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An Agenda for the Study, Research and Implementation of Innovation Management

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Abstract
Continuous innovation has long ago been one of the main recommendations not only for organizations to survive, but also, and above all, to stand out on the contemporary environment. Schumpeter, Drucker, Dosi, Porter, Prahalad, Christensen, Osborne and Gaebler are the most renowned authors among those who see innovation not only as a corporative strategy, but also as a permanent goal that must be present in all public policies. Due to this increasing importance, innovation has been approached by economists, administrators and psychologists, among others, each of them exploring the theme based on their own knowledge domain. Therefore, the theme may be approached from the individual's perspective (in which creativity is highlighted), or as a resource for organizational problem solving (in which continuous and incremental improvements applied to work methods and processes are stressed), or also as a market innovation with changes in the supply chain, or even, in a wider dimension, in the business model that has been hegemonic so far. Therefore, the authors believe that the theme, in order to have a better understanding, should be segmented and delimited. Thus, this study establishes some delimitations for the study, research and practice of innovation management. To achieve its objective, the authors resort to the literature, which helps them to trace the path that leads from creative individuals to market changes mediated by the innovative organization.

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An Agenda for the Study, Research and Implementation of Innovation Management

ABSTRACT

Continuous innovation has long ago been one of the main recommendations not only for organizations to survive, but also, and above all, to stand out on the contemporary environment. Schumpeter, Drucker, Dosi, Porter, Prahalad, Christensen, Osborne and Gaebler are the most renowned authors among those who see innovation not only as a corporative strategy, but also as a permanent goal that must be present in all public policies. Due to this increasing importance, innovation has been approached by economists, administrators and psychologists, among others, each of them exploring the theme based on their own knowledge domain. Therefore, the theme may be approached from the individual's perspective (in which creativity is highlighted), or as a resource for organizational problem solving (in which continuous and incremental improvements applied to work methods and processes are stressed), or also as a market innovation with changes in the supply chain, or even, in a wider dimension, in the business model that has been hegemonic so far. Therefore, the authors believe that the theme, in order to have a better understanding, should be segmented and delimited. Thus, this study establishes some delimitations for the study, research and practice of innovation management. To achieve its objective, the authors resort to the literature, which helps them to trace the path that leads from creative individuals to market changes mediated by the innovative organization.

Key Words: creativity, innovation management, innovative organizations, disruptive markets.

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INTRODUCTION

The competition between organizations, as well as the administrative and strategic complexity have intensified in a way that has never been seen. This fact imposes on administrators and managers a role that is every time more difficult and delicate in the task of improving corporative performance.

Facing the current themes that indicate the challenges to run businesses, since Schumpeter (1982) identified innovation as the propelling force of economic development, Innovation Management has been progressively growing in relevance. Therefore, the manager should be prepared to promote the conditions favorable to innovation. On the one hand, the interest and number of studies and publications on the theme have grown, but on the other hand, and even as a consequence, the borderline between the sub-fields of research and practice have become diffuse, sometimes even confuse, not to mention the illusion created by those who turn the "brand" Innovation Management into a stimulus to sell graphic products and the like. Thus, roughly speaking, it can be said that today practically all management texts claim to somehow be approaching the issue of innovation. It is in this context, then, that this study is inserted, once the authors think the initiative is opportune, in the sense of putting forward a proposal for systematizing the literature that deals with, under any perspective, the theme of Innovation Management.

The visualization and division into fields, effective sub-areas of study, help administrators to manage by guiding their analyses and practices. Therefore, three areas of study regarding Innovation Management will later receive attention in this text: (1) the understanding of phenomena associated to the role of individuals for innovation; (2) the understanding of organizational processes related to the creation and promotion of innovations; and (3) the visualization of strategies, so that the organization may create new markets or develop itself in existing markets.

Therefore, the study is focused on the description and discussion of study focuses on Innovation Management in three levels, namely: the individual, the organizational and the marketing, consisting of an effort in the sense of delimiting and clarifying, for professionals and researchers, the different focuses that might be given to the studies on innovation. In the fourth and last section, as well as throughout the text, we highlight the connections between the parts of a theme that, for didactic reasons, had to be subdivided for its study and practice.

1 INNOVATION FROM THE INDIVIDUAL'S PERSPECTIVE

The studies published focus on the individual, as a leader or as part of teams that develop different tasks within the organization. The following fields stand out: self-

development, individual learning and creativity; the latter is one of the most complex ones. The three fields are strongly related. However, since creativity is strongly linked to the origin of innovation, it will receive a closer attention. For a better understanding of the large field of studies on creativity, the main approaches found in the specialized literature will be summarized. The further discussion will aim to highlight the interrelations between the recent approaches and the concepts of innovation:

• Philosophy's approach: according to Plato's conception, for example, men have access to an inner vision, through which they harmonize with divine reason and can learn eternal realities. Thus, their creative capacity acts in a peculiar intimate state (KNELLER, 1978);

• Gestalt's approach: according to the Gestalt view, creativity reflects a search for a "complete form" and the creative process comes from an innate impulse to obtain it. By perceiving problems or inconsistencies in information, individual try to "close" what would be a complete form and restore harmony. According to Wechsler (2002), the productive thinking is a consequence of new combinations of previous experiences; therefore, the role of experience is crucial for the "closure";

• Freudian approach: from this perspective, the creative activity is an emergent phenomenon of the unconscious, as a form of problem solving. Thus, there would be a permission for unconscious creative impulses to cross the borderline of consciousness (KNELLER, 1978). The humanistic theories see creativity as a human being's tendency towards self-realization;

• Psychoeducational approaches: these allow significant advances, such as the cognitive theory formulated by Guilford (*apud* WECHSLER, 2002), in which the mind is seen by three dimensions: operations (when thinking); content (type of information that is thought); and products (forms resulting from operations). Creativity aim is problem solving;

• Educational approach: creative production results of the combination between convergent and divergent thought. Creativity is, therefore, defined as sensitiveness to information failures or deficiencies and focused on problem solving (TORRANCE *apud* WECHSLER, 2002);

• Psychophysiological approach: this area is supported by studies on cerebral functions vis-à-vis the respective active hemispheres as a consequence of cognitive and emotional processes. A comprehensive conception is presented by Greenfield (2000), who emphasizes the integration of different cerebral regions in the execution of several tasks; finally,

• Sociological approaches: two determining factors for creativity should particularly be stressed: the "intrinsic" and "extrinsic" motivation (AMABILE *apud* WECHSLER, 2002). Whereas the former contributes in a positive manner, the latter tends to be prejudicial, once it is based on stimuli-responses.

A brief analysis of the mentioned approaches allows the identification of convergent points. The creative state conceived by Plato is reasonably explained, for example, by the Freudian trend, assuming that the "inner vision" indicates a channel between consciousness and unconsciousness. There certainly are interpretation margins that open less explored perspectives of this issue. The fact that Guilford's proposal (*apud* WECHSLER, 2002) is restricted to the divergent production as an operation associated to creativity does not avoid his model to comprehend the educational approach (TORRANCE, 1976). And even if both focus on problem and failure solving, their approaches are coherent with the psychological bases that support interpretations of wider phenomena.

Considering the creative process, there is a consensus that it mainly occurs involving issues with which there already is a degree of involvement and mental effort, instead of being a product of a sudden thought, totally disconnected from the issue to which it applies. It is based on this approach that Kneller (1978) proposes that the creative process occurs through five stages: initiation (something to solve); preparation (study, work, discussions); incubation (playing with hypotheses); insight (conception of an idea as alternative solution); and finally verification (feasibility test, applicability). For Ostrower (2002, p. 56), for whom intuition is in the basis of creation processes, these are composed of the following moments: intuition; formation of reference images; selectiveness; insight; psychic tension; and elaboration. Although the similarity between the two approaches is clear, the differences will favor the understanding of the concepts for organizational approaches.

The complexity of relations that are associated with the characteristics of creative personalities increases the number of variables for the creativity construct. Although several studies affirm that creativity can be confirmed as an attribute inherent to all human beings (WECHSLER, 2002; OSTROWER, 2002; DE BONO, 2002), there are debates with regard to the factors that make someone be creative. Gardner (1999, p. 151), for example, considers that creativity is only manifested when the individual is specialized in a determined field, which is confirmed by Amabile and Gryskiewicz (1989), who highlight the importance - almost a dependence - of learning and experience for the creative realization. However, this proposal is opposed to Kuhn's position (1992), who states that the innovations concerning the normal science tend to occur among young researchers, and not among the most experienced ones.

Finally, independently from the points of view, there are several contributions that help to develop creativity (DE BONO, 2002; DOMBROSKI, 2000).

This debate becomes more interesting and is widened when the associations between the concepts of creativity and innovation are established. The notion of "value" attributed to innovation can be transposed to creativity, as "something original and valuable" (STERNBERG, 2000, p. 337) or "having scientific and technical value", or even "somehow useful", respectively (VERNON and MEDNIK *apud* Eysenck, 1999, p. 204). An important distinction can be established based on the proposal made by Rosenfeld and Servo (1984), in which creativity involves "creation", whereas innovation corresponds to the "application" of an idea to improve profits or services.

By deciding to implement programs to promote innovations in their organizations, managers must be aware of some circumstances associated to this task. The implementation will bring structural, functional and cultural changes, but every change in something established is subject to reactions, which are often predominantly contrary. As leaders of the process, managers are in charge of adequately leading the changes in such a way to achieve their objectives with a maximum number of positive results for everyone.

As a first stage, it is important to highlight that the implementation process consists of a learning in several levels for all members of the organization. With regard to the individual learning process, which is the starting point of organizational learning, there are specific contributions, such as those by John Dewey, Kurt Lewin and Piaget, among others. However, Kolb's experiential learning model (1984) is one of the most adopted models. Based on the collective learning and the insertion of thinking as components, this models also serves, in particular, the proposals of Innovation Management presented further on.

Knowing the challenges, as well as the barriers, to the process of change implementation is essential. The following ones deserve to be stressed: resistance to innovations; the necessary and peculiar ability to manage behaviors that are not standardized (often in creative individuals); and the cultural barriers that sometimes go unnoticed and create obstacles to innovations. O'Toole (1997) lists several successful examples of processes conducted using the value-based leadership, which is also adequate to the strategies proposed in the following sections.

The adjustment and the management of creative people in the work environment represent an additional challenge. Due to the profile characterized by independence, inconformity, tendency to risk, radicalism and even anti-social attitudes, these individuals are seen as agents of environmental destabilization, as pointed out by Lapierre (1989) and Zaleznik (1992). The administrator who acts within creative environments must, beyond the technical dimensions, gather relational and motivational competencies in order to move without restraints in environments in which the tensions and contradictions, even if they are not the rule, are not exceptions either.

2 FROM INDIVIDUAL CREATIVITY TO ORGANIZATIONAL COMPETENCE TO INNOVATE

This section gathers considerations extracted from Nonaka and Takeuchi (1997) texts, along with elucidative notes by Miller and Morris (1998), and aims at clarifying the arduous administrator's path towards the innovation process management. To explain such known material would be unnecessary and, therefore, our intention is to discuss what is between the lines.

Nonaka and Takeuchi searched for the explanation for the creation of organizational knowledge essentially due to the superiority in efficiency and efficacy to innovate, which was seen in Japanese companies, in comparison with Western companies. On the other hand, the publication by Miller and Morris, supported by Nonaka and Takeuchi, as well as by other Eastern thinkers mentioned by those authors, is based on experiments made within American organizations and on the thinking of the great majority of Western individuals. Therefore, one might believe that human nature presents traits that are relatively independent from the cultural differences.

Knowledge - which is the basis for both Nonaka and Takeuchi (1997), and to Miller and Morris (1998) - is the reason and the essential link for all their statements, thus the emphasis they give to its definition and understanding, establishing contrasts with the information, as well as highlighting it as an attribute that does not exist without the individual. They constantly resort to knowledge by bringing about its tacit and explicit types and its variations, by explaining and exploring its modes of conversion and by stressing its degree of sharing, from the individual to the interorganizational level.

The essence of the process of innovation creation lies on the knowledge. Although the innovation has its origin in the individual creation, it depends on operationalized processes of

communicating and learning through models such as Nonaka and Takeuchi's (1997) and Miller and Morris's (1998). Whereas the former do not discard the importance of suppliers and customers during the innovation process, and it can be said that their analysis is focused on the organization's internal channels, the latter widen their considerations and the relevance of external channels, above all with regard to customers. Therefore, the administrator must be aware of the channels and conduits that make this sharing possible, especially average level managers - effective agents who revitalize these flows. In this sense, it is interesting to study, as an ingenious example, groups such as "practice communities". The authors, always linking the knowledge flow to the role of individuals and groups, widen the understanding of the administrator by proposing diagrams in which the review of knowledge and theories is visualized.

Valuable reminders, such as assuring the connections between the strategy and the objectives, as well as the perseverance in achieving them, by linking short-, medium- and long-term actions, besides pondering on the motivational inflections caused by changes, are useful to improve the performance of management. It is opportune to mention the important and already mentioned distinction, made by Rosenfeld and Servo (1984), between creation and innovation, once Miller and Morris (1998) emphasize points that cover the strategies of how to innovate, the relations between innovations in products, services and processes and the study of the innovation cycle (involving architecture, competence, platform, products and processes, and the primary and secondary innovation stages).

As a link to the following section, administrators should not lose the domain over the aspects external to their function due to the complexity of the task of managing the organization's internal elements, whether they are individuals, groups or the functions they perform or that interconnect and relate them.

3 INNOVATING MARKETS

A third perspective of analysis, besides the first one - which deals with the theme based on the individual creativity - and the second one - which emphasizes what can be called the internal aspects of innovation management - has its focus on market structures. An initial theoretical point of this approach can be identified in Schumpeter (1982, p. 48), who considers five forms of innovation, and among them the "carrying out of a new organization of any industry". Nevertheless, the analysis that gives a sequence to the text is based on Porter (1986, 1992) and Hamel and Prahalad (1995).

Porter (1992), stresses the value of singularity, presents several ways to achieve it and warns against the costs and risks of being "the first one to move". In one of his most known works, Porter (1986, p. 51) identifies three generic competitive strategies directed to: (1) "overall cost leadership"; (2) "differentiation"; and (3) "focus". When he approaches them, the role of innovation is highlighted.

In Brazil, certainly because Competing for the Future is in its 19th edition, Hamel and Prahalad (1995) are among the most known authors to combine strategy with innovation. Once the organization's essential competencies are identified, the authors affirm that: "to be a leader, a company needs to assume the process of sector transformation (HAMEL and PRAHALAD, 1995, p. 22), by changing (1) the rules that define the relations between the acting economic agents in an existing sector, (2) redefining the borders between sectors, or (3) creating entirely new sectors. The authors' premise is that an enterprise can only control its own destiny if it learns how to control the destiny of its sector, hence the need to imagine, with originality, the possible future (for the sector). The pioneers tend to be favored, once they will be the natural interlocutors with normative entities and therefore will influence the design of the initial regulation in the sector, and will have the asymmetry of information in their favor.

But which are the generic strategies to transform and innovate markets? Among others, the authors state that it is the "marriage of core competence and functionality that points a firm towards unexplored competitive space" (HAMEL and PRAHALAD, 1995, p. 101). Later on, they point out that another way to escape orthodoxy is to challenge the presuppositions of the sector on the price/performance relation. Although the originality of the following observations cannot be attributed to Hamel and Prahalad (1995), the authors also mention other forms of restructuring, innovating the markets: (1) where commoditization prevails, there is an opportunity of differentiation that, in the limit, may reach personalization; (2) on the other hand, in exclusive product markets, with a restricted access to a segment of consumers, the opportunity lies in its massification. Finally, Hamel and Prahalad (1995, p. 148), by affirming that "the initial positions in terms of resources are a very weak form of predicting the future of leadership in the sector", point out that the power of an organization is less dependent on its initial resources than on its ability to make them more dynamic; on the other hand, they implicitly acknowledge the importance of creativity and innovation.

A more recent approach, is the one developed by Christensen and Raynor (2003).

These authors resemble those previously mentioned with regard to the importance of having a vision and prediction of the future; however, they distinguish themselves when they conceptualize the sustaining and, particularly, the disruptive innovations. Sustaining innovations are those that result in products with better performance, for which higher prices may be demanded from more demanding customers, resulting, as a consequence, in higher margins - this is the case of innovations promoted by companies already established in the sector. Furthermore, they note that the customer's ability in dealing with technologies is represented by a normal curve; therefore, there are always those who underuse its potential, representing a natural group to be explored by offering innovations identified as improvements. On the other hand, going against the sense, disruptive innovations correspond to the opportunity, as well as to the challenge, of producing and selling simpler products, even admitting the sacrifice of a performance index, without jeopardizing what is thought to be essential, i.e., the value from the customer's perspective. And more: disruptive innovations not only attract customers who until then did not take part in the market, but may also attract customers from similar markets.

Due to the new productive matrix (new supply chain, distribution, marketing mix, etc.), enterprises entering the market based on a disruptive innovation tend to overcome the current competitors in the market. This occurs because, at a first moment, established companies even ignore the threat of new companies and, then, when they intend to try a reaction, they realize that their ability of response is limited, due to their structural rigidity in terms of fixed costs, contracts, etc., and for being focused on sustaining innovations. Finally, Christensen and Raynor (2003), as other authors, warn against the necessity of having the strategic modeling anticipate the application of any management practice (in this case, Innovation Management), since the innovative ideas, for themselves, are naturally not sustaining or disruptive. Hence, to help managers verify the extension of the disruptive effect of ideas, the authors suggest some tests to find answers for some quite simple questions: the matter is not knowing how the customer will behave today, but who is, how will it be and which are the needs of tomorrow's customer?

To conclude, the expression "conceptual innovation" has been every time more frequent in the literature on Innovation Management. Roughly speaking, it is another species that, along with innovations in services, products, processes, etc., integrate the gender Innovation. Conceptual innovations often combine several types of innovations. One cannot say they are recent, but they appear in the form of waves and evolve, as well as disappear, according to fashion, and so they are identified as being marketing strategies (sometimes opportunities). The proof is that there are watches that should more appropriately be seen as jewelry, or houses that are, in fact, country clubs or, in some cases, resemble bunkers, above all due to the highlight given by advertising pieces to the aspects of security (towers, armed guard, surveillance circuits, night watch, etc.), which are offered by such buildings.

FINAL CONSIDERATIONS

Since they are evident, we believe it is not necessary to gather the arguments that show the complementarity between the three focuses of study, research and practice of Innovation Management. It can even be said that success, i.e., the acknowledgement of an enterprise as being innovative, will depend on the managerial ability in order to articulate the three dimensions, as well as knowing how to transform the results of studies and analyses into corporative practices. At the end, successful organizations will have internally learned how to change, at medium and long term, the process that gave origin to an innovative product in organizational culture, thus institutionalizing the innovation as an everyday practice of the enterprise. Moreover, they will have externally learned how to transfer the innovative aspect that identifies a product (or service) for a corporative brand that, for the consumers' imagination, is also identified with the idea of innovation. Both objectives can only be achieved by means of consistent and long-term researches and practices, because this is the only way cultures and brands can be created.

Finally, a warning against the limitations of this text: the theme of innovation was presented only from the corporative perspective. Nevertheless, the importance of innovation in the public sector is unquestionable; there, innovative practices are often the only alternatives to the formulation and implementation of public policies, as pointed out by Osborne and Gaebler (1998) and by Pinheiro (2000). The determining factor for such limitation is the lack of space for an article of this nature, and so the theme should be developed in another opportunity. However, we leave the challenge for the reader to, using the proper adjustments, rethink the problem bearing in mind the characteristics that make the public sector singular.

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