inherent in an organization (Mintzberg & Waters, 1985).

Emerging strategy is one that comes in response to a change in the environment in which the company operates, arising from the difficulty of predicting accurately the behavior and interrelationships of factors and the consequent response to this change.

Competitive advantage refers to the capacity of an organization to overcome the standard performance of its sector. When this advantage persists regardless of existing competitors and potential of efforts to equalize to it or overcome it, you have the so-called sustainable competitive advantage.

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STRATEGIC CHOICES

The strategic choices are commonly addressed in corporate levels and business units. The first one relates to the purpose and general action of the organization to gain competitive advantage operating in several businesses simultaneously. At this level, strategy turns to the general scope of the organization and may include issues related to vertical integration, strategic alliances, diversification and mergers and acquisitions. Vertical integration refers to the number of value chain stages of a sector that joined the organization, bringing it closer to the end customers (forward) or sources of raw material (backward). Strategic alliances concern the cooperation between organizations in the development, production or marketing of goods and services. Diversification occurs when the organization operates across multiple sectors or markets simultaneously. Mergers and acquisitions are means by which is possible to an organization creates diversification strategies or vertical integration. Mergers occurs when there is a transaction that combines the assets of two companies, whilst acquisition occurs when a second company is purchased by an organization.

Business-level strategy concerns competitiveness in a single market or sector. The authors identify three different "generic strategies" that can be singly adopted or in combination by means of which an organization can achieve competitive advantage (Porter, 1980, 1985): cost leadership, differentiation and focus. The first one relates to achieving a cost advantage over the competition, which seeks to achieve a lower price than the competition and at the same time, ensure the maintenance of benefits given to those customers alike offered by competitors. The second one turns to the acquisition of differentiation from the competition. It intends to offer different benefits from the ones offered by competitors that are valued by customers, resulting in the willingness to pay a premium price. The third focuses on a particular market segment or group of customers and consists of a way to address a narrow target more effectively than the competition.

Still, a breakdown of those strategies pursued by the functional areas of a business unit can be seen (Hax & Majluf, 1991; Wright, Kroll & Parnell, 2009), in what is usually defined as functional strategies. The functions, which should not be individually considered, but rather meld up uniformly to ensure the effectiveness of the general strategy of the business unit, can involve production, finance, research and development, marketing, operations, human resources, information technology and communication. However, the development of strategies comprises an adjustment of the variables observed in the external and internal environment to the organization. Understanding the changes in the external environment affects the choices, applications, development and retention of resources and organizational capabilities. In this sense, the adjustment between environmental changes and resources and organizational capabilities provide strategic choices that best ensures the achievement of organizational objectives (Miller, 1992).

STRATEGIC CHOICES CONCERNING RESOURCES AND CONTROLLING CAPACITIES
Resources are assets used by a company in order to choose and plan their strategies, whether tangible or intangible (Amit & Schoemaker, 1993). Two basic assumptions are implicit in the approach based on resources: that resources and capabilities can vary significantly between companies (the assumption of heterogeneity of resources) in a stable manner (the assumption of immobility of resources) (Barney, 1991; Peteraf, 1993).

Besides, four attributes of potential business resource to generate sustainable competitive advantage are proposed by Barney (1991) and can be used as indicators of how heterogeneous and immobile are the resources, being them: valuable, rare (Barney, 1986a, 1991), inimitable (Barney, 1986b, 1991; Peteraf, 1993) and irreplaceable (Barney, 1991; Dierickx & Cool, 1989). In this context, for a company resource has the potential to generate sustainable competitive advantage, it should show simultaneously each one of the
four attributes proposed, because even if individually needed, these attributes alone are not enough (Diericks & Cool, 1989; Priem & Butler, 2001). In this sense, companies should have higher value added resources and capabilities in comparison to their competition (Besanko, Dranove, Shanley & Schaefer, 2004). Makadok (2001) emphasize this distinction to define resources as available factors stock owned or controlled by the organization, and capabilities as a special kind of resource that enables the organization and get the most of the resources controlled by them.

In short, figure 1 presents the contributions of Barney (1991) and Peteraf (1993) to the understanding of resources and capabilities such as conditions to the acquisition of sustainable competitive advantage. The inimitable resources keeps this feature due to the combination of these factors: path dependency, characterized as the accumulation of expertise; causally ambiguous, a difficulty to identify a link between the ownership of resources by the organization and its competitive advantage and; the result of personal relations internal and external to the organization, that is, complex social phenomenon (social complexity). The heterogeneity refers to the different resources and capabilities inherent to different organizations, even if they compete in the same industry. The imperfect immobility consists of the inability to transfer the resources from an organization to another without significant cost. The organization spends more financial resources in acquiring a resource than it can return relatively. The acquisition of resources in the absence of competition characterizes the ex-ante limitation, because the organization intends to undertake strategies before their competition in order to assure competitive advantage, causing asymmetry of information. The ex-post limitation is supported in the difficulty or impossibility of imitating resources, protecting the source of competitive advantage. Thereby, heterogeneity needs to be kept through isolation mechanisms (Camilo, Xavier, Bandeira-de-Mello & Marcon, 2010).

**Figure 1- The framework of conditions to the acquisition of sustainable competitive advantage**

As an evolution of VBR, aimed especially at overcoming the criticism of its static and inflexible character in the analysis of company resources, Teece, Pisano and Shuen (1997) introduced the subject of dynamic capabilities from the evidence that winners in global market have been companies that demonstrate responsiveness and innovation in a fast and flexible product, coupled with the management capability to coordinate and develop internal and external expertise. According to the model of dynamic capabilities offered by these authors, the competitive advantage of enterprises lies in organizational processes of coordination and combination shaped and limited by the asset position of the company and the evolutionary trajectory adopted or inherited. Dynamic capabilities are skills, processes, practices,
organizational structures and disciplines that enable companies to build, use and orchestrate the relevant intangible assets to satisfy its customers' needs, and competitors cannot easily replicate that. Thus, the heterogeneous forms of knowledge applied by organizations in operations aimed at the creation, development and provision of products and services by combining its resources continuously to keep in top position to competitors is a feature of organizational capabilities (Dosi, Nelson & Winter, 2001).

Combined with the propositions of this work one can see that innovation and technology are explored by Hamel and Prahalad (1990), Wickham (2003) and Birchall and Tovstiga (2005) as elements of competence aimed at promoting the internal improvement of the company. Thus, the features and capabilities controlled by the organization provide strategic choices that allow achieve and sustain competitive advantage. In this sense, innovation is a strategy undertaken for this purpose.

INNOVATION AS A STRATEGY
The field of innovation follows the propositions of Schumpeter (1950), especially regarding the process of "creative destruction" in which there is a constant quest to create something new that simultaneously destroys old patterns and establish new ones. Hence arise "new combinations" which may include: introduction of a new good or a new quality of a good; introduction of a new production method, or a new way to sell a commodity; opening a new market; conquest of a new source of raw materials or intermediate goods; and establishment of a new form of organization in any industry.

One of the main ways for a company to improve its position against their competitors is through the innovation (Porter, 1985). In fact, the competitive advantage gradually have originated beyond traditional factors in companies raising knowledge and technological advances and conceive the creation of novelties in their offerings (Kay, 1993) or through the inclusion of new products in the market, provision of unique processes or better than those of competing, or even the ability to perform better services. In fact, in business world, the need to deal with emerging technologies or complex systems in a competitive environment provides new ideas, including on the content of the strategy (Hamel, 1998). The challenge, then, is a company to conduct a strategy and at the same time, have the capacity for continuous innovation (Aaker, 1995) and can be associated with different ways to search for competitive advantage. Bessant, Pavitt and Tidd (2008) point out some ways of this search such as: innovations in products or services and processes, complexity, legal protection of intellectual property, expanding the number of competitive factors, and opportunity, robust platform design, rewrite rules, rewrite parts of the process, transferred via different application contexts.

Nevertheless, Christensen and Raynor (2003) do not understand innovation as linear. Given the dynamism about this field, there are revelations in the empirical world of competitive position forfeited due to breaking and incremental changes in certain market structures. Increasingly fast and intense changes have increased the gap between traditional approaches to strategy and business reality in which it is becoming difficult to sustain a competitive advantage. For this, the company shall become proficient in innovation and turn it into their strategy (McGrath, 2013).

The success of a given innovation is temporary, precisely because their results attract competitors (Holtzman, 2014). Therefore, a lasting innovation contributes to sustain favorable results for the organization. Hence, there is the need to develop innovation portfolio in order to develop an internal culture that contributes to the creation of an intern innovation DNA, protected from imitations. At this stage, the company develops potential in the field of sustainable competitive advantage.

METHODOLOGICAL PROCEDURES
Bibliometric studies refers to a set of research methods developed by Library and the Information Sciences seeking to map the knowledge of a scientific field structure, but also as an instrument for analyzing the behavior of researchers in the construction of knowledge (Vanti, 2002).

The database used in this study contains all the studies presented in editions of EnANPAD, 3Es and Symposium, events from ANPAD from 2002 to 2013. The events chosen were motivated by the nature of the research, i.e. those with adherence to the fields of strategy and innovation. The period was defined in
a horizon of 12 years seeking both an appropriate range for the identification of the work, as to ensure its relevance. Bibliometric patterns were analyzed, identifying 1,116 publications. The authors used the bibliographical grouping technique, by grouping for related topics from which conducted analysis of the production characteristics that explores innovation as a strategy in the ANPAD events: EnANPAD, 3Es and Symposium. The survey, conducted through the advanced search link site ANPAD, with the first step of the analysis task tabulation of all studies published in the period mentioned in several spreadsheets. Them were listed information for identification of the analyzed studies, prioritizing the keywords that led to identifying those addressing innovation as a strategy, and consider whether the strategy is deliberate or emerging and is associated with corporate-level or business units, which generic strategies related and still functional level as well as on the resources and capabilities that the companies control. Initially, innovation as a strategy was considered in the work they are explicitly addressed the keywords adopted because there were not explicitly identified references to the classification of strategies. The definition of the strategy deliberate or emerging considered the position of the company towards the anticipation of events and development of a plan or a response to a change in the environment in which the company operates. Regarding the level of strategies, the identification at the corporate level was conditioned on when it related to the purpose and general action of the company in order to obtain competitive advantage operating in several businesses simultaneously and its related issues, contemplating the adoption of vertical integration, strategic alliances, diversification or mergers and acquisitions. Identification at business level was conditioned on when referring to how to compete successfully in a single market or industry and made it possible to associate with one of the three "generic strategies" adopted in isolation or in combination: cost leadership, differentiation and focus. The cost leadership was understood as the quest to achieve a lower price ensuring maintenance benefits delivered to customers similar to those offered by competitors serving a large market with relatively elastic demand. Differentiation provides different benefits from those offered by competition and that are valued by customers, which generates a willingness to pay a premium price, serving a large market with relatively constant demand. Focus refers to the approach of a narrow target more effectively than the competition. In functional level identification was conditional on when it refers to areas of a business unit involving production, finance, research and development, marketing, operations, human resources, information technology and communication. Regarding the features and capabilities controlled by companies, the authors sought to identify features of the existence of a core competence related to the innovation and technology element or its possible interactions with other elements such as people, structure and processes and culture. A careful reading of the studies complemented the partial conclusions of each analysis. The following results derive from crossing these data and analyzes, following the procedures described, as per shown in the following section. For finding evidence of interactions between schools that combine strategy and innovation, the works produced in this field have been mapped. The study has identified authors of 26 schools. In order to know the degree of interactions between authors, as well as the density of relations, made the use of UCINET 6 software, where the data were allocated to a general matrix. The main obstacles to overcome in the implementation of the procedures related to qualitative analysis approach, through the interpretation of studies in accordance with the established categories. The authors believe that such obstacles have been overcome, so that the research would enable their academic validity and can be the basis for others with broader goals, either in the design of the adopted categories or expansion to other publications at the national or international scope.

RESULTS AND DISCUSSIONS

The publications analyzed in such a way to accomplish the analysis criterion of this study are part of ANPAD database and were taken from three events: EnANPAD, 3Es and Symposium, between 2002 and 2013. Thus, table 1 presents the percentage of publications accomplishing the analysis criterion of this study in relation to the total amount of identified publications.
Table 1- Total of publications fulfilling analysis criterion

<table>
<thead>
<tr>
<th>Objectives</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles identified</td>
<td>1,116</td>
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</tr>
<tr>
<td>Innovation as a strategy</td>
<td>28</td>
<td>2.51</td>
</tr>
<tr>
<td>Innovation as a deliberate strategy</td>
<td>14</td>
<td>1.25</td>
</tr>
<tr>
<td>Innovation as a deliberate strategy associated to Business Units</td>
<td>9</td>
<td>0.81</td>
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<tr>
<td>Innovation as a deliberate strategy associated to Corporate Level</td>
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<td>0.18</td>
</tr>
<tr>
<td>Innovation as an emerging strategy</td>
<td>14</td>
<td>1.25</td>
</tr>
<tr>
<td>Innovation as an emerging strategy associated to Business Units</td>
<td>9</td>
<td>0.81</td>
</tr>
<tr>
<td>Innovation as an emerging strategy associated to Corporate Level</td>
<td>1</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Source: research data

With the objective of addressing strategy as innovation, the research resulted in 1,116 studies, which comprise searches for these key words: Competitive advantage, Strategy and Innovation. 2.51% of these studies address innovation as a strategy. Half of these studies (14) are related to innovation as a deliberate strategy, whilst the others address innovation as an emerging strategy. In business unit levels, the authors noted a balance. Two studies relate innovation as a deliberate strategy at corporate level and one addresses it as an emerging strategy at same level.

Generally, the functional strategies found in the publications are related to research and development, so it is common to see a list of these strategies with a set consisting of research and development, marketing or production and operations.

BEHAVIOR OF PUBLICATIONS BETWEEN THE EVENTS

The 1,116 publications identified are divided as per figure 1. EnANPAD has contributed with 399 publications arising from the survey using the key word Strategy, 39 publications arising from a research conducted using the key word Competitive advantage, and 238 from a survey using the key word Innovation. 3Es comprises 173, 19 and 25 publications related, respectively, to surveys conducted using the key words Strategy, Competitive advantage and Innovation. Concerning the term Symposium, it comprises respectively to the key words, 36, 2 and 185 publications.

Figure 2- Comparison between events

Source: research data
PUBLICATIONS THAT ADDRESS INNOVATION AS A STRATEGY
The first criteria of the research was to identify publications addressing innovation as a strategy, given that this is the most relevant filter to proceed with the study. Thus, the authors observe that the publications addressing innovation as a strategy is little significant in the addressed events. Such publications reach 2.51% of publications related to this subject, that is, 28 publications derived from the 1,116 identified. The publications from searches using the key word Strategy totalize 46.43% (13 studies). Those results found by means of the key word Innovation totalize 53.57% (15 studies), totalizing 100% of publications, that is, studies derived from searches using the key word Competitive advantage were not found.

PUBLICATIONS ADDRESSING INNOVATION AS A DELIBERATE STRATEGY AND PUBLICATIONS ADDRESSING INNOVATION AS AN EMERGING STRATEGY
Among the 28 studies found, the authors chose those ones that approach innovation as a deliberate and emerging strategy and what is the form of conception of innovation. To this end, the distribution is evident from these publications along the years researched in tables 2 and 3. Table 2 shows that 14 studies address innovation as a deliberate strategy, showing that 2006 was the year with the highest number of publications.
Concerning the publications that address innovation as an emerging strategy, the authors observed the same number of publications, however, with a different temporal dispersion, as shown by Table 3. The authors noticed that in both tables the key word Competitive advantage did not contribute to the results. In table 2, the publications emerged in 2006, with a high amount of publications, whilst in table 3 the first publications occurred in 2002, nevertheless, the highest number of publications occurs in 2006. The authors identified that the research made using the key word Strategy presents a lowest number if compared to the key word Innovation, on table 2, while table 3 verifies the opposite.

Table 2- Publications addressing innovation as a deliberate strategy

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Year</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
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<th>2013</th>
<th>Total</th>
<th>%</th>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>1</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>2</td>
<td>14.29</td>
<td></td>
</tr>
<tr>
<td>Innovation</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>12</td>
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<tr>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>14</td>
<td>100.00</td>
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</table>

Source: research data

Table 3- Publications addressing innovation as an emerging strategy

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<th>2003</th>
<th>2004</th>
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<th>2008</th>
<th>2009</th>
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<th>2012</th>
<th>2013</th>
<th>Total</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Competitive Advantage</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
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<td>0</td>
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<td>14</td>
<td>100.00</td>
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</table>

Source: research data

Chart 1 presents the authors that address innovation as a deliberate and emerging strategy in their studies.
Chart 1- Authors that address innovation as a deliberate and emerging strategy

<table>
<thead>
<tr>
<th>Innovation as a deliberate strategy</th>
<th>Innovation as an emerging strategy</th>
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<tbody>
<tr>
<td>Albino and Camargos (2006);</td>
<td>Vargas (2002);</td>
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<tr>
<td>Bosquetti, Parolin, Albuquerque and Santos (2006);</td>
<td>Agudelo et al. (2006);</td>
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<td>Ferro and Bonacelli (2006);</td>
<td>Costa, Torres, Gomes and Candido (2006);</td>
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<td>Gonçalves and Castro (2006);</td>
<td>Cunha and Bignetti (2006);</td>
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<td>João and Sordi (2006);</td>
<td>I. R. Pinheiro, and I. A. Pinheiro (2006);</td>
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<td>Mendel and Ferreira (2006);</td>
<td>Boscolo and Sbragia (2008);</td>
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<td>Toldo, Gonçalves and Rodrigues (2007);</td>
<td>Silva (2008);</td>
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<td>Parolin and Albuquerque (2008);</td>
<td>Karam, (2008);</td>
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<tr>
<td>Vilha and Quadros (2008);</td>
<td>Oliveira, Araújo, Nascimento, Ferreira &amp; Rossi (2009);</td>
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<td>Meza (2009);</td>
<td>Gomes, Kruglianskas, Scherer, Menezes &amp; Kneipp (2011);</td>
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<td>Piatto, Bernardes and Moraes (2010);</td>
<td>Almeida, Santos, Pessanha and Alcântara (2012);</td>
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<td>Ramos (2012);</td>
<td>Caldeira et al. (2012);</td>
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Source: research data

PUBLICATIONS ASSOCIATING INNOVATION AS A DELIBERATE STRATEGY AND BUSINESS UNITS AND PUBLICATIONS ASSOCIATING INNOVATION AS AN EMERGING STRATEGY AND BUSINESS UNITS

This criterion observes 18 publications addressing innovation as a strategy associated to business units. Chart 2 presents the authors who make this association. A point to be highlighted is that the author presented in chart 1 as the one that discussed an innovation strategy deliberately, can be presented in chart 2 for discussing innovation strategy in an emerging way, because only with business units are related in this case.

Chart 2- Authors and business units

<table>
<thead>
<tr>
<th>Innovation as a deliberate strategy associated to Business Units</th>
<th>Innovation as an emerging strategy associated to Business Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bosquetti et al. (2006);</td>
<td>Vargas (2002);</td>
</tr>
<tr>
<td>Ferro and Bonacelli (2006);</td>
<td>Albino and Camargos (2006);</td>
</tr>
<tr>
<td>Gonçalves and Castro (2006);</td>
<td>Toldo, Gonçalves and Rodrigues (2007);</td>
</tr>
<tr>
<td>João and Sordi (2006);</td>
<td>Meza (2009);</td>
</tr>
<tr>
<td>Mendel and Ferreira (2006);</td>
<td>Almeida et al. (2012);</td>
</tr>
<tr>
<td>Parolin and Albuquerque (2008);</td>
<td>Lenhari and Quadros (2012);</td>
</tr>
<tr>
<td>Vilha and Quadros (2008);</td>
<td>Mascena et al. (2012);</td>
</tr>
<tr>
<td>Piatto et al. (2010);</td>
<td>Benedetti and Torkomian (2013);</td>
</tr>
</tbody>
</table>

Source: research data

PUBLICATIONS ASSOCIATING INNOVATION AS A DELIBERATE STRATEGY AND CORPORATE LEVEL AND PUBLICATIONS ASSOCIATING INNOVATION AS AN EMERGING STRATEGY AND CORPORATE LEVEL

As can be seen, the number of publications addressing innovation as a deliberate or emerging strategy is presented in small quantities if compared to the organizational level. In this case, only two of them address innovation as a deliberate strategy associated to the corporate level, whilst one publication refers to innovation as an emerging strategy associated to the corporate level (chart 3).
PUBLICATIONS ASSOCIATING INNOVATION AS A DELIBERATE AND EMERGING STRATEGY TO GENERIC STRATEGIES ADOPTED TO BUSINESS UNITS

In this context, the publications were divided into seven clusters, as shown in chart 4 to better understand the division of studies presenting a relation with each generic strategy.

The authors identified that the cluster 1 has the highest number of publications (8) when innovation is adopted deliberately, including a generic strategy of differentiation. However, the same situation is not observed when innovation is adopted in an emerging manner. In the latter, most of the publications do not clarify the generic strategy adopted (cluster 6), what can also be seen as opposite when innovation is deliberately adopted.

However, it appears that the number of publications that meet the criteria for analysis is very small in relation to the total number of studies found in database (1,116). Only 2.51% (28) refer to innovation adopted as a strategy, 1.25% (14) of the publications address innovation as a deliberate strategy, equally referring to innovation as an emerging strategy. 0.81% (9) of them address innovation as a deliberate strategy associated to business units and equally related to the emerging strategies. Among the business units found some of them can be mentioned, such as: agricultural machinery and implements; cosmetics, pharmaceuticals, food, functional foods and herbal medicines; menswear, womenswear, childrenswear, basic and sports; software development; medical services, among others.

Chart 3- Authors at a corporate level

<table>
<thead>
<tr>
<th>Innovation as a deliberate strategy associated to Corporate Level</th>
<th>Innovation as an emerging strategy associated to Corporate Level</th>
</tr>
</thead>
</table>

Source: research data

Chart 4- Strategies in clusters

<table>
<thead>
<tr>
<th>Deliberate Innovation Strategy</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clusters</td>
<td>Generic strategies</td>
</tr>
<tr>
<td>1</td>
<td>Differentiation</td>
</tr>
<tr>
<td>1</td>
<td>Bosquetti et al. (2006); Ferro and Bonacelli (2006); Parolin and Albuquerque (2008); Vilha and Quadros (2008); Piatto et al. (2010); Ramos (2012); Benedetti and Torkomian (2013); Theis and Schreiber (2013).</td>
</tr>
<tr>
<td>2</td>
<td>Differentiation and Cost Leadership</td>
</tr>
<tr>
<td>2</td>
<td>Mendel and Ferreira (2006).</td>
</tr>
<tr>
<td>3</td>
<td>Cost Leadership</td>
</tr>
<tr>
<td>3</td>
<td>João and Sordi (2006).</td>
</tr>
<tr>
<td>4</td>
<td>Differentiation and Focus</td>
</tr>
<tr>
<td>5</td>
<td>Approach and Cost Leadership</td>
</tr>
<tr>
<td>5</td>
<td>Meza (2009).</td>
</tr>
<tr>
<td>6</td>
<td>Indefinite</td>
</tr>
<tr>
<td>7</td>
<td>Differentiation, Cost Leadership and Focus</td>
</tr>
<tr>
<td>7</td>
<td>Toldo, Gonçalves and Rodrigues (2007).</td>
</tr>
</tbody>
</table>

Emerging Innovation Strategy

<table>
<thead>
<tr>
<th>Clusters</th>
<th>Generic strategies</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>
EVIDENCES OF NETWORK INTERACTIONS
The studies analyzed did not show any degree of interaction that allows to state that researchers work through strong network. The authors observed expressionless density in the relationships between schools, with more pronounced studies among researchers of the same entity. A focus on interactions cannot be identified, so as fruitful schools, in a way to be more influential on a given line derived from the integration of strategy and innovation. This shows that in this country, under this view, there is still a relevant field to be explored.

CONCLUSIONS
This study surmised efforts to describe what characteristics of scientific production in the area of management that explores innovation as a strategy in events of ANPAD. As shown in the studies published in EnANPAD, and 3Es Symposium from 2002 to 2013 the production linking innovation as a strategy is not significant nor is increasing, with a peak of 2006 in publications. There is a balanced division, between among the studies found, of the meaning of emerging and deliberate strategies. If on one hand the deliberate strategy ensures structured plans stocks, systematization of the choices emerging strategies of innovation contexts demonstrates the usage of opportunity in a dynamic market. Mostly, strategies are discussed uniformly at a business level towards the adoption of leadership in cost options, differentiation and focus or their possible combinations. Regarding the functions, the emphasis is on R&D and there are no publications in significant number associating with other functional areas, with some publications related to marketing and operations. Concerning the resources and capacities controlled by companies, features of the existence of an essential competence related to the element innovation and technology or their possible interactions with other elements such as people, structure and processes and culture. Among the analyzed studies, the authors have not found evidence whose degree of interaction among researchers is through solid network. There is no density in the relationships between schools because the 26 units present works with irrelevant correlation. The authors could not identify centrality in interactions, so maybe there was no network with influential theoretical line. It seems that innovation with strategy can be better exploited. The main limitation of this study refers to the search process, because it limits the identification of studies to express literally the keywords. Any research in this field could review the entire production of
ANPAD or some particular event, trying to understand the different movements for innovation, the ones highlighted by the Bessant et al. (2008), which would extend the length of the search results. The authors suggest two possibilities for small expression of publications addressing innovation as a strategy: (1) the topic has not been explored in a strategic context; and (2) empirically innovation is not usually associated with strategy. In both cases, there is evidence that research in innovation has been discussed in the context of functional areas, especially research and development. Administratively, implications emerge complaining that the adoption of the innovation strategy refers to a choice that can produce a competitive advantage, as depending on the dynamics of competition has become difficult to sustain a competitive advantage. To achieve this goal, the choice for the development of a portfolio of innovations, both disruptive and incremental, can create an organizational competence in innovation that becomes a sustainable competitive advantage. The creation or development of this competence may arise through the organizational learning as an inducer of an integrated set of initiatives, processes and people developing in a targeted way throughout the company's history and back to promote their internal improvement.

Among the recommendations for future research, the most significant involve (1) overcoming the limitations presented by promoting further research with different criteria that allow the definition of different research focus; (2) understanding how emerging strategies towards innovation arise; (3) conducting empirical studies to understand the low insertion of innovation as a strategy in regional, national or specific industries contexts; (4) understanding the causes of variation in the frequency, including publications on innovation as a strategy; and (5) understanding the development of skills, based on the propositions on dynamic capabilities within the VBR, particularly with regard to innovation and technology element.

REFERENCES


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