The innovation process in the organizational context:
an analysis of helping and hindering factors

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ABSTRACT

This article investigates the phenomenon of innovation in the organizational context, considering its multifaceted and multidimensional nature, with the objective of identifying factors that facilitate or hinder the process of implementing new ideas and practices. We performed an exploratory qualitative case study of three Brazilian organizations. The results obtained by means of semi-structured interviews enabled categorization of the innovation processes in the organizations studied. We identified ten factors that facilitate and twelve factors that hinder innovation. The interrelationships of these factors are different in each organization. The conclusion is that innovation is a complex and dynamic process, characterized by collective interactions and a degree of uncertainty, so that it may or may not succeed due to factors that help or hinder it, with those who manage the innovation process playing a key role.

Keywords: Innovation process; management of innovation; organizational context.

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1 INTRODUCTION

Because of the speed with which new products, processes and services arise, organizations must be able to generate and implement new management practices, structures and tools to adapt to new situations or anticipate changes in the external environment. In this sense, the capacity to innovate, as an organizational attribute, is crucial for the success of organizations, and as such is strategic to build lasting advantages in relation to rivals.

For our purposes here, innovation refers to the process of implementing new ideas and practices in a given social context, which is affected by environmental questions and presumes collective interactions (Marinova & Phillimore, 2003). Innovation is taken by various authors (Carayannis & Gonzalez, 2003; Tidd, Bessant & Pavitt, 1997, 2008) as a key to successful competition in the market. Since innovation is present in various aspects of organizations, its diversity is reflected both in its theoretical conception and application.

In this respect, this study investigates the factors that affect the process by which three Brazilian organizations implement new ideas and practices in the organizational context. We aimed particularly to identify the factors that help and hinder innovation. For this purpose, we opted to carry out a qualitative case study in three organizations of different sizes that operate in distinct segments: a large financial institution; an association representing companies in a particular productive sector; and a small firm in the food segment.

2 THEORETICAL FOUNDATION

Innovation is a word derived from the Latin word *innovare*, which means "to renew, to make something new" (Bessant, 2003, p. 761), or "introduce something new into existence and order of things" (Carayannis & Gonzalez, 2003, p. 115). It was Schumpeter who in 1912 formulated the concept of innovation as creative destruction able to develop new and better productive combinations, with the consequent abandonment of old and obsolete products and practices. In this context, an innovation can be considered a new use of existing possibilities and components (Schumpeter, 1997).

In the organizational context, innovation is usually held to be a central mechanism for renewal in organizations. In the form of development and implementation of new products, new technologies, new production processes and new management methods, innovation exercises a considerable influence on the way organizations are structured and managed (Tidd, Bessant & Pavitt, 1997). In recent decades, with the sharpening of competition among organizations, the advent of innovations has accelerated, and they have become even more

critical to economic and social development (Van de Ven & Engleman, 2004). It is thus necessary to understand the nature of innovation and the way it can be managed in the organizational context.

2.1 NATURE OF INNOVATION

When investigating the nature of innovation in organizations, one should consider that the phenomenon can be understood in two dimensions: individual and social. In the individual dimension, innovation is closely related to the cognitive capacity of people, which according to Shavinina & Seeratan (2003), is the main factor responsible for generating new ideas, i.e., the phenomenon of creativity.

In this form, innovation at the individual level starts with recognizing a problem to be resolved or that needs attention, and the consequent generation of ideas and solutions, either entirely new or adapted from other existing ones. Then the innovative individual seeks support for the new idea, in the sense of building a coalition of sponsors in the social context considered. Finally, the innovative individual completes the idea, producing a prototype or model of the innovation, which can be tested and investigated by experimentation, for diffusion, mass production or institutionalization (Scott & Bruce, 1994).

In the social dimension, in turn, innovation involves: the introduction of new processes, products and services in the social context in question; their acceptance by the individuals composing that social context; the recognition of the useful character of the novelties; and initiatives to manage their implementation. According to Shavinina & Seeratan (2003), it is in the social dimension that new ideas and practices are adopted (or not) by the group of individuals involved.

In terms of the social dimension, innovation is closely related to the interaction of the market, technology and organization (Tidd, Bessant & Pavitt, 1997), so that a relevant question refers to whether or not it can be properly managed. Hence, the multidimensional character of innovation, as well as its interaction with various social factors and actors, converges to an integrative conception of the phenomenon appropriate to the comprehension of its dynamic nature: innovation is taken to be a process, i.e., is conceived as a means with multiple ends rather than an end in itself (Totterdell et al., 2002).

In this respect, innovation can be seen as a process instead of simply an event, and for this it requires management. Various studies (Kanter, 1984; Damanpour, 1991; Amabile, 1996; Van de Ven et al., 1999; Totterdell et al., 2002; Shavinina & Seeratan, 2003;

Carayannis & Gonzalez, 2003; Van de Ven & Engleman, 2004; Armbruster et al., 2008; Birkinshaw & Hamel; Mol, 2008; Tidd, Bessant & Pavitt, 1997, 2008; Damanpour & Aravind, 2011) have identified the phenomenon of innovation as a process within organizations.

Innovation can thus be characterized as a process that involves organizational learning, with a certain degree of uncertainty and inherent potential for change, based on individual, technological and cultural factors, requiring the solution of problems during its implementation (Tidd, Bessant & Pavitt, 1997).

Notwithstanding the considerable effort undertaken to characterize innovation, the phenomenon "(...) is still covered under a veil of mystery, intuition and intelligent decisions in situations of risk, uncertainty and lack of information" (Marinova & Phillimore, 2003, p. 48). As a result of the multidimensional and multifaceted nature that characterizes innovation (Shavinina & Seeratan, 2003) and the multiplicity of socioeconomic changes introduced by innovation (Tidd, Bessant & Pavitt, 1997), studies of this phenomenon have been carried out by specialists in various disciplines (Shavinina & Seeratan, 2003), mainly by researchers in the fields of economics, sociology and organizational psychology.

In light of the various approaches to the study of innovation, Dougherty (2004) points out the consequences in terms of imprecision of its concept, which is reflected in its application. Therefore, it is worthwhile to discuss some concepts of innovation contained in the literature reviewed.

2.2 CONCEPTS OF INNOVATION

According to Kanter (1984), innovation is a process that starts with the generation of ideas, in which variations can be produced by external or internal agents, followed by a phase of implementation, spurred by a necessary coalition to sponsor the idea, develop tests and prototypes and materialize production of the new idea in the form of a product or service. In this way, innovation involves, besides the creativity of individuals, questions such as the organizational structure, power and its use, intra and extra-organizational communication, external economic conditions, among other situational factors that can affect innovation over the long run, as a dynamic process in continuous evolution.

As argued by Van de Ven & Engleman (2004, p. 51), "innovation is defined as the development and implementation of new ideas by people who over time engage in transactions with others within an institutional order." Therefore, an innovation is a new idea

that can be a recombination of old ideas, a scheme that defies the current order, or a unique formula or approach perceived as new by the individuals involved.

The importance can thus be seen of the perception of innovation by the individual or the unit that adopts it. Rogers (1983) characterizes innovation as an idea or practice adopted that is perceived as new by an individual or a relevant unit that adopts it. This does not necessarily mean the idea is totally new; indeed, it may have existed for a long time, until this individual becomes aware of the idea as a potential solution for a particular problem. An idea perceived as new in a determined social context is considered to be an 'innovation', even if others may perceive it as an 'imitation' of something already existing (Van de Ven & Engleman, 2004).

Van de Ven et al. (1999) describe innovation as a journey that organizations undertake every time they develop new or modify their existing products, services and processes, or implement new technologies or administrative improvements. Whatever its extent, the journey is "an exploration into the unknown process by which novelty emerges (...) characterized as inherently uncertain and dynamic" (Van de Ven et al., 1999, p. 7). In a more recent approach to innovation, Van de Ven has examined the theme of innovation in the institutional setting, such as in the study by Hargrave & Van de Ven (2006, p. 881) regarding the perspectives for institutional change, calling attention to specific dimensions – such as conflicts and power –in processes of change associated with innovation.

In turn, Damanpour (1991) characterizes innovation in the organizational setting as the implementation of new ideas that require consensus around the value of the idea and support so that the necessary measures will be taken for implementation. Such consensus in favor of innovation enables innovation to be translated into institutionalized action over time, becoming an organizational routine. The establishment these common goals and the adoption of these measures involve legitimization and support for innovation by the power structure (Damanpour, 1991).

On investigating the nature and causes of innovation, that is, "the invention and implementation of a management practice, process, structure, or technique that is new to the state of the art and is intended to further organizational goals," Birkinshaw, Hamel & Mol (2008, p. 831) stress that better understanding of the origins of successful innovation, in the organizational context, appears to be a requirement for improving productivity and the impacts of studies on the management of organizations.

As argued by Tidd, Bessant & Pavitt (1997), since innovations do not always succeed, individuals and organizations need to learn ways to respond to and manage them so as to improve the chances of success. Thus, influences exercised can be manipulated, or managed, so as to affect the results (Tidd, Bessant & Pavitt, 1997). Below we briefly examine the management of innovation and the way the success of an innovation can be influenced by factors that help or hinder them in the organizational context.

2.3 MANAGEMENT OF INNOVATION

Bessant (2003) argues that the initiative to manage innovation has become one of the essential strategic tasks for organizations of all types and sizes, in all sectors. Management of innovation, in this sense, corresponds to managerial, technical and commercial activities aimed at successful implementation of new ideas and practices, in the form of new products and processes that bring competitive advantages and allow organizations of endure and grow (Bessant, 2003).

Armbruster et al. (2008), in turn, stress the importance of measuring and monitoring the adoption and performance of innovation in organizations, considering the dynamics that permeate the phenomenon in terms of implementation of new and concrete organizational elements.

According to Damanpour & Schneider (2006, p. 215), organizations need to innovate to be effective, or even to endure in their environment, so that investigations in this respect can "guide efforts for innovation management in the organization". In a subsequent study, Damanpour & Schneider (2008) find that both the characteristics of innovation itself and of leaders can influence the adoption of innovations.

Mention should also be made of the investigation of Chen, Damanpour & Reilly (2010), who sought to replicate the meta-analytic approach developed by Damanpour (1991) for the purpose of identifying antecedents to the pace of developing new products. Damanpour & Aravind (2011), in a recent study, seek to establish a conceptual framework for innovation in organizations, stressing that understanding of innovation in the organizational context can contribute to a theory about the process of innovation and its results in organizations.

The task of managing innovation is particularly related to the establishment of organizational routines and the investigation of the environmental factors that affect the success of the innovation process (Tidd, Bessant & Pavitt, 1997). The identification of those factors considers the diversity of interactions among a broad range of organizational aspects,

such as internal and external communications, financial situation, size, structure, human resources, research and development effort, technical capacitates and market conditions (Souitaris, 2003).

According to Tidd, Bessant & Pavitt (1997), innovations are developed and managed in different ways in each organization. Souitaris (2003) agrees with that argument, affirming there is no one best way in absolute terms to manage innovation, since this depends on the specific circumstances of each organization. In this respect, establishing a complete list of the factors of the organizational environment that can affect innovation would be unfeasible. However, some factors have been indicated in the literature as possibly facilitating or hampering this process. Hence it is relevant to investigate factors that can help or hinder the innovation process, to contribute to the adoption of effective actions for its management.

According to Hadjimanolis (2003, p. 564), "barriers have, therefore, a dynamic nature due to the characteristics of the innovation process itself." The same can be said for facilitating factors, which can thus turn into barriers and vice versa as the organization evolves or external conditions change. There are even barriers that emerge due to the lack of facilitators.

Based on the above discussion, the static conception of factors that help and hinder innovation should be expanded toward a more fluid analysis of its evolution and the interactions during the process. These factors can be dynamic in nature, which makes it harder to measure and understand their impacts precisely. Facilitating factors can catalyze the implementation of new ideas and practices while hindering factors can deter innovation completely, delay it or raise its costs. Despite these negative effects of hindrances to innovation on the management and performance of the process, positive effects can also be found, such as greater sensitivity to the detection of barriers and the process of learning for application to future innovation.

Regarding the classification of helping and hindering factors, there are various typologies. One of the most common classifications involves distinguishing between the factors related to internal and external aspects of the organization. The factors related to external aspects are exogenous and can be either helping factors or hindering factors linked to the following aspects: market, government; technology; defense of intellectual property; corporate relations; union relations; relationships with suppliers; and inter-organizational networks (Damanpour, 1991; Carayannis & Gonzalez, 2003; Hadjimanolis, 2003; Souitaris, 2003; Tidd, Bessant & Pavitt, 1997; Armbruster et al., 2008).

Factors related to internal aspects, in turn, are endogenous and can be influenced by the organization. Among the helping factors related to internal aspects are motivation (Amabile, 1996); leadership (Van de Ven & Engleman, 2004; Damanpour & Schneider, 2008; Tidd, Bessant & Pavitt, 1997); risk tolerance (Matthews, 2002); planning and coordination of activities involving many actors (Damanpour, 1991; Van de Ven et al., 1999; Souitaris, 2003); systemic approach to innovation (Tidd, Bessant & Pavitt, 1997); exertion of extraordinary efforts in favor of innovation (Van de Ven et al., 1999); and identification of best practices (Carayannis & Gonzalez, 2003).

Regarding the hindering factors related to internal aspects, mention can be made, among others, of: lack of motivation (Amabile, 1996); shortfall of competencies (Tidd, Bessant & Pavitt, 1997); lack of commitment of senior managers (Van de Ven et al., 1999); lack of tolerance of failures (Van de Ven et al., 1999); lack of training (Matthews, 2002); inadequate flow of communication (Scott & Bruce, 1994); obstruction by certain departments (Hadjimanolis, 2003); lack of inter-functional integration (Totterdell et al., 2002); overly rigid hierarchical structure (Damanpour, 1991; Carayannis & Gonzalez, 2003); internal political jockeying (Hargrave & Van de Ven, 2006); lack of time (Van de Ven et al.; 1999; Tidd, Bessant & Pavitt, 1997); beliefs and values that do not support new ideas (Hadjimanolis, 2003; Tidd, Bessant & Pavitt, 1997); lack of financial resources (Van de Ven et al., 1999; Hadjimanolis, 2003; Tidd, Bessant & Pavitt, 1997); lack of technological resources (Van de Ven et al.; 1999; Tidd, Bessant & Pavitt, 1997); excess risk aversion (Van de Ven et al., 1999); prioritization of short-term actions (Hadjimanolis, 2003); institutional inertia (Damanpour, 1991); mistrust of innovation (Scott & Bruce, 2004); and fear of the unknown (Alencar, 1997).

Based on identification of the organizational aspects that can interfere favorably or unfavorably in the innovation process, we sought to investigate in what way these different factors affect the implementation of new ideas and practices. In light of the previous studies of the dynamics of the innovation process, we constructed ten categories of helping factors and twelve categories of hindering factors of innovation, as identified below:

- **Support of senior managers** – Actions and strategies developed by senior managers to support the implementation of new ideas and practices, such as definition of clear goals regarding implementation, valorization of employee initiative, establishment of innovation as an organizational goal, willingness to supply orientations and resolve

conflicts resulting from innovation, explicit demonstrations of willingness to innovate, and demonstrations of confidence in the success of innovation.

- **Support of mid-level managers** – Actions of mid-level managers to foster innovation, in the sense of promoting the process of implementation by encouraging acceptance by employees and serving as a bridge between the ideas of senior managers and the end activities, by means of strategies and actions to convince people of the value of innovation, establishment of relationships of trust, stimulation of dialog and articulation among employees.

- **Support of working groups and employees** – Involvement, receptivity, motivation, cooperation and participation of working groups and employees in general regarding the innovation process, expressed by means of acceptance of new ideas and practices implemented, adoption of new ways of performing tasks, interest in participating and cooperating with implementation steps, dedication of employees involved, incentive to new ideas, expression of constructive criticism and realization of extraordinary efforts in favor of innovation.

- **Diversity of competencies of the group responsible for implementation** – Diversity of knowledge, skills and attitudes required for innovation by the group responsible for implementing change, characterized by distinct educational backgrounds and experiences, providing synergy, coordination and articulation of forces, approach to innovation from multiple perspectives, flexibility to make adjustments and creative resolution of problems during the process, and enterprising action based on information from various fields of knowledge.

- **Disclosure of information regarding innovation** – Development and use of effective communication channels for disclosure of information about the implementation of new ideas and practices in the organizational context, so as to provide employees with clear and updated information on innovation and give transparency and visibility to the process of implementation, to enable employees to anticipate the steps so that the transition occurs without sudden changes, stimulating receptivity and participation.

- **Strategies for incorporation of innovation in organizational routines** – Development of actions, strategies and mechanisms that foster the incorporation of new ideas and practices in the organizational routine, to facilitate the transition period

resulting from the innovation process, involving stimulating connections between new organization structures resulting from innovation and the existing one, solving problems of adaptation to innovation, resolving doubts, supplying guidance, and providing training and promoting learning about new practices.

• **Participation of outside consultants and new employees** – Participation in the implementation process of outside professionals to fill needs for human resources and competencies that cannot be met internally, as well as to provide greater neutrality to decisions and evaluation of tasks related to innovation, by recruiting new professionals and contracting outside consultants and establishing partnerships with various persons and organizations.

• **Planning of actions necessary to implementation** – Detailed planning of actions that will be carried out during the implementation of new ideas and practices as well as development of tests and prototypes related to innovation, to effectively manage the process and make any necessary adjustments, involving gathering information, making diagnoses, identifying best practices, allocating necessary resources and preparing pilot projects and experiments to text new ideas and practices.

• **Recognition of the value and need for innovation** – Recognition by managers and employees of the need to implement new ideas and practices, to elicit support and overcome resistance, based on the idea that the introduction can produce fundamental gains to reach the objectives set, as well as enable the organization to take maximum advantage of opportunities and minimize or avoid the impact of threats from the external environment.

• **Systemic perspective of innovation and interactions of organizational units** – Adoption of a systemic perspective of the innovation process in the organizational context, favoring the development of an overall conception of the interactions of organizational units, to assure that the process of implementing new ideas and practices establishes cohesive strategies, optimizes resources, standardizes procedures, avoids duplication of efforts, strengthens a sense of identity among working groups, and promotes joint action of organizational units in favor of innovation.

In turn, the twelve categories of factors that hinder innovation are the following:

• **Skepticism about innovation** – Feeling of disbelief regarding innovation among managers, employees and partners, as a result of doubts over the success of innovation

and contradictions between the formal organization and the management practices actually applied during the long implementation process, which can culminate in lack of involvement, lack of interest in new ideas and practices implemented and a perception of innovation permeated with suspicions and skepticism regarding innovation.

• **Difficulties of inter-functional integration** – Obstacles to the joint actions of the organizational units, which therefore operate without integration, denoting the existence of distinct motivations and objectives within the organization, impairing cooperation between departments, communication between employees and groups, adoption of standardized procedure and organizational effectiveness.

• **Excess of activities and lack of time** – Insufficient time to perform the volume of tasks necessary for or resulting from the implementation of new ideas and practices in the organizational context, because of the establishment of short target dates, which can variously culminate in difficulties of meeting timetables, delays in implementation, lower quality of work, failures in planning the process, lack of time for training and experimentation of new ideas and practices and employees who feel pressured.

• **Lack of support from senior managers** – Actions, attitudes and behaviors by senior managers that denote disagreement, disapproval or omission regarding the implementation of new ideas and practices, revealed by lack of involvement in and commitment to innovation, unwillingness to resolve conflicts resulting from innovation and reluctance to invest and allocate the necessary resources for implementation.

• **Limitations in terms of human resources** – Shortage of knowledge, skills and attitudes required for innovation by employees and partners, impairing the implementation of new ideas and practices, in relation to the following dimensions: insufficient number of employees, small diversity of educational background and training, difficulties in working in teams, inadequate level of individual and group experience, lack of qualification of managers in management practices and lack of involvement and qualification of outsourced service providers.

• **Limitations in terms of financial resources** – Difficulties to access, obtain and effectively use the financial resources recognized as necessary for innovation, in terms

of insufficient investment in the steps to implement new ideas and practices, involving shortage or lack of internal funds, investments and creditworthiness, working capital or equity capitalization.

- **Limitations in terms of technological resources** – Difficulties to access, obtain and effectively use the technological resources recognized as necessary for innovation, in terms of insufficient investment in technical structures and instruments required to implement new ideas and practices, involving shortage or lack of information technology tools, technical equipment, data processing and storage platforms and computerized systems.

- **Obstacles from the external environment** – Obstacles resulting from aspects outside the organization, exogenous and uncontrollable by managers and employees, causing unfavorable interferences in implementing new ideas and practices, such as union protests, regulatory restrictions, adverse economic situations, predatory competition and social convulsions.

- **Prioritization of end and/or short-term activities** – Prioritization of end activities related to the organization's business and/or short-term actions as opposed to innovations related to ancillary activities or actions that usually only produce results over the medium or long terms, which can cause failure to invest and allocate the necessary resources for implementation of new ideas and practices, due to prioritization of routine activities and/or those that present more immediate returns.

- **Fear of the consequences of innovation** – Fear of the innovation process among employees and/or partners, since implementation of new ideas and practices can cause a feeling of insecurity, fear of impending budget cuts and layoffs, changes in organizational routines, possibility of failure of new ideas and practices, fear of being held responsible for possible failures or fear that investment of the necessary resources for innovation will impair the organization's finances.

- **Resistance to innovation because of loss of power** – Actions, attitudes and behaviors that oppose innovation by employees, because of individual and group interests contrary to the implementation of new ideas and practices, due to the threat of changes in formal and informal power relationships among organizational actors, changes in hierarchical structures, reduction of prestige and political power and loss of decision-making power.

• **Resistance to innovation due to a sense of accommodation** – Actions, attitudes and behaviors that oppose innovation by employees, partners and the public involved in its introduction, because of beliefs and values that do not support new ideas, a cultural context of reluctance to adopt new ideas, rigid organizational structures, reluctance to abandon the current ways seen as adequate, strong risk aversion and the option to maintain the status quo.

Having characterized the categories of factors that facilitate and hinder innovation, below we describe the type of study and methodological procedures used to collect the data in the organizations surveyed, as well as analyze the data regarding these factors.

3 METHODOLOGY

We decided to include organizations with different natures, involved in diverse economic segments. The chose three organizations: 1) a large financial institution; 2) a national trade association representing companies in a given productive sector; and 3) a company in the food sector with local scope.

This study can be classified as a multiple case study, qualitative and exploratory in nature, investigating the three organizations chosen. We first characterized the organizations by analyzing printed materials and then conducted individual interviews with people involved in the processes of implementing innovations, to identify and characterize the factors that influence the success of innovation and the efforts for its management in the organizational context.

According to Gaskell (2002, pp. 73-74), qualitative research "involves interaction and exchange of ideas and meanings, so that various realities and perceptions are developed and explored, for the purpose of investigating the spectrum of opinions and different representations on the subject of interest." In conceptually outlining the case study technique, Gondim et al. (2005) argue that this demarcation:

> (...) hinges on two points. The first is what the case is. What is at play is the tension between its singularity (specificity and uniqueness) and its representativeness (what there is in common with similar cases). The second involves the reasons that justify a case study. On this point, it is necessary to consider the possibilities of theoretical construction from the approach associated with the use of multiple sources to describe the case and its context (p. 52).

Case studies are usually employed to understand complex and multidimensional phenomena, such as the innovation process, by investigating questions linked to the relations between social processes and the environmental context. And as indicated by Moreira &

Queiroz (2007), this type of study is usually adopted when investigating innovation in organizations.

To preserve the identity of the interviewees, we opted to denote the three organizations as follows: the financial institution as organization α; the trade association as organization β; and the food company as organization γ. These organizations act in different sectors and have distinct natures. Organization α is a publicly traded corporation controlled by the government. In turn, organization β is a nonprofit association with government sponsorship that represents the interests of a certain productive sector. Finally, organization γ is a private company that produces and sells organic foods.

The scope of activity of the three organizations is also different. Organization α has branches throughout the country, in places ranging from large cities to small towns, and also has overseas branches. Organization β is also nationwide in scope, with offices in all states, mainly in large urban centers. Finally, organization γ is a mid-sized company that only operates in the Federal District, location of the nation's capital, Brasília.

We conducted 18 individual interviews with people who work in areas characterized by the introduction of new processes, products or services in these organizations. In organization α, we interviewed seven people involved with the formulation and implementation of a new performance management model. In turn, we interviewed nine people in organization β, all of them part of a shared services unit directly related to innovation in the organizational context considered. Finally, in organization γ we interviewed two individuals who from the start had been involved in establishing a new business unit.

Due to the scope of this study, we decided to conduct semi-structured interviews, using a script of questions and formulation of nine questions regarding the themes of interest, according to the evolution of the interview. In general lines, during the interviews we asked the respondents to describe the organizational initiative identified as innovative, by tracing its origins and evolution and characterizing, according to their perceptions, the helping and hindering factors to innovation in the organizational context.

To analyze the data, we used the content analysis technique, with the creation of categories that express the factors that facilitate or hinder the innovation process in each of the cases, to enable comparison between them. To create the categories we first skim read the transcription of the interviews, listing some categories, and then read the texts in detail to refine the categories. We tried to contemplate rules for that analysis as recommended by

Bardin (2004), so as to include each element in only one category (mutual exclusion); to include a single dimension in each category (homogeneity); to link each category to the objectives of study (pertinence); to assure clarity in the delimitation of each category (objectivity); and to assure that the results would aggregate new information (productivity). For each category we described an operational definition to delineated it and allow characterizing the helping and hindering factors of the innovation process.

4 RESULTS AND DISCUSSION

We identified and characterized innovations in each of the three cases studied. The new practice implemented in organization α is a new performance management model in all units of the organization. In organization β, the innovation investigated refers to the process of unifying the human resources area, shared by the central units making up the organization. In organization γ, in turn, the innovation involves the development of a new business unit in the Federal District, to offer meals made from organic foods.

Chart 1 shows the factors facilitating innovation found to be present in each of the organizations studied.

Factors helping innovation	Organization α	Organization β	Organization γ
Support of senior managers	√	√	
Support of mid-level managers	√	√	
Support of working groups and employees	√	√	
Diversity of competencies of the group responsible for implementation	√	√	√
Disclosure of information regarding innovation	√	√	
Strategies for incorporation of innovation in organizational routines	√	√	
Participation of outside consultants and new employees	√	√	√
Planning of actions necessary to implementation	√	√	√
Recognition of the value and need for innovation	√	√	√
Systemic perspective of innovation and interactions of organizational units		√	

Chart 1 - Helping factors in organizations α, β and γ

Specifically with respect to organization α, among the ten categories of helping factors identified in this study, nine were present in its innovation process, which facilitated the implementation of the new performance management model in all the organization's units.

"Planning of actions necessary to implementation" and "diversity of competencies of the group responsible for implementation" in particular exerted a strong influence in the process, directing efforts and finding solutions.

In turn, all ten of the factors facilitating innovation were present in organization β in the process of implementing the new human relations area. Of these, "planning of actions necessary to implementation", "systemic perspective of innovation and interactions of organizational units" and "strategies for incorporation of innovation in organizational routines" were particularly relevant in promoting inter-functional integration and development of new staff management tools. The new human resources area has already been producing results in terms of improved organizational effectiveness.

Finally, for organization γ, four helping factors were present in its innovation process, so that "diversity of competencies of the group responsible for implementation", "participation of outside consultants and new employees", "planning of actions necessary to implementation" and "recognition of the value and need for innovation" all contributed relevantly to the installation of a kiosk to sell meals made from natural foods in a large commercial center.

Among the helping factors, four categories were identified in all three organizations. In relation to "diversity of competencies of the group responsible for implementation", that category was mentioned by some respondents as essential to make the adjustments during the process of introducing innovations, allowing a range of individual competencies to be brought to bear to overcome problems in implementation. The relevance of this factor has been recognized by Amabile (1996), Van de Ven et al. (1999), Carayannis & Gonzalez (2003) and Tidd, Bessant & Pavitt (1997).

The category "participation of outside consultants and new employees" is a way to acquire resources and competencies necessary to the implementation of innovation when these are lacking in house. The importance of this possibility has been stressed by Carayannis & Gonzalez (2003) and Damanpour & Schneider (2008).

The presence of the category "planning of actions necessary to implementation" denotes concern in formulating detailed plans and strategies to manage the innovation process, to increase the chance of successful implementation. The relevance of this factor has also been indicated by Kanter (1984), Damanpour (1991), Van de Ven et al. (1999), Totterdell et al.

(2002), Matthews (2002), Carayannis & Gonzales (2003), Tidd, Bessant & Pavitt (1997) and Birkinshaw, Hamel & Mol (2008).

The last helping factor category identified in the three organizations was "recognition of the value and need for innovation". Since this denotes the existence of threats or unfavorable situations that can affect the organization if innovation is not introduced, it acts to stimulate the implementation of new ideas and practices. That recognition has also been mentioned by Van de Ven et al. (1999), Van de Ven & Engleman (2004) and Tidd, Bessant & Pavitt (1997).

The number of helping factors in organization γ was much lower than in the other two organizations investigated. To a certain extent this may have been because we only interviewed two people, as well as the size and nature of this organization.

Mention should be made that "support of senior managers", whose relevance has been indicated by Kanter (1984), Van de Ven et al. (1999), Tidd, Bessant & Pavitt (1997), Damanpour & Schneider (2008) and Birkinshaw, Hamel & Mol (2008), was a helping factor perceived in organization α and organization β, while in organization γ the perception was that the lack of such support was a factor hampering innovation. The list of hindering factors identified in each of the organizations is shown in Chart 2.

Factors hindering innovation	Organization α	Organization β	Organization γ
Skepticism about innovation	√	√	√
Difficulties of inter-functional integration	√	√	√
Excess of activities and lack of time	√	√	
Lack of support from senior managers			√
Limitations in terms of human resources	√	√	√
Limitations in terms of financial resources			√
Limitations in terms of technological resources	√		
Obstacles from the external environment	√		
Prioritization of end and/or short-term activities	√		√
Fear of the consequences of innovation	√	√	√
Resistance to innovation because of loss of power	√	√	
Resistance to innovation due to a sense of accommodation	√	√	√

Chart 2. Hindering factors in organizations α, β and γ

In terms of hindering factors, five categories were identified in all three organizations. The category "skepticism about innovation" denotes mistrust of and disbelief in the value of

implementing new ideas. In turn, the category "difficulties of inter-functional integration" refers to obstacles to cooperation, communication and joint action among working groups and employees, as observed by Amabile (1996), Matthews (2002), Hadjimanolis (2003), Carayannis & Gonzalez (2003) and Tidd, Bessant & Pavitt (1997).

The category "limitations in terms of human resources" relates to difficulties regarding the number of staff members as well as the lack of knowledge, skills and positive attitudes of the employees involved in the process. In turn, the category "fear of the consequences of innovation" involves the feeling of insecurity and instability unleashed by the innovation process due to the fear of the unknown (Alencar, 1997), the fear of failure in carrying out new practices (Van de Ven et al., 1999) and the fear that innovation can be harmful to the other activities of the organization (Carayannis & Gonzalez, 2003).

Finally, the last hindering factors category common to the three organizations, "resistance to innovation due to a sense of accommodation", involves resistance by employees not only because of accommodation itself (Alencar, 1997; Carayannis & Gonzalez, 2003), but also due to beliefs and values that do not support new ideas (Hadjimanolis, 2003) and preference to maintain the status quo (Amabile, 1996).

Specifically related to the factors hindering innovation in organization α, ten of the twelve were identified, so that implementation of the new performance management model faced some obstacles, among them: difficulties in developing the performance assessment system in the web environment, involving interactions with the technology area, formed mainly by outsourced staff with priority on systems to serve customers; skepticism of some employees regarding the success or value of the innovation; delays in the timetable due to a strike during the implementation period; and an excess of activities versus shortage of time to materialize the changes.

In organization β we identified seven of the twelve hindering factors to innovation, which according to the interviewees were present during implementation of the new human resources area. Among these, the standouts were: resistance to innovation by employees and working groups resulting from loss of power and attempts to preserve the status quo; feeling of foreboding, which permeated the implementation due to the impending budget cuts and layoffs implied by the innovation; and excess of activities and shortage of time at the moment the new working group was formed, because its members were not yet prepared to meet the needs of the member entities.

Finally, in relation to organization γ, eight of the twelve hindering factors were identified, among which the following deserve mention: lack of support by senior managers; fear that the new business unit would harm the existing business interests; difficulties of inter-functional integration; resistance due to a sense of accommodation; and skepticism regarding the limited allocation of human and financial resources to the innovation process.

Consideration should go to the interaction of the factors that affect the innovation process, either strengthening or weakening it. In this respect there must be understanding of the interrelations between the factors helping and hindering innovation, since the phenomenon is a dynamic process. In other words, the helping factors can interact with each other and increase the stimulus to innovation. Furthermore, a helping factor can be marshaled to counteract a hindering factor, just as a hindering factor can arise in reaction to a facilitating factor. The variegated interplay of these factors makes the process of implementing new ideas and practices within organizations complex and dynamic.

5 FINAL CONSIDERATIONS

The objective of this study was to identify the factors that can help and hinder innovation in the organizational context. The results evidence a set of factors that facilitate innovation and another set that represent hurdles. These are interrelated, reinforcing or counteracting each other as a result of the inherently dynamic nature of innovation.

The organizations studied showed different characteristics regarding the influence of distinct helping and hindering factors, according to the area of activity, size, structure, purpose and other aspects specific to each organization. We thus suggest that the efforts devoted to developing strategies to manage the implementation of new ideas and practices consider the specific characteristics of each organization.

The helping factors of the innovation process evidence that people with different functions in the organization (senior managers, mid-level managers and other staff members) are all important actors for the success of the process. Being able to count on people with different experiences, knowledge and skills is fundamental for the emergence of innovations. Attention should also be paid so that all the information on innovation is disclosed to all people as a way to foster innovation, and for the process to be concluded successfully, strategies should be formulated so that the fruit of innovations can be inserted in the organizational routines. The organization should be perceived as an integrated whole in which each unit is important to the results of innovation. It is also important to bring in outside

consultants or hire new employees any time the organization does not have the necessary competencies. Finally, proper planning of the innovation process can contribute to the effectiveness of the results.

Managers should pay attention to the factors that can hinder the innovation process and, any time possible, adopt actions to eliminate or minimize their effects. Hence, they should verify if there are any limitations regarding the human, financial and technological resources necessary to implement the desired innovation. The question of time should also be analyzed, to check if there is any need to revise the work processes or redefine strategies, or other measure to assure sufficient time is available. There is also a need to find ways to reduce the resistance and fear of the new that many people can present, such as, for example, by keeping them informed of the positive consequences of the innovation. Innovation needs to be prioritized and supported by the upper management to be able to overcome barriers in the internal and external environment that can reduce or eliminate the chances of innovating.

This study of the factors helping and hindering innovation is not exhaustive. The formulation of a comprehensive list of such factors would be impractical, since the existence of these factors is linked to the particular context of each organization and involves a complex interplay of aspects that are not always perceived by those involved.

We suggest as future avenues for research longitudinal studies that consider the process of innovation over the implementation period, jointly investigating the creative process, aiming to analyze the phenomenon from a systemic and holistic perspective, and comparative studies of different types of organizations in terms of identification of factors that facilitate and hamper innovation.

All these research efforts will surely result in a better understanding of the complex and dynamic nature of the process of implementing new ideas and practices in the organizational context, so that organizations, by exploring the interrelationships between helping and hindering factors, can trace out more appropriate strategies to manage innovation and thus have greater chances of enduring and growing in an increasingly competitive environment.

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