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CASE STUDY

Impact of critical success factors and risk management on organizational results

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ABSTRACT

Goal: The purpose of this study is to identify how do risk management processes and critical success factors (CSFs) impact organizational results.

Design / Methodology / Approach: A qualitative research approach was applied, using a multiple case study, involving six organizations in public and private sectors of the Brazilian economy.

Results: The support given by top management, the existence of a corporate governance structure, the integration of risk management across all organizational functions and the importance of stakeholder participation, both in public and private organizations, presented aspects that impact organizational outcomes, such as the preservation of reputation, increase in market value, and the creation of competitive advantage.

Limitations of investigation: The present research considered only Brazilian organizations, which is a limiting factor for a possible generalization of the findings. The research can be extended to other organizations and countries, so that other contexts can be discussed and analyzed.

Practical implications: Based on the findings, we designed an Organizational Results Matrix (ORM), which aims to support managers dealing with factors conditioning the company´s results.

Originality / Value: The original value of the research lies in the presentation of ORM. This matrix may enrich the quality and rigor of the actions carried out in public and private sectors, providing to managers an insight into the main dimensions of CSFs and risk management process and their influence on the expected results.

Keywords: Risk management; Critical success factors; Organizational results.

INTRODUCTION

Activities related to enterprise risks are fundamental for the continuity of the business (Chen et al., 2020). Risk management is indispensable to any business environment and is fundamental to guarantee the achievement of strategic objectives (Rezapour et al., 2018). A well-structured risk management approach improves and encourages greater identification of opportunities for continuous improvement, reducing negative impact on the project's objectives and success (Alves et al., 2021).

By means of knowledge, the organization can improve its decision-making methods. The division of the organization into various functions, evidence the importance of knowledge for different business, culture and product and/or service (Cavaco and Junior, 2020). It is noteworthy that organizational functions are variable and depend on the size of the

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organization and the sector in which it operates (Fraser et al., 2022). For instance, administrative, financial, human resources, commercial, and operational activities are normally included in organizational charts. However, despite being fundamental to organizations, such functions alone are not enough to carry out an effective decision-making process (Weeserik and Spruit, 2018). One of the ways for companies to face this challenge is through the implementing risk management (Chakraborty et al., 2019).

In this context, risk information can be used to advice companies to rapidly make decisions and respond to events, thus preventing incidents and crisis (Crovini et al., 2020). It is possible to identify standards that enable the frameworks and development of risk management activities in organizations. Two structures spread among organizations are ISO 31000 and COSO ERM (Abdul Rahman and Al-Dhaimesh, 2018; Govender, 2019). For instance, ISO 31000 focuses on establishing strategies, achieving objectives and making informed decisions (ISO, 2018). Therefore, risk management should be part of corporate governance, creating and protecting value (Barafort et al., 2019; Hassan et al., 2022), being an interactive process and consider the organization's internal and external contexts (Rampini et al., 2019; Zhang et al., 2021). Similarly, COSO ERM highlights the importance of having a definition of strategic objectives aligned with the organization's mission, vision and values to strengthen its performance (COSO, 2017; Crovini et al., 2020; Rahman and Al-Dhaimesh, 2018).

In order to improve an organizational strategy, it is essential to identify the outcomes that risk-related activities provide to customers, employees, shareholders, and society in general (Teberga et al., 2018) . This identification can be accomplished through the analysis of the critical success factors (CSFs) (Oliveira et al., 2019). CSFs are key areas in which the results, if satisfactory, ensure a successful competitive performance for the organization (Rockart , 1979).

In this context, CSFs assist organizations to target on variations in activities that may interfere with antecedently planned projects (Barth and Koch, 2019) and allow managers to understand which part of a business is at risk and should be evaluated immediately and consistently (Kulenovic et al., 2021).

The efficiency of the risk management process, the relevance of identifying CSFs and the impact that both have on organizational results is still unclear (Nunes and Abreu, 2021; Shayan et al., 2019; Tan and Lee, 2022). As a result, there is a lack of empirical research to analyze these variables have an effect on the results obtained by companies. Therefore, this paper aims to fill the research gaps and to answer the research question: *"how do risk management processes and CSFs impact organizational results?"*

In order to answer the research question, this study analyzes the understanding of risk professionals about the influence that CSFs and the risk management process play in organizational outcomes. A qualitative research approach was applied, using a multiple case study, involving six organizations in public and private sectors of the Brazilian economy. Based on the findings, we designed an Organizational Results Matrix (ORM), which aims to support managers dealing with factors conditioning the company´s results.

In order to showcase our research, this paper is divided into six sections. Section 2 presents a synthesis of the literature regarding risk management and CSFs. Section 3 presents the methodological approach used in the field research. Section 4 presents the findings, followed by discussion in Section 5. Finally, we present conclusions, implications and limitations in Section 6.

LITERATURE REVIEW

Risk management

Risk management is the integration of organizational culture and available resources with the strategy and execution used by organizations to manage risks in the creation, preservation, and obtaining of value (COSO, 2017). The progression of this notion is the result of experience accumulated by organizations after financial crises, management of uncertainties and regulatory actions (Glowka et al., 2021).

During the 1970s, the literature established academic foundations for risk management activities. The article 'The risk management revolution' published by Felix Kloman in Fortune magazine in July 1976, made risk management famous as a corporate trend, being one of the first texts to establish the relationship between the top management of organizations and functions related to the business risk management (McShane, 2018).

Over the years, the relationship between risk management and strategic objectives has strengthened in companies (Altuntas et al., 2021). This role also arises from the perception that risks must be managed in an integrated manner, focusing on the company's strategy. From this aspect, Chakraborty et al. (2019) states that the main drivers of risk management are corporate governance requirements and compliance activities. These factors allow for a greater

understanding of strategic and operational risks.

Risk management is not intended to eliminate an organization's business risks. Mitigating the impact of risks on the project performance presents a significant challenge for the stakeholders (Junior et al., 2018; Tan and Lee, 2022). It appears that risk management is an effective process for managers to make more assertive decisions for their companies, which is why companies adopt practices directly taken to their implementation (Meskovic and Zaimovic, 2021).

The approaches and methods regarding the risk management processes are supported by established guidelines and standards. The two most common and internationally recognized models are ISO 31000, whose most recent version was published in 2018 and COSO ERM, which was last updated in 2017 (Abdul Rahman and Al-Dhaimesh, 2018; Govender, 2019).

According to Chen et al. (2020), the use of risk management processes evolved through research and application by companies, since over time, the process becomes part of the organizational culture. Innovative technologies and new conceptual frameworks emerge through new business models (Teberga et al., 2018). In this way, companies must adopt the best management practices and respect the regulations imposed by regulatory bodies in order to mitigate reputational risks and maintain their competitive advantage (Eberhartinger and Zieser, 2021).

Risk management process

Risk management processes positively affect results, when they add value to organizations (Perlekar and Thakkar, 2019). The need for companies to implement risk management activities has increased due to the need to manage the business with security and stability (Rod et al., 2020). When discussing the organization's performance, it is possible for managers to verify how risk management can influence organizational results (Sithipolvanichgul, 2021).

Technological innovations and regulatory measures were introduced systematically in organizations (Teberga et al., 2018). The establishment of risk management processes helped to redefine weaknesses and opportunities arising from technological innovations (Neto et al., 2018).

In performance analysis, the proper treatment of risks has a direct influence on the execution of the process, which optimizes decision-making by the top management (Fraser et al., 2022). According to Zhang et al. (2021), due to changes in the internal and external environment, the implementation of risk management processes is fundamental to improve a company´s strategic decision-making.

Critical success factors (CSFS)

In the middle of the 20th century, the understanding of CSF was presented to the academic community by researcher Ronald Daniel (1961), through the article 'Management information Crisis', published by the Harvard Business Review. According to the researcher, information management based on CSF would reduce the effects of a crisis due to rapid organizational change.

In 1979, John Fralick Rockart refined Daniel's ideas and, also in Harvard Business Review, published the article 'Chief Executives define their own data needs', which described CSFs at the organizational and industrial level and defined them as areas in which results, if satisfactory, will ensure successful competitive performance for the organization. They are considered key areas in which managers must implement better policies for the business to flourish (Rockart, 1979).

The CSFs must be regularly reevaluated so that they are in line with performance indicators stipulated in the management plan and, consequently, adequate to the strategic objectives (Kulenovic et al., 2021; Shayan et al., 2019). The dynamism of the CSF helps institutions to focus on variations in activities that may interfere with previously planned projects (Barth and Koch, 2019). In the specific scope of risk management, although there is little research on the influence of CSFs, the topic is recognized in the literature as a new paradigm to be studied (Nunes and Abreu, 2021; Rampini et al., 2019). During the planning phase, the development of programs focused on business risks and actions aligned with the main CSF, considering their impacts on the planned objectives (Oliveira et al., 2019).

Based on a review of the literature and through the analysis of the collected data, it is possible to present seven CSFs to the organizations' businesses namely support from top management, formal corporate governance structure, definition of strategic objectives, integration between organizational functions, software integration, training program, and, finally, communication with stakeholders.

Identifying the CSF adds value to the academic environment because it condenses the ideas of several researchers and in the corporate environment because it serves to assist managers in their decisions, such as allocation of human and financial resources.

Support from top management

The literature points out that the support provided by top management in the risk management process influences the results obtained by organizations. The support is due to the fact that managers are aware of the costs and returns obtained with the implementation of new management processes (Hassan et al., 2022).

Top management must provide risk managers with the necessary elements for the implementation and maintenance of activities, ensuring that the organization matures in management and develops a risk culture (Gurgun and Koc, 2021). Through a focus on results and careful planning, it is possible for managers to demonstrate the importance of the involvement of top management in the various management activities (Reitsma and Hilletofth, 2018).

Formal corporate governance structure

The formalization of corporate governance helps in the coordination and supervision of organizations to achieve the desired results (Leon and Nugraha, 2020). Research by Chakraborty et al. (2019) brought that the main contribution of corporate governance is to effectively carry out the activities set forth in the organization's policies and regulations.

Risk management practices propose a structure to be adopted by organizations that have developed corporate governance, without the need for significant investments in technological and human resources (Zhang et al., 2021). Larte et al. (2020) carried out a study on corporate governance in the public sector. The study emphasized that public and private organizations share almost similar governance indicators, considering the model estimation. They concluded that there is a negative relationship between good governance and board size from different institutional environments.

Definition of strategic objectives

The main function of risk management is the achievement of the strategic objectives of organizations (ISO, 2018). Thus, it is essential that they are clearly defined so that management systems appropriate to the business can be established (Ullah and Thaheem, 2018). Strategic objectives should guide the organization's planning while, considering performance indicators and quantifiable criteria so that the company can be analyzed as a whole (Fonseca et al., 2022) .

The strategic factors must be incorporated into the integrated business model so that uncertainties are monitored and objectives are strategically aligned with the desired results (Akhtar and Sushil, 2018).

Integration between organizational functions

The integration of process and functions is necessary for the organizational performance from the perspective of quality and risk management processes (Nicoletti Junior et al., 2018). The stages of identification, assessment of the magnitude and prioritization of risks must be approached in an integrated manner, so that the process can be optimized, and the objective of the activity is not just to comply with the legislation in force (Oliva et al., 2019).

The ideal is that the notion of integrated risk management is integrated in the organizational culture, ensuring the addition of values to companies (Reitsma and Hilletofth, 2018). To be effective, risk management must be carried out in a systemic, comprehensive and continuous manner (Saeidi et al., 2019).

Software integration

The competence to carry out an effective risk management is directly linked to the technological advance implemented by the organization (Sharma and Dadhich, 2020). Structured and integrated solutions provide more transparent and consistent management in the use of data (Reitsma and Hilletofth, 2018). In addition, it is possible to have a holistic view of all stages of the process, which is consistently updated and shared among stakeholders (Barafort et al., 2019).

The managerial control carried out only by spreadsheets is doomed to failure, since in today's uncertain world, organizations that do not adhere to integrated management software in all areas will lose market positions in their sectors of activity and will not achieve the results expected by senior management (Barafort et al., 2019).

Training program

The training of managers who work in activities related to process management, directly or indirectly, must occur on a scheduled and continuous basis (Glerum and Judge, 2021). It is essential that top management understand the relevance that intellectual improvement has in the whole process and spread this culture throughout the company (Galvão et al., 2020).

The investment in training and qualification of human resources improves the performance of professionals and optimizes the results obtained (Kravariti and Johnston, 2020). As the company invests in more qualified employees, it is more likely to enhance its results (McWilliams et al., 2022).

Communication with stakeholders

Communication facilitates the application of risk management activities (COSO, 2017). Sharing information with stakeholders increases transparency and helps to promote the evolution of processes throughout the organization (Xia et al., 2018). The study by Alves et al. (2021) presented a guide decision-makers on how to manage risks during the crisis, and also highlights the importance of creating a lessons learned database. It is essential to identify the results that risk-related activities provide to customers, employees, shareholders, and society in general (Fonseca et al., 2022).

ORGANIZATIONAL RESULTS

Organizations seek to optimize their results according to their respective strategic plans. As seen in the literature, risk management processes and CSFs have the potential to influence certain organizational results, such as: achievement of objectives, preservation of reputation, increase in operational efficiency, increase in market value and creation of competitive advantage.

Achievement of objectives

The achievement of strategic objectives is affected by inadequate management by organizations. Companies should pay more attention to events with a higher probability and impact of direct loss of revenue and capital than events that may result in positive effects (Sahiti and Sahiti, 2021). In order to have effects on results, risk management requires analysis, contextualization and proposals to respond to internal and external factors that impact the achievement of objectives and limit the use of opportunities (Betancourt et al., 2020). In this way, it is expected that companies committed to increasing their organizational value use practices that can be performed to implement, manage and monitor business risk analysis.

Preservation of reputation

The preservation of reputation is directly related to the image of the organization before its managers and external actors; efficient management protects and enhances the organization's credibility and reputation (Murè et al., 2021). Managers must prevent image risks involving the company's reputation in society from materializing (Khan and Sukhotu, 2020). Based on this analysis, the company must outline a business strategy that solves the main demands that may impact the image and, consequently, the results to be achieved (Litvinenko et al., 2022).

Increase in operational efficiency

The search for operational efficiency is a result desired by companies as it is directly related to increased profits (Hameed and Bouabid, 2023). According to Hastig and Sodhi (2020), one of the business requirements in the context of operations management is increasing operational efficiency. It should be noted that operational efficiency is one of the results that has a direct relationship with the size of the organization and its type, thus affecting the elaboration of strategies (Al Yami et al., 2022).

Increase in market value

The market value of an organization is one of the main performance indicators foreseen in the strategic planning of companies. Consequently, to ensure a continuous increase in the value of the company, it is necessary to implement efficient measures for its management (Zaytsev et al., 2020). It is noteworthy that processes that promote efficient risk monitoring are directly related to

performance, thus increasing the market value of companies (Malik et al., 2021).

Creation of competitive advantage

The creation of competitive advantage as an organizational result is related to the company's strategy and corporate risk management. In practical terms, activities related to organizational strategy are intended to combine management processes and obtain competitive advantage, thus promoting the exchange of internal and external knowledge and strengthening the dynamics of the business ecosystem (Rua et al., 2023). It is noteworthy that the CFS related to managerial perceptions of strategy and performance indicators have an influence on aspects related to competitive advantage (Yazdi et al., 2021).

Having presented the concepts that guided this research, it should be noted that the theoretical framework allows delimiting the boundaries of what is being researched, makes it possible to recognize the foundations that guide the investigation and formulate a conceptual model to be followed in the research.

This is a theme that has historically evolved in the literature, being discussed and researched by several authors and institutions. However, with the advent of new structures in risk management process and the relevance of CSF in organizations, the subject needs to be revisited and discussed.

In general terms, risk management processes and CSF are expected to be more developed in the private sector, as the pursuit of profit can be a driver of business strategies. The public sector, due to the fact that it has the government machine in its favor, sometimes does not need to carry out efficient management to remain in the market.

Figure 1 presents a conceptual framework of this research, highlighting the independent and dependent variables. According to Creswell (2014), the independent variables are those that cause, influence or affect the results. On the other hand, the dependent variables are the consequences or results of the influence of the independent variables.

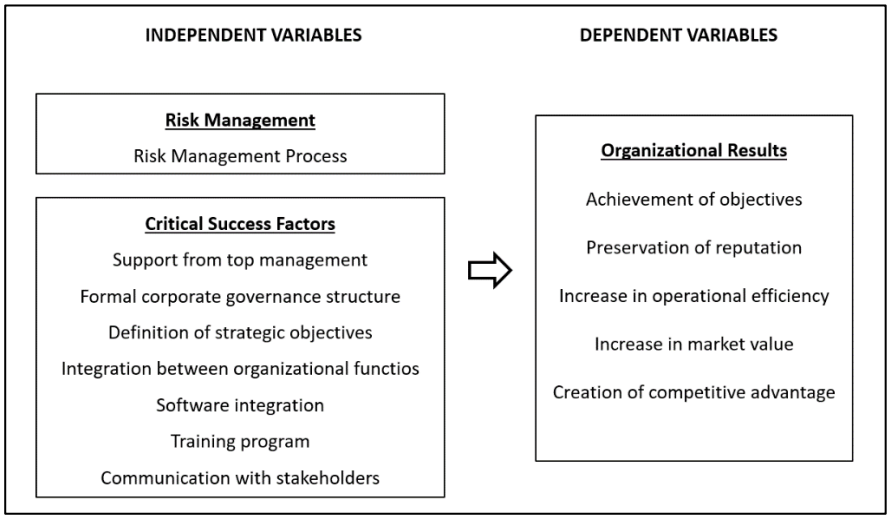

Figure 1 - Conceptual framework

RESEARCH METHODS

While seeking the influence of risk management process and CSFs in decision-making and its consequent impact on organizational results, this research proposal benefited from a qualitative approach through a multiple case study.

As identified in the literature review, the current state of development of the topic can be considered at an early stage. Therefore, the present study, as it is based on the meaning that various authors express in the literature and on the need to carry out an inductive data analysis, was developed using a qualitative approach.

The qualitative research fits the objectives of this article since it was carried out in the places where human behavior and events occur. According to Merriam (1998), the researcher is the main instrument in the collection of descriptive data, which are reported in words, instead of numbers. The focus of this approach is perceptions, experiences and the way in which participants present a sense of reality (Creswell, 2014).

Qualitative research focuses on the process, the result and the particularities of what is

happening (Merriam, 1998), as researcher are interested in understanding how phenomena happen. Data are interpreted with respect to these particulars rather than generalizations. According to Creswell (2014), the qualitative approach is based on the use of tacit knowledge, so the data are not quantifiable in the traditional sense of the word.

The choice of a qualitative approach is due to the fact that the present research has as its fundamental concern the study and observation of the empirical world in its natural environment. This research covers the data collected in the participant's environment, the inductive analysis of the data formed from the particularities of the general themes and the interpretations made by the researcher about the meaning of the data. Thus, it is possible to extract holistic representations of the processes.

A case study can involve a single case or multiple cases with varying levels of analysis and integration. According to Miles and Huberman (1994), multiple cases offer the researcher an even deeper understanding of processes and outcomes of cases. The theories developed in these studies have empirical validity, being suitable for new areas of research or areas in which the knowledge developed is considered insufficient (Eisenhardt, 1989).

The case study is a powerful method for developing and testing theory in the operations and management of organizations. Unlike other methods, this one is based on the reality of operations. Not limited by the rigidity of questionnaires and models, it can lead to new and creative ideas, new theory development and have high validity with researcher (Voss et al., 2002).

According to Miguel(2007), among the benefits of conducting a study of this nature are the possibility of developing new theory and increasing understanding of real and contemporary events, emphasizing that many concepts in operations management and production engineering were developed through of case study.

In the case study, the researcher's observation capacity is essential to have an exact understanding of the environment that is being analyzed. Theoretical knowledge on the subject is also fundamental, since, in addition to identifying and selecting existing data sources, the researcher needs to relate the theory to observations arising from field work (Barratt et al., 2011).

Thus, based on the references on appropriate research strategies, it appears that the need for the presence of the researcher in data collection, the existence of a small sample, the need to answer the question “how” and the need to deeply understand the decision process, the appropriate research strategy for this research is the case study.

It is worth emphasizing the importance of triangulation in research that uses the case study method. Triangulation refers to the use of different methods and data sources to study the same phenomenon (Stuart et al., 2002). According to Miles and Huberman (1994), triangulation is a way to get to the finding in the first place - by seeing or hearing multiple instances of it from different sources by using different methods and by squaring the finding with others it needs to be squared with.

Case selection

In this work, we chose to study multiple cases, aiming to have a greater degree of generalization of results (Yin, 2017), thus avoiding the risk of an inappropriate judgment when using a single case (Miguel, 2007).

The type of sample followed the sample categorizations proposed by Miles and Huberman (1994), namely: combination and convenience. The first has the purpose of having elements to carry out triangulation, flexibility and covers multiple interests and needs. The second aims to save time, money and effort, but in the case of this research without losing the quality of information and credibility; only taking advantage of the viability of the authors' access to the organizations.

Of the six organizations studied, three were public organizations and three were private organizations. The purpose of this division was to be able to compare the development on the studied theme of these two sectors in the national scenario. To have a more heterogeneous sample, the areas of operation of the six companies were different.

To maintain confidentiality, the reference to organizations was made through sequential letters (A, B, C, D, E, and F) and to the managers interviewed using sequential numbers (1, 2, 3, 4, 5, and 6). It is noteworthy that for each selected company, a risk area manager was interviewed, thus totaling six professionals, this being the final sample. Table 1 shows the characteristics of the selected organizations and their respondents.

Sector	Organization / Respondent	Industry/Sector	Approximate Annual Revenue or Budget (US$ MM)	Number of employees	Respondent Position	Time in position
Public	A/1	Juridical services	150	8.000	Member of the Risk Management Committee	3 years
	B/2	Information technology services	10	200	Risk Manager	4 months
	C/3	Construction	25	76	Risk Analyst	1.6 years
Private	D/4	Brewing sector	20000	13.000	Risk Manager	10 years
	E/5	Financial sector	20	350	Corporate Risk Manager	1.5 years
	F/6	Fertilizer production	2000	5.000	Regional Coordinator Risk Management	1.5 years

Table 1 - Characteristics of the organizations and respondents

Data collection

Data were collected from the above-mentioned six organizational contexts. To provide a real understanding of the situation and the information extracted, thus avoiding bias and giving basis to the empirical findings (Voss et al., 2002), we used three sources of evidence in data collection stage: semi-structured interviews, documentation about the organization, and direct observation. It is worth emphasizing the importance of triangulation in this research method. It refers to the use of different data sources to study the same phenomenon (Stuart et al., 2002).

The primary source was a semi-structured interview. All of them were audio recorded, thus ensuring greater accuracy of the information in the subsequent analysis (Miguel, 2007). The set of questions to be used in semi-structured interviews were assembled in the field research form.

The questionnaire is divided into ten parts. The first, called interviewee characterization, aims to obtain information about the role played in the organization, the training carried out to perform the role, and the degree of participation in risk management activities. The second part, called characterization of the organization, extract information such as size, type, number of people, and the year in which the risk management activities started, and the relevant team was constituted. From the third to the tenth part, the form has questions related to the proposals of this paper.

The questions asked were intended to identify how the risk management process and the CSF impact on organizational results. In order to compare the answers between the interviewees without losing the naturalness and fluency of the interview, open and closed questions were used in the questionnaire.

The interviews were transcribed using Microsoft Word 2010® software, making it possible to insert the files with the raw data in the NVivo12® software. The use of this program significantly reduces the complexity of establishing links between information, simplifies the procedures for coding data, and increases the analytical rigor in qualitative studies (AlYahmady and Al Abri, 2013).

The documentary analysis, second source used, was carried out to rectify or ratify what was informed in the interview by the participant. This conference in the documentation is interesting because in addition to being able to provide data not presented in the interview, it avoids interrupting the fluency of direct speech and the line of reasoning followed by the participant.

The third and final source of evidence was direct observation. For this reason, all interviews were conducted at the selected organizations. Thus, it was possible to identify factors that were not apparent from the interviewees' discourse and those missing in the documents.

Thus, the observation stage was carried out after the interview. On that occasion, the researcher

had the opportunity to visit areas related to risk management activities, talk to other managers and record his observations in an unstructured manner. These perceptions obtained on the spot greatly add to the final analysis by the researcher.

FINDINGS

The findings presented in this article result from the triangulation of the three sources of evidence used in the data collection stage. Table 2 summarizes the individual results of each case study.

The risk management process was identified in all organizations; although it had a different impact on the results. It is noteworthy that the reputational factor was more evident in public organizations and the market value factor in private organizations. However, issues related to the achievement of objectives and operational efficiency were highlighted in both sectors.

The identification of the CSF proved to be fundamental for all organizations. It was possible to identify the impact of 05 of them on organizational results, namely: support from top management, formal corporate governance structure, integration between organizational functions, training program and communication with stakeholders.

It should be noted that 02 CSF were relevant only in private organizations: definition of strategic objectives and software integration. In the next section, the results will be discussed and compared with what has been identified in the literature.

Table 2 – Summary of the results of the cases studies.

	Topic / Organization	A	B	C	D	E	F
1	Risk management process	Achievement of objectives Increase in operational efficiency	Preservation of reputation Achievement of objectives Increase in operational efficiency	Preservation of reputation Creation of competitive advantage Achievement of objectives	Increase in market value Creation of competitive advantage Increase in operational efficiency	Increase in market value Increase in operational efficiency Achievement of objective	Achievement of objectives Increase in operational efficiency
2	Support from top management	Preservation of reputation	Preservation of reputation Creation of competitive advantage	Achievement of objectives Preservation of reputation	Preservation of reputation Increase in market value Creation of competitive advantage	Increase in market value Preservation of reputation	Creation of competitive advantage Increase in market value
3	Formal corporate governance structure	Achievement of objectives Preservation of reputation	Preservation of reputation	Preservation of reputation Creation of competitive advantage	Increase in market value Increase in operational efficiency	Preservation of reputation Creation of competitive advantage Increase in market value	Increase in market value
4	Definition of strategic objectives	Unrelated to organizational results	Unrelated to organizational results	Unrelated to organizational results	Increase in operational efficiency Preservation of reputation	Achievement of objectives Increase in operational efficiency	Increase in operational efficiency Creation of competitive advantage Increase in market value
5	Integration between organizational functions	Increase in operational efficiency	Preservation of reputation	Preservation of reputation Creation of competitive advantage	Increase in market value Preservation of reputation	Creation of competitive advantage Increase in market value	Creation of competitive advantage
6	Software integration	Unrelated to organizational results	Unrelated to organizational results	Unrelated to organizational results	Increase in operational efficiency	Increase in operational efficiency Creation of competitive advantage	Increase in operational efficiency Achievement of objectives
7	Training program	Unrelated to organizational results	Unrelated to organizational results	Unrelated to organizational results	Unrelated to organizational results	Creation of competitive advantage Achievement of objectives	Unrelated to organizational results
8	Communication with stakeholders	Preservation of reputation	Achievement of objectives Preservation of reputation	Preservation of reputation	Preservation of reputation Creation of competitive advantage	Preservation of reputation Increase in market value	Preservation of reputation Increase in market value

DISCUSSION

This empirical study found that the organizational result most influenced by the establishment of a risk management process are operational efficiency and the achievement of objectives, confirming what previous studies have highlighted (Fonseca et al., 2022; Perlekar and Thakkar, 2019; Rod et al., 2020). It is also noteworthy that other expected results, such as market value, reputation and competitive advantage (Adrian, 2017; Khlif and Hussainey, 2016) were mentioned by the interviewees.

When analyzing CSFs identified on existing knowledge, this research confirms that the support given by top management is paramount to the managerial areas and reaches all stages of the risk management process (Cavaco and Junior, 2020; Crovini et al., 2020; Weeserik and Spruit, 2018), with emphasis on the design phase. It is the beginning of every procedure and the moment when the likely improvements in results are presented. In this phase, top management must act mainly in the engagement of all employees of the organization (Reitsma and Hilletofth, 2018), so the risk management process carries out its first cycle and gains continuity in the others.

In both the public and private sectors, a formal corporate governance structure plays a direct role in organizational results (Chakraborty et al., 2019; Leon and Nugraha, 2020). Regarding strategic objectives sought by the organization, only in private sector, risk management is based on strategic objectives previously defined in institutional rules or guidelines (Akhtar and Sushil, 2018; Ullah and Thaheem, 2018). In these organizations there is a type of metric, such as KPIs, that assesses the achievement of the expected results (Akhtar and Sushil, 2018; ISO, 2018).

As mentioned in *Literature Review*, the integration between organizational functions impact the outcomes obtained (Nicoletti Junior et al., 2018; Reitsma and Hilletofth, 2018).Through the analyzed documentation and due to the specificity of certain risks, it was possible to identify that the risk activities have capillarity across all organizational functions (Oliva et al., 2019; Saeidi et al., 2019).

Due to clear divergence between the public and private sectors, this research partially confirms that implementation of software that integrates risk management with other management areas affect the results obtained (Barafort et al., 2019; Sharma and Dadhich, 2020). Analyzing the data for the six organizations, we can note that the integration of all modules generates a competitive advantage for the private sector.

Hiring what previous studies have highlighted (Galvão et al., 2020; Glerum and Judge, 2021; Kravariti and Johnston, 2020; McWilliams et al., 2022), the existence of continuing training programs does not impact the achievement of the results desired by organizations. In four of the six organizations, training in the area of risk management, when carried out by professionals, is not sufficient to optimize the results of the organization, because according to the managers of five organizations, there is no type of metric to assess the application of knowledge acquired by the employees who carry out the training. According to the interviewees, this lack did not reflect negatively on the outcomes expected by the organizations.

In accordance with previous research, this study confirms that an open and constant communication with stakeholders allows for the improvement of the management practices implemented (COSO, 2017; Xia et al., 2018) and the improvement of results (Alves et al., 2021; Fonseca et al., 2022).

Finally, based on the literature and data obtained from field research, it is possible to identify the evolution that the private sector has had in relation to the public sector. In the private sector, risk management structures are clearly defined and their purpose is to gain a competitive advantage over competitors in the sector. In the public sector, due to the lack of a competitive advantage, risk management processes lack clear objectives. It appears that the need to comply with legal requirements is not enough for there to be a change in risk management culture.

Thus, despite the existence of opportunities for improvement in the activities carried out by the private sector, its business actions are in the right direction according to what is foreseen by the main risk management structures.

Organizational Results Matrix

Based on the findings and according to the discussion presented, we designed an Organizational Results Matrix (ORM) (Figure 2), which best represents the influence that CSFs and risk management processes play in organizational outcomes, supporting managers dealing with factors conditioning the company´s results.

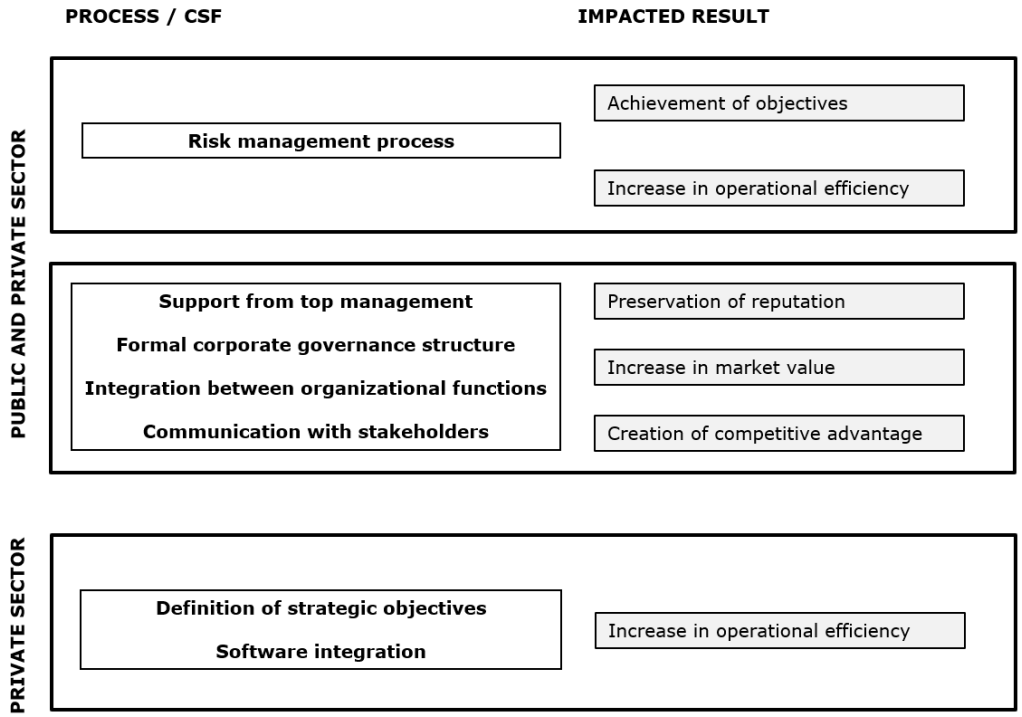

Figure 2 - Organizational results matrix.

The first column of the matrix shows the process and CSFs studied in this research. They are divided into 3 blocks and correlated with the results that are most influenced by them, in the second column called *Impacted Result*. In addition, it should be noted that the first two blocks refer to the public and private sectors and the third block only to the private sector.

This matrix may enrich the quality and rigor of the actions carried out in public and private sectors, providing to managers an insight into the main dimensions of CSFs and risk management process and their influence on the expected results.

When applying the matrix, managers will have a cause (*Process / CSF*) and effect (*Impacted Result*) relationship. This relationship ought to assist in the allocation of human and financial resources so that organizational results, that directly affect the survival of the company, are optimized.

CONCLUSIONS, LIMITATIONS, AND FURTHER RESEARCH

This paper analyzes how risk management processes and CSFs impact organizational results. In particular, our findings underline the understanding of risk professionals about the influence that CSFs and the risk-related activities play in companies' results. This multiple-case study, involving six organizations in public and private sectors of Brazilian economy, provides a means to connect the risk management implementation with an effective outcome, as well as identifies seven CSFs to the organizations' businesses.

Organizations must focus on results so that they remain competitive in their areas of expertise (Cavaco and Junior, 2020; Rezapour et al., 2018). For that, they need to have a structured risk management framework, with defined policies, methodologies, processes, roles, and responsibilities (Chen et al., 2020; Teberga et al., 2018), and a set of identifies CSFs relevant to their business (Barth and Koch, 2019; Kulenovic et al., 2021; Oliveira et al., 2019).

The paper contributes to the current literature by considering organizational practices to manage risks in public and private sectors, and the role of risk managers in fostering the implementation of an appropriate risk structure. This empirical analysis also contributes to business research field, by exploring seven CSFs identified on existing knowledge, namely support from top management, formal corporate governance structure, definition of strategic objectives, integration between organizational functions, software integration, training program, and, finally, communication with stakeholders.

The study also presents practical implications for managers due to the useful implementation of the Organizational Results Matrix (ORM), showing that the establishment of risk management processes and the analysis of CSFs have a direct influence on the organizational outcomes. The research strengthens that the support given by top management, the existence of a corporate

governance structure, the integration of risk management across all organizational functions and the importance of stakeholder participation, both in public and private organizations, presented aspects that impact organizational outcomes, such as the preservation of reputation, increase in market value, and the creation of competitive advantage.

Scholars argue that continued training in risk management causes impact on organizations' results (Galvão et al., 2020; Glerum and Judge, 2021; Kravariti and Johnston, 2020; McWilliams et al., 2022). However, this research concluded that the training component does not affect the achievement of the results desired by the organization. From the data collected in the case studies, it was possible to identify that the lack of structured and continuous training planning did not reflect negatively on the results expected by the organizations, which is a key finding in this study.

The research scope and the conceptual model used in this paper are limited due to the small sample size and the qualitative research approach. To obtain the greatest possible heterogeneity, institutions operating in different sectors were chosen. On the one hand, it was possible to identify characteristics of six areas of activity; on the other hand, it is not feasible to make a comparison between them. In addition, even if a professional who works in the risk area is chosen, the fact that only one manager per organization was interviewed can be characterized as a bias that has a direct influence on the result.

The original value of the research lies in the comparison of public and private sectors about the implementation of risk management processes and in the belief that organizations will adopt risk management practices only if resulting in increased organizational performance and results.

Finally, we suggest that further research is conducted regarding the theme extended to other organizations and countries, so that other contexts can be analyzed. Another suggestion is to use a quantitative approach; the use of objective data and a greater number of organizations will allow the generalization of CSFs to risk management in certain areas of activity.

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