

Analysis of the Perception of Managers and Employees about Innovative Behavior in the Automobile Industry

Análise da percepção dos gestores e empregados acerca do comportamento inovador em uma indústria automobilística

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Abstract

The article aims to analyze the innovative behavior under the dimensions presented in De Jong and Den Hartog's (2010) study from the manager and employee perspective in Minas Gerais' industrial sector. The study of the employee's perception was used to research the studies carried out by Scott and Ruce (1994) and Janssen (2000). It is descriptive research with a quantitative methodology, carried out through SurveyMonkey between November 2016 and May 2017. It was noticed a significant motivation of the managers to prompt the innovative behavior in the employees. However, little was perceived from the employees' perspective, corroborating with the academy results in which the managers and employees need to converge for the organizational development. In this way, the company will have opportunities to excel in the industry.

Keywords: innovation; innovative behavior; automotive industry.

Resumo

O artigo tem como objetivo analisar o comportamento inovador sob as dimensões apresentadas no estudo de De Jong e Den Hartog (2010) pela ótica do gestor e do empregado no setor industrial do estado de Minas Gerais. Para o estudo da percepção do empregado, utilizaram-se como instrumento de pesquisa os estudos realizados por Scott e Bruce (1994) e Janssen (2000). Trata-se de uma pesquisa descritiva com uma metodologia quantitativa, realizada por meio de uma *SurveyMonkey*, nos períodos de novembro de 2016 e maio de 2017. Percebeu-se uma motivação expressiva dos gestores para instigar o comportamento inovador nos funcionários, porém esta foi pouco percebida sob a ótica dos empregados, o que corrobora os resultados da academia segundo os quais os gestores e empregados necessitam convergir para o desenvolvimento organizacional, dessa forma a empresa terá oportunidades de se destacar no setor de atuação.

Palavras-chave: inovação; comportamento inovador; setor automobilístico.

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INTRODUCTION

The Industrial Revolution of the 19th century marked the transformation of services provided in the factories of the time, moving from handcrafted production to industrial services, a great challenge for producers at the time when the disruption of how the marketed products were produced. This milestone showed innovation as a differential for the competitive advantage between organizations, according to Prajogo and Ahmede (2006).

The industry has been going through more and more impactful transformations; currently, we are experiencing the 4th Industrial Revolution, identified by the term "Industry 4.0". According to Vaidyaa, Ambadb, and Bhosle (2018), this phase is defined as the newest level of an organization and responsible for controlling the entire value chain and the product's life cycle, adopting a more individualized approach.

According to Prajogo and Ahmede (2006), introducing the concept of innovation in an organization requires analysis of the market in which it is inserted, measuring how mature it is to determine which innovation strategy to implement. The ability to develop new products or services must accompany market changes and, above all, consider customer expectations and consumer behavior.

In addition to the bases that make up management, the human part is considered the basic principle of successful innovation (PRAJOGO; AHMEDE, 2006). Creativity has a direct association with the term innovation. It refers directly to the increase and the practice of new ideas, so organizations, every day, search the market for professionals who have such characteristics (CLAPHAM, 2003). The companies understand that the professionals with innovative behavior will contribute to the organization to guarantee a competitive advantage in the market. The

innovative behavior of a given individual, when multiplying, extends its improvements and innovations to all those involved in the organization (DAN et al., 2018).

Given the scenario presented, in which innovative behavior is directly related to the creative professional, who will contribute to the company, working to generate innovation and gain a competitive advantage over competitors, the following question arises from this work:

How are the characteristics of innovative behavior perceived by managers and employees within the automobile industry located in Minas Gerais?

The researched organization is located in Minas Gerais, and the researched group has production units in 40 (forty) countries and a commercial presence in approximately 150 (one hundred and fifty). It has an expressive market share as the leader in the compact vehicle segment. It has about 40 (forty) thousand employees, and an annual average of 800 (eight hundred) thousand vehicles is produced.

The methodology adopted for research in the automobile industry started from the original study by Janssen (2000); it was adapted from the studies of De Jong and Den Hartog (2010), from which the qualification of the dimensions of innovative behavior was used, a concept developed by these scholars. The constructs "innovative behavior in the company," "participatory leadership," "association of the employee with a network of contacts extrinsic to the work environment," and "transforming effect" were used as a research instrument.

A systematic review of the literature was carried out on the national and international bases Spell and World Scientific. The constructs "*comportamento inovador*" and innovative behavior were used in the keywords and summary without limiting the period. Four (4) articles were found in the national Spell

database, and in the World Scientific international database, researched with the same criteria mentioned above, 37 (thirty-seven) articles were found.

The justification for this study, from an academic perspective, is due to the fact that it will contribute to the academy given promoting an investigation about innovative behavior in the industrial sector, presenting new analyzes for the literature on the subject, mainly because, nationally and internationally, there are inexpressive studies on innovative behavior in the automobile environment. Therefore, this field research, based on a case study, contributes to the academy, considering the need to investigate and develop research in the Brazilian context related to innovative behavior and, effectively, instigates new discussions on this theme present in the competitive environment of companies.

From a pragmatic perspective, this study will contribute to the investigated company, pointing out its employees' intrinsic elements regarding the perception of policies that motivate innovative behavior about the manager and employee relationship. Moreover, this research focuses on an automobile industry, which will innovate in the academy, contributing with new approaches about the construct.

INNOVATION

In order to stand out in the market, organizations use innovation as a differentiation tool. In order to innovate, the information system and the communication and information technology are needed as a tool to more assertively manage the creation of strategies (TVRDÍKOVÁ, 2013). Society has become more demanding, looking for better products and better services, and has encouraged competition between providers. In this sense, innovation contributes to the organization's good performance, adding value to its product and differentiating it from competitors.

This new market requirement is biased, regardless of the company's sector of activity and the employee's area, since innovation is a requirement to remain employed or in the market, according to Strobl et al. (2019) and Tenzer and Yang (2019), even though, historically, a particular position does not require proactive and innovative behavior (ABUKHAIT; BANI-MELHEM; SHAMSUDIN, 2020).

Intrinsically, innovation leverages profitability and creates alliances among stakeholders (influencers), increasing its valuation (SAMBIASE; FRANKLIN; TEIXEIRA, 2013). Developing through innovation implies the invention of new products or new services, but one can innovate in existing processes, becoming more effective when performing the same service, but more efficiently (TIDD; BESSANT, 2015).

The premise of innovation is the experimentation phase, in which the individual develops his idea. That is, he puts his project into practice, seeking, through trials with errors and successes, the perfect execution of his initial proposal (HASSI; REKONEN, 2018). An example is the robotization processes by industries, and Fintechs, by the financial sector. Thus, companies need to stimulate each employee's creativity as a form of persistence in the job market (KHAOLA; COLDWELL, 2019).

The company needs to stand out from the competition by encouraging employees to create a differential and add value to the products and services. Innovation enables the organization to create and develop products, services based on ideation and implementation (AYUB; KAUSAR; QADRI, 2017; HASSI; REKONEN, 2018; TUOMINEN; TOIVONEN, 2011). Amabile (1988) and Kanter (1988) consider inventions based on the organization's basic elements as a construction, referring to the implementation of these ideals, such as transforming products, processes, and

services that will lead to organizational success.

However, many times, companies need to seek external knowledge to develop it internally because they cannot access more advanced information due to the lack of resources. Thus, this external knowledge facilitates its innovative development internally (MAJHI *et al.*, 2020).

Therefore, a company with an innovative climate tends to disseminate this behavior among employees. Employees with innovative attitudes are copied by other co-workers, encouraging them to have the same performance (KRUFT; GAMBER; KOCK, 2018).

In the literature, there is an understanding about the types of innovation: the incremental, in which the current way of carrying out, producing a product or service is modified, and the radical or disruptive, in which the disruption of the traditional way occurs, creating, for example, technology, a new concept, product or service, becoming the old-fashioned procedure (BOUNCKEN; RITALA; KRAUS, 2018; ETTLIE; BRIDGES; O'KEEFE, 1984; KOBERG; DETIENNE; HEPPARD, 2003; RITALA; HURMELINNA-LAUKKANEN, 2012).

Thus, the behavior of the individual is essential to identify the innovation to be adopted by organizations. It is considered fundamental for implanting small innovations within the organization, starting with the incremental ones and, later, improving to promote the disruptive ones (DE JONG; KEMP, 2003).

INNOVATIVE BEHAVIOR

When introducing an organization's innovation project, it becomes necessary to identify innovative behavior in the teams of employees. Several factors can influence the performance characteristic, such as atmosphere, leadership, and individual profile. It is also considered the environment and the collaborators' profile

for the adherence of the project to tend to the success and the performance. Sethibe and Steyn (2017), Ayub, Kausar, and Qadri (2017), and Hassi and Rekonen (2018) legitimize the individual profile of the employee and the profile of the leadership as factors that influence the organization's process.

Ayub, Kausar, and Qadri (2017), Khalili (2016), and De Jong and Kemp (2003) understand as innovative behavior the direct action of individuals whose benefits correspond to new technologies and ideas that can modify processes more efficiently and effectively.

Innovative behavior contributes to the environment, which provides the opportunity to reinvent itself, encouraging the individual to develop the characteristic of creativity. Kelysen and Street (2001) identify fundamental behaviors in the innovative employee: he is always alert to identify opportunities, seeks and gathers information to recognize the moment of the opportunity to innovate.

Zhu, Djurjagina, and Leker (2014) and Abukhait, Bani-Melhem, and Zeffane (2018) believe that creativity is aligned with innovative behavior as leaders desire proactivity. In a survey conducted at a multinational chemical company, Zhu, Djurjagina, and Leker (2014) identified that the generation of ideas, in principle, part of each employee's creativity, but the determining characteristic for the acceptance of this new idea by the company is proactivity.

Amabile (1988) identifies the artifacts indispensable for the development of creativity in the individual, being the capacity that is compliant to the domain of the activity and the capacity inherent to the task's motivation. The characteristics of evolution in the inventiveness process include describing individuality and the individual's psychic abilities. Amabile (1988) and Hassi and Rekonen (2018) highlight resilience at the moment of failure and the ambition to be imputed to risk as factors that contribute to creativity.

The individual's behavior tends to be influenced by his abilities, and there is a positivity aligned with creativity, which Amabile (1988), Zhu, Djurjagina, and Leker (2014), and Hassi and Rekonen (2018) understand to be the pillar of innovative behavior. In other words, it becomes the propensity to elaborate new insights that innovate in the current perspective and practices.

Thus, innovative behavior is directly connected to each employee's creativity, but in order to develop it, some attitudes must be encouraged by the company (GAUDÊNCIO; COELHO; RIBEIRO, 2014). Among them, the following can be cited: opportunity to create, created in everyday situations that are generally not carried out by usual standards; fostering new ideas, through improvements to the current process; championing, aiming at efforts to boost and implement these convictions, and application, when developing and including this innovation in the company's commercial practice (DE JONG; KEMP, 2003; TUOMINEN; TOIVONEN, 2011).

Some companies use crowdsourcing (task sharing/research) to encourage employees to generate new ideas and mobilize all employees internally to interact and share their ideologies and beliefs. Thus, they are motivated by a specific idea (ZHU; DJURJAGINA; LEKER, 2014).

The literature identifies employees' autonomy as a powerful way of providing a proper environment to stimulate employees' innovative behavior. It is believed that the employee who does his activities independently tends to develop more innovative behavior (SEO et al., 2016). Stimulating the employee's innovative behavior is based on the employee's challenge when carrying out the activity. Internal factors must be encouraged regarding the recognition for the idea and the actions developed - and external - regarding the payroll's financial part (AMABILE, 1988; DE JONG; KEMP,

2003). In this context, for the collaborator to develop an innovative behavior, challenging work is necessary, with its intrinsic and extrinsic stimuli, in addition to an autonomous environment so that he can develop his innovative projects safely (DE JONG; KEMP, 2003).

In academia, innovation is understood as essential for organizations to position themselves competitively in the market, so the leader's figure stands out to play an essential role in innovation (SETHIBE; STEYN, 2017). Leadership is understood as the ability to exert interference on other individuals, focusing on a common goal in the organization (SETHIBE, 2018; SETHIBE; STEYN, 2017). Innovative behavior is influenced by the leadership style that the organization exercises: transformational leadership and transactional leadership.

Regarding the transactional leader, Oke, Munshi, and Walumbwa (2009) and Sethibe and Steyn (2017) understand two factors as striking: eventual retribution and contingency leadership. The first refers to compensation when employees respond to the organization's expectations, and the second corresponds to a leadership procedure in which a curative effect occurs.

According to Oke, Munshi, and Walumbwa (2009), the transformational leader's fundamental characteristics involve four pillars, namely, charisma, motivation, intellectual stimulation, and detailed consideration. This type of leadership allows employees to be stimulated intrinsically. Leaders are guiding the processes of change, developing a balanced organizational environment and culture, converging into foster change and innovative growth.

It is understood as having a transformational style the leader whose authority over the employee is convincingly exercised, causing the employee's innovative acceleration, which reflects in the individual and collective development. Oke, Munshi, and

Walumbwa (2009) and Sethibe and Steyn (2017) consider the transformational leadership style to be efficient and effective in propagating creativity in the work environment. On the other hand, the transactional style fits in the moment of the implementation of the novelty, being efficient in the incremental innovation. Thus, the appropriate leadership style drives the development of the individual concerning his innovative behavior.

In addition to the positive influence on innovation, transformational leadership also positively influences human capital (SETHIBE, 2018). According to Ayub, Kausar, and Qadri (2017), human capital means the totalization of individuals'

expertise and their capacity for innovation and creativity.

That said, innovative behavior is understood as an individual procedure that takes place in different stages: identifying the obstacle to foster new or incremental ideas, developing a sustaining pillar, and creating a matrix for internal use in the organization (CARMELI; MEITAR; WEISBERG, 2006; KANTER, 1988; SETHIBE; STEYN, 2017; XERRI, 2014; XERRI; BRUNETTO, 2011).

As for innovative behavior, Table 1 shows a summary of the studies carried out on this topic, nationally and internationally.

Table 1 - Summary of recent research on innovative behavior at national and international levels

Article's Theme	Authors	Analysis Object	Results
Innovative behavior, well-being and satisfaction	Xerri and Reid (2018)	Nurses in public and private hospitals	When perceived by the employee, well-being intercedes the relationship between satisfaction with training opportunities and innovative behavior. It also affects job satisfaction.
Innovative behavior, satisfaction and organizational justice	Xerri (2014)	Nurses	The relationship between procedural justice and nurses' job satisfaction is positive and converges into innovative behavior, while interactive justice affects job satisfaction.
Innovative behavior, types, innovation and knowledge	Tuominen and Toivonen (2011)	KIBS: architecture, accounting and engineering consultancy office	Once the dimensions of innovative behavior are recognized, several types of innovative behavior were identified throughout an innovation or change process: the generation of ideas continues until the end of the process and the application begins at its initial stage.
Innovative behavior, corporate ethics, social responsibility, organizational commitment and satisfaction	Gaudêncio, Coelho and Ribeiro (2014)	Portuguese company, 43% services, 36% industry and 18% trade	When workers are satisfied with their management, they tend to value corporate ethics and corporate social responsibility. Furthermore, organizational commitment positively influences innovative behavior, developing superior work performance.
Innovative behavior, determinants and incremental innovation	De Jong and Kemp (2003)	Knowledge service companies	The research related knowledge service companies, so the differentiation environment favored innovative behavior. However, the atmosphere of high variation in demand and support for innovation did not significantly influence such behavior. In this segment, incremental innovation is seen with the most significant impact.
Innovative behavior, formal and informal social networks (social exchange)	Brunetto et al. (2016)	Engineers, managers and technicians (public and private sector)	"The work relationship that presents a differentiated hierarchical approach in which employees can use themselves as an alternative to benefit from resources and become proactive and innovative, impacting innovative behavior.
Innovative behavior,	Xerri and	Engineers and	The impact of the factors of subordination

social networks, subordination capacity, sociability and organizational culture	Brunetto (2011)	managers	capacity, sociability, and organizational culture on creating a network of relationships in the workplace to exchange experiences was verified.
Innovative behavior, trust and knowledge sharing	Seo et al. (2016)	<i>Personal trainers</i>	The relationship of trust between supervisors and employees was identified as being responsible for innovative behavior.
Innovative behavior, empowerment, knowledge sharing, and gender	Abukhait, Bani-Melhem and Zeffane (2018)	Service Sector	This study concluded that empowered employees positively influence innovative behavior.
Innovative behavior and leadership style	Sethibe and Steyn (2017)	South African companies	The study identified the positive relationship in the innovative behavior of transformational and transactional leadership styles. It was noted that, among the components of leadership styles, intellectual stimulation, inspiring motivation, and reward positively impact the employee's innovative behavior. Furthermore, there is an opposite relationship between idealized influence and innovative behavior.
Innovative behavior, competitive intelligence and creativity	Khalili (2016)	Industrial	It was concluded in this study that leaders who present competitive emotional intelligence collaborate with employees in the development of creativity and innovative behavior within their companies.
Innovative behavior, organizational culture, social networks and leadership	Pugas et al. (2017)	Retail organization, self-proclaimed as innovative	It was concluded in this study that employees understand the need for an expressive presence of organizational culture, participative leadership, and an extrinsic relationship network to motivate innovative behavior. However, the studied organization has a high turnover, preventing this adherence to innovative behavior.
Innovative behavior, experimentation and innovation	Hassi and Rekonen, (2018)	Institution in Finland	Although an individual has personality traits and styles of thinking that support experimentation, this is not sufficient to conduct effective experiments if the required experimentation skills are lacking and will be developed through feedback.
Innovative behavior, corporate incubator and innovation	Kruft, Gamber and Kock (2018)	Lodging company	Corporate incubators and innovation climate significantly affect the innovative behavior of work.
Innovative behavior, personality and career	Abukhait, Bani-Melhem and Shamsudin (2020)	Dubai Hotel Sector	Career adaptability significantly mediated the relationship between these personality traits and innovative behavior.
Innovative behavior, management and leadership	Phil-Thingvad and Klausen (2019)	Danish Public Sector	Knowledge of management strategies (reported by the manager) and perceptions of managerial behavior (reported by employees) affect the perception held by public officials regarding the generation, promotion, and realization of ideas.
Innovative behavior, leadership and affective commitment	Khaola and Coldwell (2019)	Lesotho public and private organizations	Affective commitment moderates the relationship between leadership for personal use only and work on innovative behavior so that the relationship is stronger for employees who are emotionally committed. At the same time, it is relatively weaker for employees who are less emotionally committed.

Innovative behavior, leadership and personality	Strobl et al. (2019)	Austrian Executive	Humility and professional willpower increase subordinates' innovative behavior.
Innovative behavior, innovation and ambidexterity	Majhi et al. (2020)	Automotive equipment industry in India	The synergistic roles played in individual absorption and individual ambidexterity to improve innovation managers' behavior operate in an open context of innovation.

Source: Developed by authors

The literature shows patterns of innovative behavior concerning the type of market in which it operates, be it service, industry, or others. There is an opportunity to compare the authors' results with the database in the industry sector, especially in the automotive sector, which was absent in this review and in which, over the years of operation in the Brazilian scenario, several changes and technologies have been implemented. It is also worth mentioning the need to seek workers' perception in the sector given the denomination applied by industries in the segment regarding the 4th. Revolution, in which the processes are technology-intensive, and there is a new profile of worker and consumer (NOVIDA, 2020). It is important to note that, in the research highlighted in Table 1, qualitative and quantitative research methodologies are found, and the model by De Jong and Den Hartog (2010) is more used in quantitative investigations (GAUDÊNCIO; COELHO; RIBEIRO, 2014; KHALILI, 2016; BRUNETTO et al., 2016; HASSI; REKONEN, 2018; KHAOLA; COLDWELL, 2019), followed by Scott and Bruce's model (1994) (CARMELI; MEITAR; WEISBERG, 2006).

After the presentation of the studies carried out on the theme, the methodology of this work will be presented below.

METHODOLOGY

As for the purposes, this research is characterized as descriptive, which, according to Gil (2008), aims at delimiting a specific group or the correlation between factors or events. The data collected from the study reflect the particularities of the

investigated company. Its analysis contributes to the study of the relationship between manager and employee concerning innovative behavior. As for the means of research, it is a case study, that is, an experimental investigation that seeks to collect more incremental information, with greater detail in just one object of analysis, so that the researcher has sustainable evidence to relate them with the established constructs (GIL, 2008).

The industry, located in the state of Minas Gerais, has 19,000 employees. For data collection, e-mails were sent to all employees of the factory. The questionnaire was sent to the workers' e-mail addresses in the five factories and was answered through a link on the SurveyMonkey questionnaire management platform. The submission took place between November 2016 and May 2017, at random, as it was impossible to identify the specific sectors and areas of the workers who formed the sample. The research is classified as non-probabilistic for convenience, which Vergara (2014) understands to be the sample chosen for permissiveness and uniqueness. Due to the company's location, in this case, there was an opportunity for data collection.

Using the qualification of the dimensions of innovative behavior developed by scholars De Jong and Den Hartog (2010), the constructs "innovative behavior in the company," "participatory leadership," "employee association with extrinsic contact network" were used as a research instrument. To the work environment" and "transforming effect." The collection mechanism was divided into two perspectives, that of the leader and that of the subordinate. The constructs

"opportunity," "generation of ideas," "championing," and "application of innovation" were examined by leaders, while for subordinates, the constructs "leadership support," "external contacts" and "results" were used, these being the variables analyzed in the study.

The original study investigated employees' perception through the work developed by Janssen (2000), who surveyed employees and the theory of social exchange converging to innovative behavior. Regarding support for leadership and innovation results, a scale was developed, relating six items, and, for external contacts, one of five items was chosen. The scales used to measure the responses collected range from 1 to 5 (never, rarely, sometimes, almost always, always, in that order).

The data analysis technique adopted in this research was univariate and bivariate descriptive statistics, responsible for identifying the characteristics of the studied group, its diversities, and how respondents are classified among the variables established by the researcher (VERGARA, 2014). The spearman correction coefficient test was adopted as suggested by De Jong and Den Hartog (2010) analyses.

Table 1 presents the questions for managers to assess the dimensions: innovative behavior in the company, leadership performance, and the correlation of external contacts and innovative results, according to the study by De Jong and Dan Hartog (2010).

Table 2 - Questionnaire to Managers

Phrases to be Considered	
1	Do you pay attention to issues that are not part of your daily work?
2	Are you looking for opportunities to improve things?
3	Do you consider innovative opportunities?
4	Do you know how things can be improved?
5	Do they explore new products or services?
6	Are you looking for new working methods, techniques or tools?
7	Do they generate original solutions to problems?
8	Do they create new ideas?
9	Do you find new approaches to perform tasks?
10	Do they mobilize support for innovative ideas?
11	Do they get approval for innovative ideas?
12	Do they make essential members of the organization enthusiastic about innovative ideas?
13	Do you try to convince people to support an innovative idea?
14	Do they turn innovative ideas into useful applications?
15	Do they systematically introduce innovative ideas into work practices?
16	Do they contribute to the implementation of new ideas?
17	Do you put effort into developing new things?

Source: Research data

After applying the questionnaires to the respondents, the analysis begins on the dimensions identified according to the

questions mentioned above (Table 3). In the first column are the dimensions

studied; in the second, the view of supervisors.

Table 3 -Results of the Dimension Analysis

Dimensions	Supervisor
Opportunity	1, 2,3,4
Generation of Ideas	5,6,7,8
<i>Championing</i>	9,10,11,12
Application	13,14,15,16,17

Source: Research data

In the questionnaire answered by the supervisors, the answers to questions 1, 2, 3, and 4 refer to the opportunity dimension. They refer to the introductory part of the procedure for innovation, which occurs when the agent demonstrates innovative behavior in the opportunity to solve the problem, generating incentives for the employee to improve the current circumstances or develop a solution to the present foresight (DE JONG; DEN HARTOG, 2010).

The generation of ideas is verified in the leaders' answers to questions 5, 6, 7, and 8. According to the model adopted, this dimension is seen as a way for employees to be creative when faced with problems, innovate, and present their projects in an environment that motivates them.

The championing dimension corresponds to the result of questions 9, 10, 11, and 12. They allow the supervisor to identify the employee who is faced with an environment conducive to his project, which collaborates to develop his innovative achievements (DE JONG; DEN HARTOG, 2010).

After presenting innovative insights, finding the right environment that motivates him, only the implementation remains, that is, the application of the elaborated innovations and the presentation of the expected results, whether the innovation is a break with the existing product or process or just incremental. (DE JONG; DEN HARTOG, 2010). This dimension was analyzed in the answers to questions 13, 14, 15, 16, and 17.

In the next section, the results will be demonstrated and the analysis made based on the data collected in the research.

RESULTS

Data from the survey carried out at the automobile company were collected through SurveyMonkey targeting managers and employees. The questionnaires received were 160, with 28 from leaders and 132 from subordinates, which, according to the number of respondents, does not mischaracterize the sample because it is a non-probabilistic survey. The authors of this research adopted Cronbach's Alpha coefficient to assess the reliability of the applied questionnaire. According to Cronbach (1951), it is essential to pay attention to the accuracy and reliability when researching to measure something. The alpha coefficient is a mechanism responsible for measuring the parallelism of the respondents' demographic description and their responses. They were formalized in the questionnaires (DA HORA; MONTEIRO; ARICA, 2010). According to studies carried out by the authors mentioned above, for the alpha coefficient to be considered reliable, its result must be from 0.70. In this research, regarding managers' and employees' perception, the research's reliability coefficient was considered "high," with an average of 0.965.

In Table 4 below, managers' perception of innovative behavior in the organization is displayed.

Table 4 - Perception of managers regarding innovative behavior in the organization

Dimensions of Innovative Behavior	Average	DP	Median	Alpha
Opportunity	3,63	0,37	3,50	0,921
Generation of ideas	3,49	0,03	3,50	0,971
Championing	3,44	0,07	3,50	0,955
Application	3,48	0,18	3,00	0,976

Source: Research data

There is an expressive number regarding the manager's recognition when perceiving the innovative behavior in his collaborators. According to the scale adopted, it is understood as "sometimes" all dimensions ascertained: opportunities, generation of ideas, championing, and application. This result corroborates the studies carried out by Tuominen and Toivonen (2011). They applied, by analogy, this model in the service sector, using the qualitative method, in which the dimensions of innovative behavior were recognized. It can be inferred, when analyzing studies related to innovative

behavior, the need, on the part of companies, to instill in employees this boldness to explain their ideas and share experiences, collaborating to overcome adversities that the organization may be going through.

By the employees' perception, the dimensions of the innovative behavior analyzed (Table 5) were influenced by the studies carried out by the authors Scott and Bruce (1994) and Janssen (2000). Leadership support, external contacts, and innovation results were adopted as influencers.

Table 5 - General Perception of Employees

Dimensions	Average	DP	Median	Alpha
Leadership	2,95	0,15	3	0,988
External Contacts	2,47	0,29	2	0,978
Innovation Results	3,11	0,63	3	0,968

Source: Research data

Leadership support is perceived as the support that employees receive from their leaders to develop their skills and innovative ideas. However, the frequency with which they receive this support was identified as "rarely" (2.95), which is in contrast to the research carried out by Scott and Bruce (1994), Janssen (2000), Sethibe and Steyn (2017), and Pugas et al. (2017). They agree on the importance of participatory leadership in developing the team's innovative behavior in the organization.

Regarding external contacts, that is, networking - understood as the social network developed by the professional

during his career -, there was no expressiveness in the employees' conception, the item being rated as "rarely" (2.47), refuting the studies by Xerri and Brunetto (2011), Brunetto et al. (2016), Puga et al. (2017) and Abukhait, Bani-Melhem and Shamsudin (2020). The need to develop these extrinsic relationships is certified as a way of exchanging experiences, benefiting the organization in solving problems at a low cost for it, and, mainly, as a stimulus to develop innovative behavior among employees. Thus, the company tends to develop a team committed and engaged in promoting development based on innovation and

sharing knowledge both extrinsic and intrinsic to the organization.

The dimension of innovation results perceived by employees was evaluated as "sometimes" (3.11), a consequence of the lack of support from their managers, as well as the inexpressive extrinsic relationship of the team, which affirms the importance of the connection between these dimensions, according to the studies mentioned above.

The studies by De Jong and Den Hartog (2010) and by Pugas et al. (2017) affirm that the analyzed factors are

essential to induce innovation and creativity in the organizational environment, as they involve the particularities of each employee when asking for their opinion, recommendation, guidance, and autonomy, involving them in the deliberations and the elaboration of new concepts or services about the company's products. The subsequent analysis (Table 6) corresponds to respondents' average frequency from employees' perspectives concerning leadership support.

Table 6 - Average of employees' perception of leadership support

Leadership Support (questions)	Average	Response Frequency by Levels		
		Weak	Medium	Strong
It asks for my opinion.	3,03	24	29	26
It asks me to suggest how to perform tasks.	2,92	25	33	21
It consults me about important changes.	2,85	29	27	22
It lets me influence decisions about long-term plans and directions.	2,7	30	28	21
It allows me to define my own goals.	2,96	25	29	25
It gives me considerable opportunities for independence and freedom.	3,2	23	22	34

Source: Research data

It is noted that the questions "It gives me considerable opportunities for independence and freedom" and "it asks for my opinion" appear as "sometimes," quantified as 3.2 and 3.03, respectively, corroborating previous research by Seo et al. (2016), Pugas et al. (2017) and Abukhait, Bani-Melhem and Zeffane (2018), who concluded that there is a need to motivate employees and consider their ideas, promoting an environment with autonomy, confidence, and empowerment. Thus, employees will feel confident to position themselves in an innovative way in the company.

In the view of the collaborators, the manager "rarely" "allows me to define my own goals" and "allows me to carry out the tasks in a different way than usual," as

pointed out as 2.96 and 2.92, respectively, the average of respondents, the which shows that there is a lack of autonomy to perform the activities. Studies previously mentioned point to the importance of the reversion of these perceptions by the followers. Scott and Bruce (1994) and Janssen (2000) understand that workers who have autonomy and have confidence in their leaders tend to contribute to the company's innovation.

It was presented as "rarely", in the scale adopted by the authors, the need of the followers to participate in the process of changes and intrinsic decisions of the organization, with an average of 2.85 and 2.7, respectively. Leaders must pay attention to the contribution that employees can make to the company by sharing their

knowledge from previous work experiences through their networks of extrinsic contacts. That is, an employee that is motivated to develop their creativity in a trustworthy organizational environment becomes innovative and committed to the firm, which is confirmed by studies by Abukhait, Bani-Melhem and Zeffane (2018), Gaudêncio, Coelho and Ribeiro (2014), Seo et al. (2016) and Tuominen and Toivonen (2011).

As for employees' perception concerning extrinsic networks, the average of the results presented was classified as "rarely". There is little influence of external relationships, networking in the work environment (Table 7). The review of academic studies carried out by the authors shows the positive influence that the external social network can have on the organization.

Table 7 - Average of employees' perception of external networks

External Networks (questions)	Average	Response Frequency by Levels		
		Weak	Medium	Strong
It keeps in touch with potential clients of my company.	2,94	40	18	23
There are visits to conferences, fairs, and/or exhibitions.	2,57	62	13	6
It talks to people from other companies in our industry.	2	36	21	24
It keeps in touch with people from universities / knowledge institutions.	2,66	43	15	23

Source: Research Data

Employees have little contact (2.94) with the company's potential customers and little social exchange when it comes to visits to fairs or exhibitions (2.57). Depending on the studies by Xerri and Brunetto (2011), Brunetto et al. (2016), and Pugas et al. (2017), this networking is satisfactory for the employee and, mainly, for the company, since the exchange of experience and information can collaborate to solve problems and imminent threats, with low investment cost. Also, contacts at events in the areas of activity can contribute to new ideas, procedures, customers, and investors.

Thus, regarding the development of partnerships with university institutions and companies in the same market, the respondents pointed out as "rarely", with an average of 2.66 and 2, respectively. Disruptive and incremental innovations tend to develop in an organization open to the extrinsic environment, contacts with other companies and universities favor this event through knowledge sharing and socialization, as evidenced by research

conducted by Abukhait, Bani-Melhem, and Zeffane (2018), Brunetto et al. (2016), Seo et al. (2016) and Xerri and Brunetto (2011).

The last dimension analyzed by the employees' perception (Table 8) corresponds to the results of the innovation, having a more positive perspective, which raised the average of the answers to "sometimes" and only a result classified as "rarely." The practices adopted by the employees with relevant results were to acquire new knowledge and produce ideas to improve the practices, the averages being, respectively, 3.7 and 3.5, which correlate them, since, when developing new knowledge, with the possibility of sharing experiences and improving know-how, bring to the organization, through inferences, new ideas, and practices for the development of service innovations for work. Studies already point to these improvements, such as those by Brunetto et al. (2016), De Jong and Kemp (2003), Gaudêncio, Coelho and

Ribeiro (2014), Seo et al. (2016), and Xerri and Brunetto (2011).

Table 8 - Average of employees' perception of innovation results

Innovation Results (questions)	Average	Response Frequency by Levels		
		Weak	Medium	Strong
Does it make suggestions to improve current products or services?	3,16	17	33	31
Does it provide ideas to improve work practices?	3,5	12	28	41
Does it acquire new knowledge?	3,7	5	24	52
Does it actively contribute to the development of new products or services?	3,2	24	30	27
Does it acquire new groups of customers?	2,1	55	15	11

Source: Research Data

The employee committed to the organization cares to participate in improving services and products and points out his idea to improve it. These considerations were classified in the research as "sometimes" 3,2 and 3,16, in that order. The research showed development by integrating the presence of the employee in the decision-making processes. It is essential to give him that confidence to develop creativity, become an autonomous and innovative professional. In this way, it will create social responsibility with corporate ethics, as its opinions will be heard, discussed, and rewarded (ABUKHAIT; BANI-MELHEM; ZEFFANE, 2018; GAUDÊNCIO; COELHO; RIBEIRO, 2014; SEO et al., 2016; SETHIBE; STEYN, 2017).

This insignificant score for innovative results is understood, qualified as "rarely" (2.1) in employees' perception, as the social network of employees is not very expressive. This networking favors the acquisition of customers, according to the classification already alluded to. The organization is responsible for stimulating social exchange between employees and externally, which is a way of attracting

new groups of customers, as evidenced by studies on this variable (ABUKHAIT; BANI-MELHEM; ZEFFANE, 2018; BRUNETTO et al., 2016; PUGAS et al., 2017; XERRI; BRUNETTO, 2011).

That being said, the next section will bring the final considerations of this study.

FINAL CONSIDERATIONS

This work presented the following question as a guiding question: How are the characteristics of innovative behavior perceived by managers and collaborators within the automobile sector located in the state of Minas Gerais? As a basis for solving this interpellation, descriptive research was adopted. A case study was carried out in the automobile industry in Minas Gerais, in which managers and subordinates were heard, in a total of 132 respondents a SurveyMonkey, in November 2016 and May 2017. As a tool to measure the evaluation of managers, the studies by De Jong and Den Hartog (2010) were used, and to measure the perception of employees, the studies by Scott and Bruce (1994) and Janssen (2000).

Concerning the managers' perception regarding the dimensions analyzed, there was an innovative behavior in the team members, which presented an expressive number quantified in the scale adopted as "sometimes," which corroborates the authors' results as mentioned earlier. Assuming the company's current need to invest in innovation processes, allowing and encouraging its employees to explain their ideas and contributions, converging into an innovative behavior, as a way for the organization to maintain itself and leadership in its segment.

As for employees' perception, the analysis of the results obtained identified the motivation of managers to develop innovative behavior as not very expressive. It is possible to infer the manager's lack in exposing the company's real need to innovate and integrate the employee with the strategies to be defined by the board. In this way, it will create an organizational commitment, offering employees freedom to expose their ideas and share extrinsic and intrinsic knowledge.

Based on the result analysis, it can be concluded that the organization analyzed presented a difference in the perception of managers and subordinates. From managers' perspective, there is a concern to develop innovative behavior in employees and encourage them to do so. However, subordinates do not explicitly understand this incentive on the part of leaders. According to studies on innovative behavior, it is necessary to have symmetry between both, converging into the company's needs. Currently, with the spread of the internet and innovation in services and products occurring at full throttle, employees are expected to exhibit explicit, apparent innovative behavior, and managers must identify such behavior in their subordinates and encourage them to express themselves. Therefore, managers must adopt closer management to involve all those interested in the company's stages of improvement and improvement to

remain in a sustainable position in the production chain. This divergence of perception pointed out in this study may indicate a new gap for future studies.

The research presented by the authors found in the analyzes carried out on the Spell, and World Scientific databases corroborate the results found in the present study. It can be inferred that organizations need to involve all employees, with managers being responsible for disseminating this involvement of all in developing innovative behavior within the company. According to the results obtained, some practices are suggested to develop this performance in subordinates. As an example, social exchange of good practices and improve new ideas intrinsically and extrinsically, converging into the innovative development of the organization, since, according to Ayub, Kausar and Quadri (2017), Hassi and Rekonen (2018) and Tuominen and Toivonen (2011), the company needs to stand out from the competition, encouraging the employee to create a differential and develop products and services offered.

Regarding the theoretical implications, this study is critical because it presents managers' and employees' different perceptions about innovative behavior's motivation within the organization. The results will contribute to the academy since the research was carried out in a different segment from the ones already analyzed: the automobile industry. Even so, its results are in line with those indicated in Table 1.

Therefore, the importance of constantly investigating and developing research related to innovative behavior is understood. It is a possible way of measuring, in a straightforward way, these divergences of perceptions through a longitudinal analysis so that the researcher will be able to follow the phases that the employees and the organization are going through, such as the period of stimulus to

innovative ideas, from implementation to effectiveness, and this could still demonstrate the distinction or the relationship between the perception of managers and employees.

The organization must be prepared for a new, avant-garde phase of managing, adapting to new market trends and influences received, externally, through products and services offered by startups, universities, and suppliers, and, internally, through the employees' network. In addition, organizations must identify the most appropriate actions for their segment profile through analysis to mitigate the divergent perceptions of managers and employees.

The research carried out has limitations. The first is that the research was applied to only one company in the industrial sector, not obtaining comparative data from different sectors or the same sector, but from another region. The second limitation concerns the absence of demographic data, making it challenging to differentiate perceptions regarding gender, age, sex, and salary range. As a third limitation, the number of respondents is pointed out, which limited the research, not allowing a more robust margin of results. The fourth limitation is that, as it is a quantitative survey, the measured data becomes absolute, not allowing inferences about environmental and circumstantial influences on the respondents.

As a suggestion for future studies, paths that seek to measure innovative behavior's impact may reveal relevant issues, both theoretical and managerial, for organizations, since much is invested in innovation. However, the actual effects for the organization are still configured gap. Understanding the interaction with the organization's culture and values can contribute to the perception of variables that relate to innovative behavior. It is also recommended to carry out research, simultaneously, quantitative and qualitative, measuring innovative behavior, with the same instruments prevailing and

expanding the respondents. Thus, the qualitative approach will identify the interviewees' real feelings and raise the demographic data, using this resource to assess the influences on the innovative behavior of elements such as age, gender, sex. Finally, comparing other companies from different sectors and a study with the same company in its branches located in other states and countries is recommended.

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