

- **ÁREA TEMÁTICA: ESTRATÉGIA ORGANIZACIONAL E INOVAÇÃO**

**ON FOSTERING INNOVATION IN ORGANIZATIONS: A SYNTHESIS OF
SUCCESSFUL CASES**

36° ENANGRAD

Abstract

Disruption, like AI, isn't the exception – it's the climate. Thriving through uncertainty requires innovation, a vital practice for achieving long-term entrepreneurial success. Innovation is a big issue. This challenge has generated an intense academic and business debate in search of understanding the factors that lead to innovation. The literature indicates that there are organizational factors needed to promote innovation. Many times, companies invest in these factors to enable innovation, but innovations often do not come to life. Why does this occur? Literature reports indicate that investing in these factors is not enough to get people to innovate. To answer this question, a case study research was conducted to investigate how organizational factors affect innovation initiatives. Research data indicate that the identified factors, like business environment, organizational features (e.g., exploratory strategy), management (e.g., transformational leadership), and complementors, were present in these cases. These factors may be a way to foster innovation. However, results also indicate that the innovator has the main role in the innovation process. It is the innovators who, identifying opportunities, will creatively mobilize company resources and partners to have innovation bloom. To promote innovation, an organization needs to identify and map employees with the strategic mental model that is most suitable to meet the innovation challenges and risks. Secondly, put innovators into a team under a transformational leadership manager, the most appropriate leadership style for enhancing and supporting innovation and its risks, and in an organization aligned with a prospector strategy.

Keywords: Fostering Innovation; Innovation Challenge and Risk; Mental Models; Willingness to Innovate.

36° ENANGRAD

1. Introduction

Innovation is considered a mainspring for the survival, growth, and prosperity of economies and organizations (Drucker, 2008). In these turbulent times of high expectations to leverage enterprise growth, innovation may be the most propitious strategy to increase competitiveness and drive business growth. The emphasis on innovation (Frangos, 2010) has led institutions, government, and business enterprises to seek a better understanding of their process to subsidize programs and incentives at all levels of the economy. In this sense, this work aimed to conduct, through in-depth interviews, a comparative analysis of high-impact innovation experiences to identify the factors involved in the innovation process and their contributions to the achieved success. Its foundation is that innovation is mandatory for the effectiveness of the economy and organizations in this scenario of 'virulent' transformation (Besson & Mahieu, 2011; Battistella et al., 2012), which is characterized by unpredictable and disruptive changes, like AI (Jansen et al., 2006, Tekic; Füller, 2023).

Research data indicate that the identified factors, like business environment, organizational features, management, and complementors, were present in these cases. These factors may be a way to foster innovation. However, results also indicate that the innovator has the main role in the innovation process. To promote innovation, an organization needs to identify and map employees with the strategic MM that is most suitable to meet the innovation challenges and risks. Secondly, puts those innovators as team members under a transformational leadership manager needed for enhancing and supporting innovation in a prospector strategy organization.

Next, the paper addresses the issue of innovation and the relevant factors involved in its development, the innovator under the mental model proposition. The methodology and the companies involved are presented below. The following section presents and discusses the results. In the latter are the considerations and conclusions.

2. Literature Review

Here is presented the innovation concept, the innovation process, and factors involved in it, and an analysis of the innovator under the mental model (MM) proposition.

2.1. The Innovation and the factors Involved in the process of innovation

Schumpeter (1988), a pioneer in highlighting it in economic theory, stated that product generation and diffusion are a main drive for economic development (OECD, 2004; Lazzari et al., 2014). Innovation means product development or reconfiguration, operational methods, new organizational arrangements, new distribution and marketing channels, new markets, and new sources of supply, and so on (Schumpeter, 1988; OECD, 2004; Anderson & Markides, 2007; Amara et al., 2009; Sturdevant, 2014; Varadarajan, 2018).

The concept of innovation is connected with research, experimentation, flexibility, and risk (Sachdeva, 2013; Keller & Weibler, 2014), and new associations between existing knowledge (Chen et al., 2010). It establishes antagonism between the new offer and the existing one, often replacing it (OECD, 2004), enables competitive strategic positioning (Frangos, 2010; Ireland et al., 2014; Lazzari et al., 2014), and can generate a competitive advantage (OECD, 2004; Viana et al., 2014; Csikszentmihalyi, 2014).

2.2. The Factors Involved in the Innovation Process

Several factors are involved in innovation: culture (Schein, 1997; Scarpin & Machado, 2015), organizational model (Handy, 1994) and its strategic orientation and willingness to innovate (Miles; Snow, 2003; Keller; Weiber, 2014); the availability of time and resources (Ireland, Kuratko, Morris, 2006, Srivastava, Agrawal, 2010, Goodale et al., 2011). It is also worth mentioning the manager's behavior and leadership style of the (Bass, Avolio, 1993; Sawhney et al., 2006; Brazeal et al., 2008; Mom et al., 2009;

Keller & Weiber, 2014), the business environment (Porter, 1998). From the data collected, we can see four categories of factors: business environment, organization, management, and the innovator.

2.2.1. Business Environment

The business environment corresponds to the set of external forces and a network of influences and relationships in which the organization is involved, but outside its control: environmental macro-economic, sociocultural, technological, educational, demographic, and political-legal, and operational environment: customers, suppliers, and competitors (Ireland et al., 2014). They constitute and define the dynamics and intensity of the competition (García-Zamora et al., 2012) and have an impact on a corporation's profitability (Porter, 1998). Its dynamism stems from changes in technology, markets, consumer preferences, and fluctuations in demand and supply (Jansen et al., 2006). The business environment brings uncertainties, surprises, and challenges to organizations, which have to respond to them proactively through strategic changes and innovation (Lin et al., 2012; Varadarajan, 2018).

2.2.2. The Organization

Environmental challenges, threats, and opportunities induce changes in business strategy (Hax & Majluf, 1996), whose success depends on organizational models and systems designed to provide stability and flexibility for the assertive response (Keller & Weibler, 2014; Bressan et al., 2020). To obtain a competitive advantage, the organizational system encompasses some constitutive elements: culture (Schein, 2010), technology, processes, resources, and skills (Pedraza-Rodríguez et al., 2023), and determines the response pattern that, from different perceptions, is relatively consistent and stable, and reflected in the organizational structure, processes, resource allocation, and behaviors. This consistency made it possible to identify the adopted strategy (Table 1) and conjecture about its willingness to innovate (Miles; Snow 2003; Gurkov; Obel, 2012; Valdés et al., 2021).

Table 1. The company's strategies

Defender	Businesses have a narrow product-to-market domain. Their executives are highly specialized in a limited area of operations and do not seek new opportunities outside their domain. As a result of this narrow focus, these companies rarely need to make significant adjustments to their structure, operations, and technology. Instead, they focus on improving the efficiency of current operations.
Prospector	Companies continually seek market opportunities, experiencing responses to emerging environmental trends; They often create changes and uncertainties that competitors must respond to. However, in the face of their strong interest in market and product innovation, they are hardly ever fully efficient.
Analyzer	Companies operate in two types of product-to-market domains, one relatively stable and the other in permanent change. In their most turbulent areas, top executives look closely at the new ideas of their competitors, quickly adopting those that appear most promising.

Source: Adapted from Miles; Snow (2003); Gurkov & Obel (2012); Valdés, et al. (2021)

2.2.3. Management

Management plays a key role in the innovation process. Manager's behaviors and practices can both stimulate or create obstacles to innovation (Alpkan et al., 2010; Lendel; Hittmár; Siantová, 2015). Assertive behavior involves: stimulating and pursuing innovation, providing time, information, resources, and facilities, delegating authority and autonomy, and managing performance and reward.

2.2.4. The search for innovation:

The manager's commitment to innovation impacts employees' motivation and commitment to it (Brazeal et al., 2008; Hornsby et al., 2009). It requires supporting and encouraging people to take innovation risks and protecting them from organizational

pressures from operational results and failure (Kouzes; Posner, 2007; Alpkhan et al., 2010). This way of acting, in line with transformational leadership (Bass; Avolio, 1993), stimulates "out-of-the-box" thinking and a "new" look at problems (Sosik et al., 1997; Keller; Weibler, 2014). The main managerial actions are:

- a. **Provide time, information, resources, and facilities:** It enables people to work on issues of their interest, often beyond the scope of their assignments (Crawhall, 2013) and to invest in creative ideas. Innovation requires access to information, resources, and facilities (2009; Kiron, 2012), especially when outside the manager's authority, which should ensure and facilitate access to them
- b. **Delegate authority and provide autonomy:** The challenge of innovating, to be legitimate, requires the necessary authority and autonomy to act, mobilize resources, and respond for the processes and results. Delegation involves taking risks, but risks are at the heart of business (Gurkov; Obei, 2012). The non-delegation generates dissonance between discourse and practice, denoting the desire for the actual system maintenance, the same old way.
- c. **The performance and reward system management:** The purpose of this system is to get people to work well and willingly. This system requires definition and agreement on goals, the offer of development opportunities, and the capacity to act as "owners of their processes," a necessary condition for feeling free to do the job in their own way, to be creative, and to innovate (Alpkhan et al., 2010).

However, the dynamics of these factors may not be enough. What literature indicates is that making these conditions available means "preparing the land for cultivation", but it is insufficient (Sawhney et al., 2006), because for innovation to occur, it is mandatory that someone, the innovator, in realizing an opportunity (Vaghely & Julien, 2010), show the willingness and courage to take risks and break with the status quo, and innovate.

2.3.5. The innovator

Addressing the innovator issue requires taking into account individual differences. They lead different people, despite a high IQ and educational level, to perceive the same reality from diverse angles and characteristics, demanding different decisions and behaviors (Tieger & Baron-Tieger, 1998; Pearman et al., 2008). These characteristics refer to how one perceives, organizes, and uses the perceived - their MM - from which their self-confidence and willingness to innovate derive.

2.3.5.1 Mental Models (MM)

Mental Models (hereafter MM) are theoretical constructs. They are tools for describing, understanding, and explaining how one perceives, processes information, and uses it for decision making. They are constant patterns of automatic activation, once stimulated by the environment. MMs are a description of the standard mode of mental activity, resulting from the combination of the pattern of perception with the way of organization and use of the content and with the way of making a decision (Jung, 2016; Silva, 1992; Keirsey; Bates, 1978; Pearman et al., 2008; Spagnol et al., 2015).

MMs describe the standard manner of neurocognitive functioning of a person (Spagnol et al., 2015; Bressan, 2015). Different MMs lead to distinct patterns of perception and response to innovation challenges and risks (Gallen, 2006; Brazeal et al., 2008; Vaghely; Julien, 2010). They are the result of the combination of: the standard mode of perception with the mode of organization and use of the content, and with the mode of decision-making (Jung 1991, Keirsey; Bates, 1978; Bressan, 2018). They are subsidized by a neurofunctional substrate (Laureiro-Martínez et al., 2014, 2015; Spagnol et al., 2015). In the definition of the MMs, perception - concrete or global - is the first mental function to be examined (Keirsey; Bates, 1978; Bressan; Toledo, 2013; Keller & Weibler, 2014), since people believe in their perceptions (Kahneman, 2013).

Perception by the concrete mode means the collection of factual and concrete information (by the five senses); it denotes that the person "is more interested in what is," in the here and now. His second preference refers to the organization and use of the perceived: Whether he or she will organize them for use in a planned way, or will continue to seek information for the solution of emerging problems. The global perception is characterized by the collection of abstract and conceptual data, with interest and focus on "what can be" as "possibility" (Hambrick; Mason, 1993; Bressan, 2018). Their second preference refers to the organization of this information to formulate possibilities and make decisions, either rationally and logically or based on people's values and interests (Stevens & Burley, 2003). These differences indicate the occurrence of two MMs: operational (OMM) and strategic (SMM), which present distinct approaches to innovation: the first seeks to preserve the status quo and incremental improvements, and the second seeks innovative and disruptive solutions to problems and opportunities (Table 2). In this way, one may conclude that people with different MMs will present alternative approaches to the innovation process.

Table 2. The Mental Models description

Mental Models	Description
OPERATIONAL (OMM)	Preference to work in the usual way. Confidence in personal experience and facts. He prefers to work with the real and known, seeks to connect each new experience to previous ones, testing them for their relevance to practical issues. seeks to maximize efficiency by continually improving and solving problems, always within existing conditions. It works methodically, processing information one at a time, establishing concrete relationships between them. He works according to established methods and processes; it rarely challenges norms and policies, except when under strong and explicit support and encouragement from superiors and/or peer pressure.
STRATEGIC E(MM)	Capable of strategic thinking, they have an innovative approach to tasks and problem-solving. Competent to find new and complex problems, providing unprecedented solutions. They focus on the possibilities and tend to be visionary. Multi-interested, has a high capacity to collect large amounts of information and extract from them what is relevant; low attachment and adherence to rules and conventions, and is capable of true creativity. More willingness to take risks and try new ideas even in the face of ambiguities, constraints, and the threat of loss.

Fonte: Tieger; Baron-Tieger (1995, 1998); Keirse; Bates (1978); Briggs, Myers (1998), Myers; Myers (1995). Hirsh; Kummerow (1998).

3. METHODOLOGY

Although there is a great deal of work on innovation (Valladares et al., 2014), there are no references to studies on experiences considered extreme cases of performance, the polar types. In this way, this work aimed to investigate innovation experiences that could help clarify and broaden relations and the logic between the factors involved in innovation. To be included, innovation cases should have resulted in qualitative and quantitative leaps, exceeding expectations of productivity, profitability, costs, reduction times, process losses, and have had a significant impact on business results. These cases were included because their patterns could be more easily observed, providing empirical evidence and a clearer identification of constructs and the logic of their relationships (Quest et al., 2006). A multiple-case analysis was conducted for a more robust comparison between the collected data and wider exploration of their relationships (Eisenhardt & Graebner, 2007).

The in-depth interview was chosen because it enabled the interviewees to express themselves in their own words, and made it possible to more accurately capture her/his experiences and interpretations, with the advantage of allowing complex and multifaceted situations to be deployed in a detailed and accurate manner (Eisenhardt

& Graebner, 2007), without the need to impose specific conceptual schemas on the data before their collection (Graebner et al., 2012).

As there are practically no guidelines for determining the size of non-probabilistic samples, the concept of 'saturation' is used to define the sample size. Saturation occurs when no new information can be identified (Mason, 2010) and no "new elements [...] can be obtained" (Fontanella et al., 2012, p.389). The criterion defined by Guest et al. (2006) states that for cases with high homogeneity and explicit research question (the polar type cases), a sample of six interviews may be sufficient for finding meaningful themes and useful interpretations. To identify these cases, a snowball sampling (Parker; Scott; Geddes, 2019) was used to identify individuals with relevant experience and insights for the study (Frangos, 2010). Consulted HR executives indicated seventeen cases. These executives were interviewed, and six were selected based on the inclusion criteria (Atkinson; Flint, 2001). For framing the company's strategic typology (Miles; Snow, 2003) we use the work of Blumentritt and Danis (2006). The framing of the interviewees' MM identification was carried out using the methodology called The Art of Speed-Reading People (Tieger; Baron-Tieger, 1998). This methodology offers consistent indicators of high adherence to the tools used to define MMs, such as KTS (Keirse; Bates, 1978), and MBTI® (Briggs; Myers, 1998). For the leadership style identification, the basis was the MLQ (Bass; Avolio, 1993). In the analysis, the factors identified in the literature are: business environment, organization, management, and the innovator, which were used as a code matrix, plus the 'complementor' factor, as suggested by the interview data.

3.1 The companies and the interviewees

The selected cases occurred in six companies: chemical (2), metallurgical (2), auto parts (1), and electronic (1); four multinational companies and two nationals; five of them operated in the organizational market (B2B) and one in the Government market (B2G). The company positions of the interviewees were: one CEO, two Business Managers, one Operations Manager, one HR Manager, and one T&D Manager.

4. RESULTS

Below are the results of the data analysis by identified factors: business environment, organization, manager, complementors, and the innovator.

5.1 Business environment

According to Porter's five factors, we find two main factors generating pressures for innovation: the client and the competitor. According to interviewee E, the rivalry between marketing players has generated the drive for innovation:

Our net margin was around 14% and our international competitor [...] started offering the same product at a discount of 20% on our sales price ... we decided to completely redo our business, abandoning the old practices. [...] and implementing managerial and operational practices that were disruptive and with which we had no experience (sic).

This interviewee reported that the holding company decided to invest and allocate resources in maintaining this operation, which was considered strategic for creating visibility in the national scenario and leveraging business in other areas. In another case, Company D, its main client, a state-owned company, influenced by political and economic variables, reduced its purchases; this reduction directly affected the company's ROI, generating opportunities for innovation.

The opportunity for innovation or to recreate the business came about because the company, in keeping the same standard of operation, processes, and controls - the old way - efficient for operation in the B2G market in crisis, would not be able to afford the new business to the B2B market (sic).

5.2 The Organization

According to the Miles and Snow (2003) typology, the B, C, and D companies operated under an organizational system whose interaction pattern could be classified as a defender. Three of them (A, E, F) operated in a business environment that demanded a more assertive focus on innovation, making it more pertinent to classify them as prospectors because of their willingness to innovate (Table 3). Defenders (B, C, D) denoted greater difficulty with the innovation process. According to the interviewee B:

[...] things only started to change when the matrix sent a new CEO with the power to do whatever was necessary to change our conservative, formalized, and hierarchical culture, where the main paradigm was: "Whoever can, commands, whoever has sense, obeys". (sic).

According to his report, the new CEO's objective was to implement an organizational system that would awaken the "passion for work and create an environment in which everyone feels the company as their second home and with an entrepreneurial spirit, behaving like the owner of their activity" (sic). Initially, there was resistance, but his authority and actions, backed by internal communication and a development program, provided support to managers and drove change. The consolidation occurred in the midst of an economic crisis, which required adjustments in the business and staff.

Table 3. Companies and Strategic Typology

Companies				
Code	Origen of Capital	Economic Sector	Market	Strategic Typology
A	Multinational	Chemical	B2B	Prospector
B	Multinational	Metallurgical	B2B	Defender
C	Multinational	Auto Parts	B2B	Defender
D	National	Metallurgical	B2G	Defender
E	National	Electronic	B2B	Prospector
F	Multinational	Chemical	B2B	Prospector

Source: research data

Prospector, company F, presented an organizational model capable of assertive and rapid responses, propitious for proactive strategic action. According to the interviewee, the company offers the conditions to obtain a high standard of performance in the business units, but the results did not appear. The company decided to deactivate the business, and when the new manager came there, she *"realized that with the same staff, it was possible to reverse the situation and mobilize them to get results of excellence and much higher than expected"* (sic). And I do this.

Although the organizational system generates the unit of the company, respondents E and F stressed that "the risk is that these policies and norms become straitjackets or rigid limits for people, who will have their performance evaluated for compliance with expectations" (Sic interviewed E). A rigid organizational system, usual in defender companies, is likely to be a factor restricting confidence and trust in employees. In this case, even if organizations want innovation, they will not get people to take risks and innovate. This was the situation in company B. What was worth before was the old paradigm, "Whoever can, commands; whoever has sense, obeys" (Sic). It is therefore imperative to provide an opportunity for people to develop and be empowered to act on their own to carry out the work in their own way (Companies C and F). Another issue refers to the challenge of breaking with the 'old ways'. In company B, the new strategy had as its motto "to undertake to evolve and that aims to help in understanding the new horizons of the company and that seeks to disseminate entrepreneurship among employees" (sic). To this end, the company has developed specific programs that challenged and encouraged people to engage in innovation.

4.3 Management

There was a low frequency of spontaneous references to managers and their performance. One reason may be the interviewees' B, D, and E strategic mental model

and leadership style, characterized as transformational leadership. Asked about his role as a project manager, the interviewee C, an OMM with a transactional leadership style, reported that the decision to implement the project was made under the endorsement of his immediate manager. His role in the project involved implementing the corporate program, whose goal was to challenge everyone to develop bold projects for improvement and innovation. He revealed that the initial idea for the project, which resulted in a sharp reduction of process losses, was not his own, but came from one of the team members. After its 'approval', his function was to support people, facilitate access to information and resources, and provide time for the project job. "When they started working on the project and the results began to appear [...] and everyone started to play with a level of autonomy such that I no longer knew in detail what they were doing ... I was afraid that my manager would ask me details of what they were doing. I felt insecure, but still, I preferred not to interfere (sic)."

Reports of learning from experience have revealed that in times of turbulence, rapid change, and surprises, prioritizing innovation initiatives becomes mandatory for managers. In this direction, respondents A and F revealed that, since the impact of innovation on results is a factor in the business units' evaluation, this generated a strong drive to stimulate and support innovation initiatives. They also reinforce the strategic role of managers, acting as either facilitators or obstructors of innovation. These reports confirm and reiterate the manager's strategic role in promoting and consolidating innovation.

4.3.2 Stimulating and Searching for Innovation

The proactive manager's actions to stimulate and pursue innovation are recurrent in reports from companies B, D, E, and F. Interviewed E reported that this was achieved through interactions to verify progress toward changes and outcomes, and to encourage people to move forward. The interviewee C showed this by saying that the group found support for the goal of "constant innovation, whose objective was to design innovative products, easy for manufacturing, high-level quality, at a lower cost, and reducing development time "(Sic). The reports indicated some actions for creating challenges for innovation and the search for new ideas, new ways of working and relationships with suppliers and customers, and breaking with "old ways." According to interviewee D,

The production staff was encouraged to rethink the process, and a question arose about a component of the assembly: was it cheaper to do it inside, as it had always been done, or to buy it ready-made? The challenge here was interaction with the engineering staff, which, for the production staff, seemed far away. The result showed that close interaction with engineering could improve the manufacturing process, and the process engineering was transferred to the manufacturing area. (sic)

Respondents A and C (OMM) reported that, in the end, they only 'authorized' the team to implement the actions that resulted in above-average innovation and results, denoting their less involvement in the innovation process.

4.3.3 Delegation of Authority

No one can be held responsible for a result if they do not have authority over it. Without the authority to act or require action, no challenge will be legitimate. Interviewee C highlighted his dilemma in reporting that the decision to implement the project was not his own and that, "despite my fears, I was 'obliged' to approve the project [...] and I was afraid that my manager would ask me details of what they were doing. I felt insecure ... "(sic). This episode denotes the delegation difficulty for this manager (OMM and transactional style).

At the operational level, a demonstration of delegation occurred when transferring the setting up of machines from the preparer to the operator (Company D). According to the report, the area manager only agreed to the change after much pressure. To give authority to experiment, Company C, with a highly complex industrial process, created a procedure that allowed idea experimentation and initiatives within the R&D lab, which were followed up by the area manager and PhD researchers

To ensure delegation, in addition to rules and procedures, the company must manage the managers' performance. "Good financial results have to be produced by good processes, accompanied by product and process innovation, new ways to serve customers, and better ways to manage people" (interviewee B). Also, in cases where results are not as expected, it is expected to help people understand why these results occurred, to learn from experience without embarrassment, and provide opportunities for a new challenge (interviewee F).

4.3.4 Provision of Resources and Facilities

People will need time and resources to innovate. The reports indicated that time was an available resource and "the team could plan work time to devote to project development, rationalizing their routine activities" (interviewee C). Another aspect referred to the 'flexibility' of resource control so as not to inhibit innovation. As reported (Interviewee F), it was often necessary to lend, pick up, or even "sneak out" what they needed without this appearing in the official controls [...]. *I knew this, but it made me realize that I did not see to and make sure that everything was computed so that there would be no mistake.* By admitting this and even informally stimulating its occurrence, the manager can facilitate the process of experimenting with innovative ideas and processes. However, some of these "stolen" resources must have their costs pointed out in the reports.

4.3.5 Performance System and Rewards

An appropriate reward system for innovation requires knowing the innovators and what is meaningful to them. This knowledge is the gateway to an effective system; it should also contemplate innovative opportunities to reward initiatives, such as "being sponsored by the company on an adventure project in recognition of the quality and productivity leap for its innovation in production" (sic interviewed E). Another aspect reported was the award obtained by the group, which, according to the interviewee of Company D, "the repercussion of the results was worth a trip to present the results in the matrix, outside Brazil" (sic). By the way, reports minimized the influence of this system, like interviewee D stated: *The biggest reward for the people and me was the success achieved with the implementation of the new manufacturing process that consolidated the new production line*(sic).

4.3.6 Access to Information and Personal Development

For this, it is necessary to create mechanisms for staff development, provide access to data, and sources of information. According to the interviewee E, the company slogan for everyone to access information was "who knows the information passes straightforward, who does not know goes to any manager/director for getting it!" For this access, Company D created the opportunity to monitor product performance in the field (client), and Company E provided opportunities for employees to see product usage and its impact on customers' work. Likewise, the reports showed the implementation of actions to develop and empower people. In company B, one of the objectives of this action was that they could "see things differently" (sic).

Company D developed a retraining program for production employees: *We created an opportunity for each one, along with leadership, to review the method of each activity, define the critical points that could lead to deviations, and how the process could be*

rationalized or modified. According to this interviewee, this resulted in a productivity gain of 10 to 15% with the respective reduction of costs and time (sic).

4.4 The Complementors

This factor was deduced from the participants' reports as relevant to the innovation initiatives. Everyone involved with the project, including the company's personnel, customers, suppliers, research agencies, and universities, was considered a 'complementor'. Complementors were called integrated team members. They provide information, technical and psychosocial support, encouragement, and guidance. Customers and suppliers have also been referenced as complementors for their contributions to identifying opportunities. According to interviewee C, "The program that created intimacy with suppliers and customers, bringing them into the factory, was a fundamental aid to our success!" (Sic). Respondent F, referring to customer intimacy, said that "listening to and understanding customer 'pain' is an important source of signals and tips for innovation". The interviewed D report on the complementors' performance stated: *the development of a joint program with one of its competitors resulted in a gain for both*. In this way, reports indicate the importance of the complementors' participation in the innovation process.

4.5 The Innovator

The way each interviewee described their experience helped the analyst understand the MMs: Operational (OMM) vs Strategic (SMM). The analysis of the interviewees' MM indicated that four interviewees had a preference for the SMM and two for the OMM (Table 4). The OMM interview reports were more concise, with descriptions based on objective facts and data, describing them sequentially and in chronological order, detailing the innovation. His sentences were short and tended to express one thought at a time. This characteristic is consistent with the OMM, which works methodically and processes the information separately, establishing 'concrete' relationships between them. Another feature of the OMM observed in the reports concerned the safety of doing things in the usual and customary way, only operating out of routine with the explicit support of their superiors or by team pressure.

Table 4. Companies and Interviewees' Mental Model

Companies			Interviewees	
Code	Origen of Capital	Market	Position in Hierarchy	Mental Model
A	Multinational	B2B	Business Manager	Operational
B	Multinational	B2B	CEO	Strategic
C	Multinational	B2B	Operations Manager	Operational
D	National	B2G	HRD Manager	Strategic
E	National	B2B	HR Manager	Strategic
F	Multinational	B2B	Business Manager	Strategic

Source: research data

Interviewee C (OMM) reported that the project approval occurred more under the group pressure than under his own conviction. Affected by operational control, his concern was about the lack of information about the group's actions. The need for detailed control and information is a hallmark of the OMM, and its account is an indication of this feature: "I confess I was afraid my manager would ask me for details of what they were doing" (sic). His fear was related to their need for security: "I felt insecure, but I still preferred not to intervene and maintained their autonomy" (sic). Interviewed A, an OMM, who revealed that it was the insistence of the group, led by one of the members, described as an SMM, which led to the tightening of relations with components of the supply chain and led to the optimization of results. *I realized on arrival that people were dissatisfied with the mode of operation and the results of the area. I felt 'a certain amount of pressure' to implement some radical process changes, and to change the*

predecessor managerial behavior that generated the low reported results. Interviewed A realized that the team had many ideas about how things should work and, according to his report, even though he was afraid, he decided to follow the group's propositions and give him autonomy for the necessary modifications. *As the results began to appear, I let the group continue the work,* he said. Both A and C (OMM) had evidenced the role of one innovator employee in their reporting, especially when reporting on the people who effectively led the innovation process in their area.

The statements of the other managers indicated a preference for the SMM: Generally, they presented the project overview and were chocked with 'recitals' and possibilities, presenting data relevant to their understanding. They reported that, by conceiving the project, they realized the possibilities of success and a clear understanding of what could be done to obtain the results. In general, they felt they had the competence and willingness to take risks, control, and lead the process. According to interviewee D, "The process seemed to be drifting, and someone had to do something. Manufacturing time and costs were very high and, if nothing were done, the project would be doomed to failure". And, through this, he decided, together with the team, to prepare and propose an operation process capable of making the new assembly line feasible.

In the case of interviewee E, "for facing the competitor's attack it was necessary to reinvent the company, to optimize the organizational system, and to get people to ... have an excellent performance for facing the situation" (sic). Respondent A reported that upon arriving at the unit, he had a strategic view of what could be done to achieve the culture change. According to this interviewee, "but I knew that I would depend on the team to establish in detail what should be done and that my mission would be to keep these activities strategically aligned "(sic).

Respondents from companies D and E reported that, in some situations, it was necessary and appropriate for them to overlap standards and procedures to facilitate performance in pursuit of results. The reports indicate that they felt as guiding the process, being consulted in case of doubts and decisions. In this sense, interviewee D (SMM) reported that "... because I was the initiator of the process that involved the whole organization and all areas related to the new operation model - engineering, processes, materials, production and quality, it was usual for the CEO to refer to my role as the 'party philosopher' ... "(sic).

All this is indicative of the essential (and even decisive) role that these interviewees (SMM) had in the design, development, and results of the innovation process. Their focus and attention on the possible results, perception of opportunities, and the ability to conceive and see the organizational system as a whole were decisive. Also decisive was their taste for the challenge, ability to find solutions, and make adjustments during the course of action. They report a great willingness to innovate and propose disruptive solutions to organizational problems, take the risks that innovation can bring, which were decisive for the organizational success. All these are indicative that people and managers with a preference for SMM will probably choose to work in companies adopting a prospecting strategy as more appropriate to their MM because in these kinds of companies, they will find the most suitable ground for more innovative and strategic performance. In other words, they are the real innovators.

5. Conclusion

In today's environment, where disruption is not the exception but the norm, incremental improvements are not enough to leverage the economy, drive business, and sustain competitive advantage. Companies and governmental agencies must face the challenge of innovating. Innovation is a broad concept, and the generation of value it brings is its essential contribution to the economy and organizations. This process is

complex and multifaceted; its many factors act in an integrated way, sometimes more, sometimes less preponderant according to the business environment and the company characteristics.

Successful innovation requires an organizational system that fosters and facilitates innovation. It requires more than speech; it requires values and strategies that are deployed in daily norms and practices for enhancing and supporting innovation initiatives, and that are evidenced in their programs, such as development, performance, and reward systems that reinforce innovation initiatives even when results are adverse.

Management behavior deserves special attention. It is the one that materializes and consolidates organizational values and systems, and it will be the managerial behavior at the front line that will facilitate or block innovation. These behaviors establish consistency between discourse and practice; without it, efforts to innovate will be innocuous, since no one can be forced to innovate. The internal complementors exert influence and must act consistently with the management system, creating opportunities for cooperation, sponsorship, and support for innovation initiatives, integrating them where and when appropriate. Likewise, productive relationships with development agencies, research, universities, and even competitors, the external complementors, can contribute resources, technology, knowledge, and skills, often decisive for success. In this effort, the relationship with customers and suppliers acquires a 'win-win' character. Partners and suppliers sign their needs or 'aches' as cues to innovation and contribute to its development. Suppliers must have their own innovations and participate in integrated projects by developing products and services needed for customer innovation projects.

However, it is the employees' actions in the development of new products and markets, new work processes, and new forms of structure and relationships – the innovative behavior - that generate innovation. Therefore, special attention should be given to innovators and their MMs, because, as the data show, their influence is decisive in obtaining and consolidating innovation. The investigation of the MM made it possible to classify four interviewees as SMM. They have demonstrated their capacity to see opportunities, propose innovative and impactful solutions, and, through their motivation and self-confidence, take risks and make innovation happen. Differently, OMM respondents revealed their hesitation to approve and conduct the innovation processes unless under pressure from the group. They reported the presence of SMM contributors in their team who were, to a certain extent, 'tasked' to lead the innovation process and whose performance prevailed for the desired results. These results indicate the need for the company to map, meet, challenge, and create opportunities for innovators (SMM), wherever they are housed in the organizational structure.

In conclusion, this qualitative, exploratory, and limited study allows us to conjecture that the central factor for enhancing and managing innovation is not limited to understanding the dynamics of the components of the organizational requirement to foster innovation. It requires understanding the innovator, the SMM, who, in identifying opportunities, mobilizes competences, motivation, and self-confidence, a disposition to take risks with defined objectives, to undertake, and to innovate. This mobilization requires organizations, institutes, and development agencies to identify and select people with SMM and provide the necessary conditions for the development of innovations. This may be of great value for competing on the global stage, where innovation is mandatory for developing and maintaining a sustainable and competitive advantage, as well as for GDP growth. However, organizations can not abandon the OMMs. MMs are like the right and left hand: both are available, but the most 'preferred'

hand is triggered more often and thus it acquires greater skill, while the other remains primitive. To develop the SMM with less preference, companies, institutes, and agencies should implement programs to help OMM people develop their proficiency in SMM, which is more conducive to the development of innovation initiatives. Despite some positive results helping OMM people cross from OMM to SMM, this proficiency development is a challenge for research, and it is only in the beginning of the process.

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