






## Operational risk management: analysis of risks in a human resources unit of a public university

 Valéria Seoane Standt<sup>1</sup>  Luiza Santangelo Reis<sup>2</sup>  Fernando Richartz<sup>2</sup> and  Lucas dos Santos Matos<sup>3</sup>

 Universidade Federal de Santa Catarina (UFSC), Programa de Pós-Graduação em Planejamento e Controle de Gestão, Departamento de Atenção à Saúde, Santa Catarina, Florianópolis, Brazil <sup>1</sup>

 Universidade Federal de Santa Catarina (UFSC), Programa de Pós-Graduação em Planejamento e Controle de Gestão, Departamento de Contabilidade, Santa Catarina, Florianópolis, Brazil <sup>2</sup>

 Universidade Federal de Santa Catarina (UFSC), Programa de Pós-Graduação em Engenharia de Produção, Coordenadoria de Gestão Estratégica, Santa Catarina, Florianópolis, Brazil <sup>3</sup>

### Abstract

**Study objective:** Develop a risk management plan for the operational activities of the human resources unit at a public higher education institution.

**Methodology/Approach:** This is applied research with a qualitative approach and exploratory and descriptive purposes, applying the UFSC Risk Management Plan Development Manual. This manual is based on the COSO ERM, ABNT NBR ISO 31000:2009, and Joint Instruction (IN) MP/CGU No. 01/2016 methodologies, adapted for the operational context of human resources management.

**Originality/Relevance:** This study expands the understanding of risk management beyond the strategic levels, demonstrating that the methodology can be adopted in support of achieving the objectives of the operational levels, in attention to practices of governance, risk management, and public integrity.

**Main Results:** Thirty-seven risk events were identified, and their controls were evaluated. After analysis, only five risks remained and were classified as high-level, with no critical risks found. The results revealed a lack of knowledge regarding risk management within the team, highlighting the need to foster a risk culture at all organizational levels. Furthermore, internal communication must be improved to ensure organizational objectives are clear and aligned with operational practices.

**Theoretical/Methodological Contributions:** This research demonstrates the application of a risk management framework at the operational level. It also broadens the discussion for oversight bodies to develop public policies that improve instruments for effective governance and public integrity within the university context.

**Social/Management Contributions:** Understanding the tool and its practice promotes reflection on the challenges in executing actions and the means to overcome them, signaling necessary internal changes for instrumental risk management in support of management strategies.

**Keywords:** operational risk management, human resources management, public university, public administration



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**Conflict of interest:** The authors have not declared any potential conflicts of interest

**Corresponding author:** Valéria Seoane Standt - valeria.s@ufsc.br

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## **Gestão de riscos operacional: análise dos riscos em uma unidade de gestão de pessoas de uma universidade pública**

**Objetivo do estudo:** Desenvolver um plano de gestão de riscos para as atividades operacionais da unidade de gestão de pessoas de uma instituição pública de ensino superior.

**Metodologia/abordagem:** Trata-se de uma pesquisa aplicada, de abordagem qualitativa, propósitos exploratório e descritivo na qual foi aplicado o Manual para Elaboração de Planos de Gestão de Riscos da UFSC, estruturado a partir das metodologias COSO ERM, ABNT NBR ISO 31000:2009 e na IN Conjunta MP/CGU nº 01/2016 para o contexto operacional de gestão de pessoas.

**Originalidade/Relevância:** Esse estudo amplia a compreensão da gestão de riscos, para além dos níveis estratégicos, demonstrando que a metodologia pode ser adotada em apoio ao alcance dos objetivos dos níveis operacionais, em atenção às práticas de governança, gestão de riscos e integridade pública.

**Principais resultados:** Foram identificados 37 eventos de risco, avaliados seus controles e após esta análise restaram apenas 5 riscos considerados de grau elevado e nenhum risco crítico. Os resultados revelaram o desconhecimento da equipe sobre o gerenciamento de riscos, persistindo a necessidade de fomentar a cultura de riscos em todos os níveis da organização. Há a necessidade de aprimorar a comunicação interna, para que os objetivos organizacionais estejam claros e alinhados às práticas operacionais.

**Contribuições teóricas/metodológicas:** A pesquisa demonstra a aplicação de um framework para a gestão de riscos no nível operacional. Também amplia a discussão para que órgãos de controle desenvolvam políticas públicas, que aprimorem instrumentos para efetivar a governança e a integridade pública no contexto universitário.

**Contribuições sociais / para a gestão:** A compreensão da ferramenta e sua prática, promovem a reflexão sobre os desafios na execução das ações e dos meios para superá-los, sinalizando mudanças internas necessárias para um gerenciamento de riscos instrumental, em apoio às estratégias de gestão.

*Palavras-chave:* gestão de riscos operacional, gestão de pessoas, universidade pública, administração pública

### **Resumén**

## **Gestión de riesgos operativos: análisis de riesgos en una unidad de gestión de personas de una universidad pública**

**Objetivo del estudio:** Desarrollar un plan de gestión de riesgos para las actividades operativas de una unidad de gestión de personas de una institución pública de educación superior.

**Metodología/Enfoque:** Se trata de una investigación aplicada, con enfoque cualitativo y propósitos exploratorio y descriptivo, en la cual se aplicó el Manual para la Elaboración de Planes de Gestión de Riesgos de la UFSC. Este manual está estructurado a partir de las metodologías COSO ERM, ABNT NBR ISO 31000:2009 y la Instrucción Normativa (IN) Conjunta MP/CGU No. 01/2016, adaptadas al contexto operativo de la gestión de personas.

**Originalidad/Relevancia:** Este estudio amplía la comprensión de la gestión de riesgos más allá de los niveles estratégicos, demostrando que la metodología puede adoptarse para apoyar el logro

de los objetivos operativos, en consonancia con las prácticas de gobernanza, gestión de riesgos e integridad pública.

**Principales resultados:** Se identificaron 37 eventos de riesgo y se evaluaron sus controles; tras este análisis, solo permanecieron cinco riesgos considerados de grado elevado, sin detectarse riesgos críticos. Los resultados revelaron el desconocimiento del equipo sobre la gestión de riesgos, persistiendo la necesidad de fomentar una cultura de riesgos en todos los niveles organizacionales. Asimismo, es necesario mejorar la comunicación interna para que los objetivos organizacionales sean claros y estén alineados con las prácticas operativas.

**Contribuciones Teóricas/Metodológicas:** La investigación demuestra la aplicación de un marco de trabajo (framework) para la gestión de riesgos a nivel operativo. También amplía la discusión para que los organismos de control desarrollen políticas públicas que mejoren los instrumentos para hacer efectiva la gobernanza y la integridad pública en el contexto universitario.

**Contribuciones Sociales / para la Gestión:** La comprensión de la herramienta y su práctica promueven la reflexión sobre los desafíos en la ejecución de las acciones y los medios para superarlos, señalando los cambios internos necesarios para una gestión de riesgos instrumental en apoyo a las estrategias de gestión.

*Palabras clave:* gestión del riesgo operativos, gestión de personas, universidad pública, administración pública

## 1 Introduction

Both private and public organizations are subject to external and internal factors that can impact their operations and strategies, interfering with the achievement of their objectives. Given these interferences and following the example of private organizations, public administration has been migrating from a bureaucratic model to a more managerial model, through the analysis of results and the adequate management of available resources to offer better public services (Costa & Silva, 2023).

Vulnerability to critical factors challenges public organizations and requires decisions, actions, and the use of strategies linked to their processes, ensuring the effectiveness of their deliveries, focused on social needs, public interest, and the efficient use of resources (Araújo & Gomes, 2021). As strategic resources, governance, risk management, and integrity mechanisms assist public agents in the effective fulfillment of decisions (Vieira & Barreto, 2019).

In Brazil, the obligation to manage risks in public entities began in 2016, with the issuance of Joint Instruction (IN) MP/CGU No. 01/2016 and the Decree No. 9,203/2017 (DOU, 2016; 2017). Consequently, public administration organizations must establish, maintain, monitor, and

improve the risk management system and internal controls so that governance is based on integrity, accountability, and transparency (OECD, 2025).

However, despite the implementation of policies and regulations for the adoption of risk management, a TCU report (Brasil, 2024), which audited 387 public organizations, shows that 43% have not yet implemented or have incipient systems. Non-observance of these processes weakens the governance policy, as risk management acts as a preventive and management support mechanism, mapping threats and factors that may impact the achievement of goals and compromise integrity within the organization (Brasil, 2018).

From this perspective, the topic lacks research addressing the application and results of risk management in public bodies so that the practice can be understood and fostered in organizations (Braga, 2018), enabling reflection on the difficulties in executing actions and the means to reduce their effects (Medeiros et al., 2020). Through these processes, public integrity, which is a positive and broad approach, a fundamental object of good governance, is consolidated, ensuring the effectiveness of public policies and the trustworthiness of citizens (OECD, 2025).

For the effective implementation of risk management, the practice must be incorporated into the strategic and operational spheres of the entire organization, requiring the involvement of all its managers, so that it becomes part of the organizational culture (Vieira & Barreto, 2019). This is because agents at operational levels have primary ownership and responsibility for identifying risks, carrying out management in their spheres of action, and executing procedures and controls over the operations developed (Brasil, 2018).

Federal universities, as public entities, must comply with the requirements of control bodies, including in their governance policies aspects related to risk management, covering diagnostics and monitoring actions (DOU, 2016). Among the federal higher education institutions that are advancing in these practices, the Federal University of Santa Catarina (UFSC) stands out in the rankings of the best universities in the country (RUF, 2025), leading an academic community of more than 46,000 people (UFSC, 2024a).

UFSC has been making systematic efforts to enhance its governance, internal control, and risk management processes. Thus, the University utilizes its Institutional Development Plan (PDI, for its initials in Portuguese) as its primary strategic planning instrument (UFSC, 2019) and has established a Risk Management Policy (UFSC, 2020c) outlining guidelines to be followed by the institution. In addition to these actions, it structured its first Institutional Risk Management Plan

(UFSC, 2020b) to map and monitor the risks that impact the achievement of strategic objectives defined in the PDI.

However, although the senior management that administers UFSC has validated the respective Institutional Plan and provides information for its monitoring (UFSC, 2020b), these practices remain at the strategic levels and do not reach the operational levels of the institution. Thus, there is a gap in the implementation and execution of this instrument at the operational levels, due to UFSC's organizational complexity, given the diversity of stakeholders who administer and comprise it.

To meet this need, monitoring risks through sectoral plans allows for the alignment of daily activities so that they are consistent with the institution's objectives. Given this, it is necessary to broaden the discussion of risks so that they communicate with operational themes, reflecting on daily activities, so that agents can perceive the applicability of this tool from a more practical perspective (Braga, 2018).

Within the operational scope of universities, among the administrative units that comprise them, the people management units are directly related to the operationalization of new governance practices, as they are responsible for optimizing human capital and aligning competencies to improve organizational performance, aiming for a balance between efficiency, accountability, and quality of services (Zolak Poljašević et al., 2025).

Among the operations they manage are personnel hiring, the promotion of development and training policies, as well as policies aimed at quality of life at work, which impacts the health, motivation, and commitment of civil servants (Zolak Poljašević et al., 2025). In addition to managing human resources in the institution, they also manage a public budget that corresponds to about 82% of the budgetary resources received from the federal government, for personnel costs and social charges (Brasil, 2025).

At UFSC, risk events that impact the routine work of the people management unit are not evaluated, which indicates the need to promote studies on these processes, given that it is at the operational level that the daily operations occur which impact the fulfillment of strategically defined goals (Belluz, 2010).

Thus, this scenario highlights the obstacles found in these processes and the opportunities to be explored, which will allow for expanding the field of study in public organizations, so that they fulfill the social role they perform and promote transparency in the definition of their priorities

and actions (Salerno & Leite, 2020). In this context, this research is motivated by the following question: **how to manage risk events that may interfere with the achievement of the objectives of a Pro-Rectorate at a public university?**

From this perspective, the objective of the research is to develop an operational risk management plan for the people management unit of the Federal University of Santa Catarina, structured in a Pro-Rectorate. To achieve this objective, we sought to identify and evaluate the operational risks that may negatively impact the fulfillment of the strategic initiatives attributed to the Pro-Rectorate and defined in the university's PDI.

As theoretical contributions, the research investigates the proposal of a framework to structure a risk map, with the identification of risk factors and their impacts on actions, to direct efforts toward activities of greater criticality in the sectors. As a source of empirical knowledge, the research offers practical implications for public administration to adopt risk management at all managerial levels, improving the understanding of its application and fostering the practice of risks in the institutional environment.

## 2 Theoretical Framework

### 2.1 Risk Management and its Adoption by Public Administration

Studies on managing potential risks in organizations gained prominence at the end of the 20th century, initially in the context of private companies, and since the 2000s, incorporating risk management models adopted in the public sector. Certain frameworks began to be structured to support these processes, such as COSO ERM (COSO, 2004), which proposed methodologies used by thousands of companies to improve and control their activities in achieving their objectives.

For COSO (2004), risks are defined as events that may occur and adversely affect the achievement of goals in the organization. Risk management, in turn, is the process applied throughout the organization and designed to identify potential events that may affect the entity, providing reasonable assurance regarding the achievement of its objectives (COSO, 2004).

The issuance of these instruments for managing risks began to be considered by the public sphere, as exemplified by England, which fostered a risk management agenda adopted within the government (Collier & Woods, 2011). In 2002, a Performance Assessment Commission began to require British public bodies to develop a strategic plan and an annual performance plan that

reinforced the importance of risk management and the responsibility of the senior management of organizations (Collier & Woods, 2011).

In Australia, risk management in the public sector was also promoted by governments, arising from concerns about occupational health and safety, considering that worker's compensation insurance has a significant cost borne by employers (Collier & Woods, 2011). Compliance with legislation and demands for improvements in governance were the drivers for implementing risk management, but the greater motivation stemmed from the impact on the reputation of the bodies and insurance premiums, given the assessment by competent auditors (Collier & Woods, 2011).

This movement towards risk management in the international public sector was studied by researchers Bracci et al. (2021), who observed growth in publications after 2004, identifying them geographically in regions that underwent public reforms, such as Europe, Australia and America. The research, which comprised 63 articles published between 1990 and 2018, showed that risk management is studied in different organizational scenarios, and the results indicated that 64% of publications on the topic applied to the scope of public administration, 31% to public-private partnerships, 5% to the private sector, and only 4% of publications to universities (Bracci et al., 2021).

In Brazil, the first risk management initiatives occurred in a fragmented manner in the 1990s and, subsequently, with in-depth studies on the topic starting in 2010, carried out by control bodies linked to the federal government (Souza et al., 2020), which led to the issuance of IN MP/CGU No. 01/2016 and Decree No. 9,203/2017 (DOU, 2016; 2017). These first normative instruments instituted obligations for the federal public administration, aiming to strengthen management, improve processes and the achievement of their objectives, enhancing internal controls, governance, and the systematization of risk management (Vieira & Barreto, 2019).

These practices were also fundamental for promoting a culture of public integrity in the country, as, in Brazil, integrity programs aim to ensure compliance with ethical principles and adherence to laws and norms, seeking to prevent and combat poor governance practices (Vieira & Barreto, 2019).

Regarding international risk management models, studies indicate that ISO 31000:2009 and COSO ERM are the frameworks most used by public entities that have adopted this methodology in Brazil (Souza et al., 2020; Araújo & Callado, 2022). There is also encouragement

from control bodies for the adoption of these frameworks, as they are international references, in addition to the possibility of the tool being improved according to the reality of each entity (Oliveira Júnior et al., 2023).

Although tools are indicated and manuals are issued for managing risks, this still does not guarantee the adoption of the practice by the majority of public entities (Souza et al., 2020). Given this fact, research indicates that the practice tends to be better implemented in public bodies where there is a well-defined and disseminated strategic plan that clearly conveys the public value generated (Oliveira Júnior et al., 2023).

Other obstacles to achieving an effective risk management system relate to the practices of public managers. According to a report by the Organization for Economic Cooperation and Development (OECD, 2025), these processes tend not to advance when: a) the public manager is unaware of or neglects policies or guidelines on risk management; b) is unaware of the concept of "risks" and the utility of the process for managing them; c) believes that risk management is a function of third parties and not inherent to their own managerial role.

These analyses demonstrate some of the difficulties in managing risks, which impact controls for the preservation of integrity and the fight against corruption in the public sector. This is because the lack of understanding among managers about risk identification and treatment processes, or the possibility of questions regarding their integrity, create barriers to the use of these tools and to the development of a risk culture in organizations (OECD, 2025).

## **2.2 The Adoption of Risk Management in Higher Education Institutions**

In Brazil, federal universities are maintained by and integrated into the structure of the State and are affected by the modifications and interferences that impact the public sector. Although they have their own peculiarities and characteristics, distinct from other public entities, they are entities linked to the federal executive branch and, with the issuance of IN MP/CGU No. 01/2016 (DOU, 2016), they must comply with the requirement to institute governance committees, internal controls, and systematize risk management (Gesser et al., 2021).

With the implementation of governance, risk management, and integrity policies, studies began to document the operationalization of these tools in public higher education institutions (PHEIs). To comply with these measures, they must establish the results they intend to achieve

and the means to achieve them, utilizing resources for efficient, effective, and efficacious performance, benefiting society (Salerno & Leite, 2020).

Research in Brazil that evaluated risk management in public universities found that compliance with norms and control bodies are the means that obligate universities to adopt the practice, although, often, they may lack a structure that supports effective execution (Araújo & Gomes, 2021; Bauer et al., 2022). It was also verified that there is no culture geared towards the treatment and mitigation of risks in PHEIs, which impacts the misunderstanding of what "risks" are and the consequences they can cause to organizational objectives (Furlan & Pacheco, 2021).

This misunderstanding also extends to the critical analysis and monitoring stages of risks, with difficulty in establishing metrics to evaluate the effectiveness of these processes (Araújo & Callado, 2022). Given these findings, it was identified that the creation of a risk culture is one of the pillars for these processes to be implemented and serve to support the concretization of planned actions, making it possible to move beyond the mere legal formalism of documenting conformity and transmitting legitimacy (Bracci et al., 2021; Furlan & Pacheco, 2021; Araújo & Callado, 2022).

In international universities, the adoption of risk management has been advancing since the 1990s, such as the University of California (UC), which was the first educational institution to perform risk management, adopting the COSO internal control framework in 1996 (Wang et al., 2018). In 2008, UC officially launched the Risk Control Information System, which allowed for institutional-level information sharing, becoming a reference for risk management in other universities (Wang et al., 2018).

In Australia, risk management was initially adopted in departments managing insurance and finance in universities, with strong pressure for an appropriate control process that would facilitate accountability, efficiency, and effectiveness of operations (Christopher & Sarens, 2015). To coordinate risk management, they instituted internal audits that presented different types of controls, depending on the organizational environment of operation, whether less or more reliable (Christopher & Sarens, 2015).

In Africa, the student-led protests at the end of 2015 against the high cost of education and the demand for free higher education, known as "*#FeesMustFall*", influenced risk management practices, requiring universities to disclose and explain their objectives in detail (Sityata et al., 2021). The research revealed that the impact of social events resulted in the update of the country's

main governance and ethics code, King IV, which required South African universities to make adjustments to risk management processes (Sityata et al., 2021).

Studies indicate that, although the practice of managing risks in universities began in the United States in the 1990s, its implementation in Brazilian universities occurred only two decades later, motivated by the demands of control bodies. In Australia, in addition to governmental requirements, the practice was driven by the institutions' reputation among competent auditors, with consequences for insurance premiums (Collier & Woods, 2011). In South African universities, social movements motivated the creation of regulations that required the adoption and transparency of risk management practices (Sityata et al., 2021).

Despite the different motivations verified in the researched universities, studies indicate the need to integrate the practice of risk management into the institutional culture, so that it becomes part of daily administrative activities (Christopher & Sarens, 2015; Sityata et al., 2021; Araújo & Callado, 2022). For this, it is considered that continuous training and coaching can generate engagement from the strategic and operational staff (Araújo & Callado, 2022), by promoting an understanding of the methodology, thereby achieving adherence and overcoming institutional resistance (Christopher & Sarens, 2015; Araújo & Callado, 2022).

The use of systems that automate risk management, such as at the University of California (Wang et al., 2018), is also shown to be relevant for integrating governance models with other management systems. With the use of technologies, risks can be monitored in a systemic format with other corporate processes, contributing to the stages of risk identification, monitoring, and control (Bracci et al., 2021).

### 3 Methodology

This study monitored the risks impacting the operational activities of three departments that compose the Pro-Rectorate for Personnel Development and Management of UFSC, referred to as PRODEGESP. These departments are the Department of Personnel Administration, the Department of Health Care, and the Department of People Development.

As this is practical research within the scope of university management, which aims to generate knowledge for problem-solving by developing a risk management plan for the Pro-Rectorate's operations, the study is applied in nature (Goldenberg, 2011). Regarding the methodological approach, it is classified as qualitative, as it seeks to understand the reality being

researched through observation and critical analysis of the identified processes (Richardson, 1999), using procedures to identify the actions developed in the surveyed sectors to structure a risk matrix.

Concerning the objective, it is classified as exploratory, by refining the theme of risk management and proposing elements to be developed (Gil, 2017), and as descriptive, by detailing the steps taken for the elaboration of the processes and identifying possible relationships between variables (Gil, 2017).

### 3.1 Data Collection and Analysis Procedures

UFSC, after defining the guidelines on the subject in a Risk Management Policy (UFSC, 2020c), published a Manual for the Elaboration of Risk Management Plans (UFSC, 2020a), to be used by the units that comprise the institution. Immediately after the issuance of the manual, it presented its first Institutional Risk Management Plan 2020-2024 (UFSC, 2020b), which covers the risks that impact the strategic objectives defined in the UFSC PDI 2020-2024 (UFSC, 2019; 2024b).

Considering these publications, the research followed the methodological framework proposed in the Manual (UFSC, 2020a), which is guided by macro-processes based on the COSO ERM, ABNT NBR ISO 31000:2009, and Joint Instruction (IN) MP/CGU No. 01/2016 methodologies. Based on these processes, the procedures adopted for the logical construction of the research were outlined, with a sequence of ordered activities for data collection and analysis, presented in Table 1.

**Table 1**

*Procedures for Research Development*

Stages	Data Collection	Data Analysis
Identify the attributions of the surveyed departments	Documentary research (UFSC, 2022)	Documentary analysis
Identify the strategic initiatives attributed to the Pro-Rectorate	Documentary research (UFSC, 2019; 2024b)	Documentary analysis
Identify risk events monitored at the strategic level	Documentary research (UFSC, 2020b)	Documentary analysis
Analyze the internal environment: Identify the sectors' strengths and weaknesses	Application of questionnaire and semi-structured interview	Qualitative data analysis
Identify the strategic initiatives to be analyzed in the operational plan	Application of questionnaire and semi-structured interview	Qualitative data analysis
Apply the instrument for the elaboration of Risk Management Plans	Semi-structured interview	Qualitative data analysis
Elaborate the risk matrix with indications of response plans and referrals	Documentary research (UFSC, 2020a)	Documentary analysis
Validate the data collected in the interviews	E-mail submission to participants	N/A

*Source:* Self-elaboration.

Documentary analysis, which consists of studying documents to determine the phenomena that will be applied during the research (Richardson, 1999), allowed for the identification of the competencies of the three departments that comprise the unit in the PRODEGESP Internal Regulations (UFSC, 2022). Afterward, the analysis of the institution's PDI (UFSC, 2019; 2024b) identified 50 strategic initiatives under PRODEGESP's responsibility, which indicate the paths, actions, or programs to be followed to achieve the goals defined by the organization (Oliveira, 2007).

Of the 50 strategic initiatives analyzed in the PDI, 23 were observed to be already monitored at the strategic level in the Institutional Risk Management Plan (UFSC, 2020b). The remaining 27 initiatives were selected to be addressed in the operational plans of the surveyed departments, according to their respective attributions.

The data related to the analysis of the internal environment and the selection of initiatives to be addressed in the risk plans were collected through semi-structured interviews, applied to the directors of the surveyed departments. For the elaboration of the risk map in addition to the directors, coordinators, division heads, and other civil servants responsible for planning and

executing the selected initiatives were interviewed. Table 2 shows the number of civil servants interviewed and the validation method for the data collected to develop the plan:

**Table 2**

*Number of Interviewees and Data Validation Procedures*

Stages	Number of Interviewed Civil Servants				Data Validation
	Semi-structured Interview				
Selection of Strategic Initiatives	Directors				E-mail Submission
Internal Environment Analysis	Directors				E-mail Submission
Risk Map	Directors	Coordinators	Division Heads	Other Civil Servants	E-mail Submission
Total Number of Interviewees	4	4	6	10	24

Source: Self-elaboration.

Qualitative data analysis was also used to verify the information obtained from the questionnaires and interviews applied to the interviewees. The information was organized into tables for a systematic understanding of the data set. According to Gibbs (2009), this form of coding allows the researcher to analyze the data in a structured way, grouping the coded text into tables that will help the researcher develop explanations and generate models, pointing out important features of the studied phenomenon.

The analyses of the degrees of risk probability and impact were based on the matrix defined in the methodological framework followed by UFSC (UFSC, 2020a). This data is generated through calculations involving weightings, and it indicates the form of risk treatment to be adopted by the sectors. Thus, the use of numerical scales made it possible to identify the Inherent Risk level, using the formula  $[P \times I]$  and the Residual Risk level, using the formula  $[P \times I \times AC]$ , where “P” represents probability, “I” represents impact, and “AC” represents the assessment of controls.

## 4 Results and Discussions

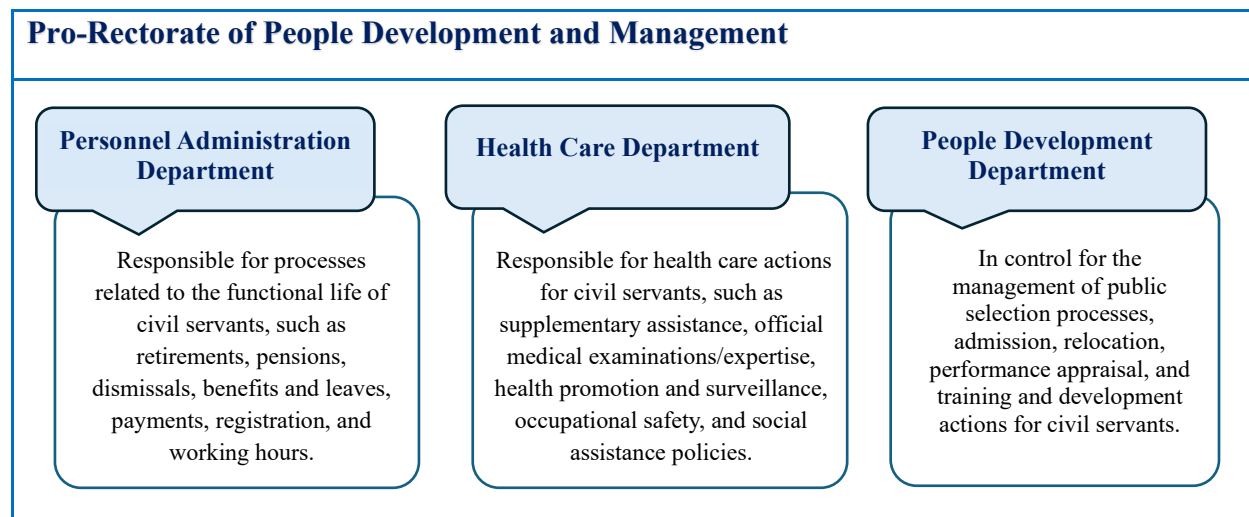
### 4.1 Analysis of the Internal Environment and Establishment of Strategic Initiatives

To develop the operational risk management plans, the methodological framework adopted by the institution (UFSC, 2020a) proposes conducting an internal environment analysis, which involves identifying the strengths and weaknesses within the studied sectors. This analysis can

direct the strategy and assist in identifying the risks that may impact the departments' activities, as synthesized in Figure 1:

**Figure 1**

*Synthesis of activities eloped in the Departments that compose the surveyed Pro-Rectorate*



Source: Internal Regulations of PRODEGESP (UFSC, 2022).

According to ISO 31000:2018 (Associação Brasileira de Normas Técnicas, 2018), among the analyses involving the external and internal context of the organization, it is appropriate to identify the factors within the specific activity environment to which the risk management process is applied, since organizational aspects can be a source of risk. To obtain a diagnosis of the sectors, a SWOT Matrix was used to elucidate the strengths and weaknesses of the departments' internal environment.

It was found that some of the points registered by the managers in the internal environment analysis could be directly related to the risk events indicated by the teams during the structuring of the risk map. The concerns pointed out by the teams during the interviews clearly demonstrate the link between the internal environment analysis category and the mapped risks, as detailed in Table 3.

**Table 3**

*Internal environment factors related to risk events*

<b>Internal Environment</b>		
<b>Analysis Category</b>		
<b>Strength</b>	<b>Related Factor</b>	<b>Risk Event</b>
Knowledge of ethical precepts	Concern about legal updates; Attention to developing activities in compliance with legislation, avoiding function deviations;	Lack of updated legislation regarding positions/attribution; Non-compliance with the movement/relocation notice, resulting in <i>ex officio</i> removals;
Committed civil servants	Attention to compliance with working hours regulations; Concern with civil servant records/registration;	Irregularities in working hours; Absence of recertifications: Cadastral Validation and Proof of Life;
Technical and professional training offered to civil servants	Attention to the offer and participation in training courses;	Low enrollment in the courses offered; Absence of civil servants with knowledge of LIBRAS (Brazilian Sign Language) to serve the deaf public;
Team motivation	Promotion of events to recognize retirees;	Team demotivation in promoting retiree recognition actions;
<b>Weakness</b>	<b>Related Factor</b>	<b>Risk Event</b>
Work team integration	Lack of pre-established flow with other sectors for support in referrals; Lack of organization between different professional teams to meet needs;	Restriction in psychosocial and mental distress referrals to civil servants; Unsatisfactory onboarding for civil servants entering via Affirmative Action;
Adequate work environment for activity execution	Inadequate location for activity development; Location of activities without accessibility;	Inaccessible service location for periodic medical exams; Lack of an appropriate location for psychosocial and mental distress care;

*Source:* Author's own elaboration based on research data.

The analysis of the internal environment highlights the positive performance of civil servants in the departments' activities, evidenced by their commitment and knowledge of ethical precepts and norms, with these competencies being pointed out by managers as strengths. On the other hand, the lack of workflows to enable interaction between different teams, as well as inadequate physical infrastructure for performing activities, were identified as weaknesses and recorded as risk events.

It was also observed that some of the factors indicated by the managers in the internal environment analysis did not correspond to the risk events and causes pointed out by the teams in

the elaboration of the risk map, demonstrating some divergences in these analyses, as shown in Table 4.

**Table 4**

*Dissonance between internal environment analysis and mapped risks*

<b>Internal Environment Analysis Category</b>		
<b>Strength</b> (management view)	<b>Related Factor</b> (team view)	<b>Risk Event</b> (consequence of dissonance)
Effective communication between managers and team	Lack of dialogue between management and teams/sectors;	Pending issues in processes necessary for holding public tenders/civil service exams; Simultaneous official public service appointments, exceeding the sector's defined capacity;
Culture of open dialogue	Lack of consensus among sectors;	Lack of consensus for updating normative texts;
Optimization of work	Lack of technological tools;	Lack of technological tools for working with personnel dimensioning/staffing in the institution;
Conflict management in the sectors	Lack of management articulation for support with other units;	Pending issues in processes that precede the public tenders, delaying hirings.

*Source:* Author's own elaboration based on research data.

The divergences related to effective communication between managers and teams were also identified at the strategic level. The results of this round indicate that the interviewees lacked an understanding of risk management processes, even though they provide strategic-level support by supplying information for monitoring the Institutional Plan.

The degree of people's knowledge about the organization's objectives, the clear definition of responsibilities, and the existence of communication channels for the identification and decision-making regarding risks, must be applied to achieve an appropriate risk management environment (Brasil, 2020b).

In practice, risks related to communication may not be mapped using ISO risk management methodologies and systems, commonly adopted in organizations, and when identified, they are difficult to manage (Björnsdottir et al., 2022). These risk factors, as they are not related to tangible and measurable threats, such as operational, regulatory, or financial risks, become hidden risks due to the difficulty of measuring qualitative risk factors (Björnsdottir et al., 2022).



In this sense, the organization's leadership needs to ensure that people know what corporate strategy is to be pursued, so that they can align with it, working together to achieve the organization's goal and objectives (Belluz, 2010). With this, each sector will have a clear understanding of how to contribute to the whole, aligning objectives at the operational level with the goals developed at the strategic level (Christopher & Sarens, 2015).

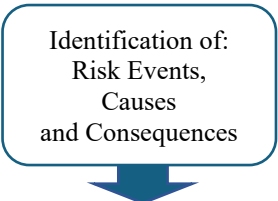

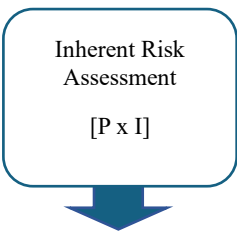
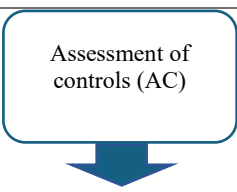
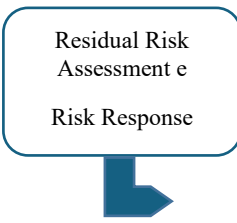
#### 4.2 Elaboration of the Risk Map

Following the analysis of the internal environment and the selection of strategic initiatives prioritized in the operational risk plan, the methodology adopted (UFSC, 2020a) points to macro-processes that will lead to the elaboration of the risk map. The map consists of a spreadsheet where data related to the analyzed risks are recorded, covering the identification of these events, analyses that point out their causes, probabilities of occurrence, and consequences for the fulfillment of institutional objectives.

The map is also structured based on the existing controls to prevent or mitigate the occurrence of the identified risks. These evaluations are recorded with the assignment of weights and values pre-defined in the methodology, which will generate calculations that will indicate the form of risk treatment and the necessity or not of response plans. The macro-processes adopted for the elaboration of the risk map are described in Figure 2:

**Figure 2**

*Steps for developing the Risk Map, according to the methodology adopted by the Institution*

Steps for developing the Risk Map																
	1.1 What risk events may harm or prevent the achievement of the objectives? 1.2 What factors increase the likelihood of the risk event materializing? 1.3 What are the consequences if the risk event materializes?															
	2. Categorize the risks, as follows: a) Operational risks b) Image and reputation risks c) Financial/Budgetary risks d) Environmental risks e) Communication and information risks															
	3.1 How often might the risk event occur? DEGREE OF LIKELIHOOD [P] [1] Exceptional [2] May occur at some point [3] Likely to occur in many circumstances [4] Expected to occur in most circumstances 3.2 If the risk event occurs, the consequences will be: DEGREE OF IMPACT [I] [1] Acceptable [2] Noticeable on the objectives, with possible reversal [3] Significant and difficult to reverse [4] Severe and irreversible															
	4.1 What actions (controls) exist to prevent the risk from occurring? These controls are evaluated as: [1,0] Non-existent    [0,4] Satisfactory [0,8] Weak            [0,2] Strong [0,6] Moderate															
	5.1 Likelihood [P] x Impact [I] x Controls [AC] <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Residual Risk Level</th> <th>Risk Evaluation</th> <th>Risk Response</th> </tr> </thead> <tbody> <tr> <td>Minimum Risk [0,1 a 2]</td> <td>Acceptable</td> <td style="background-color: #c8e6c9;">Accept</td> </tr> <tr> <td>Moderate Risk [2,1 a 6]</td> <td>Manageable</td> <td style="background-color: #ffe0b2;">Reduce or treat</td> </tr> <tr> <td>High Risk [6,1 a 9]</td> <td>Undesirable</td> <td style="background-color: #ffcdd2;">Transfer or share</td> </tr> <tr> <td>Critical Risk [9,1 a 16]</td> <td>Unacceptable</td> <td style="background-color: #ffb74d;">Avoid</td> </tr> </tbody> </table>	Residual Risk Level	Risk Evaluation	Risk Response	Minimum Risk [0,1 a 2]	Acceptable	Accept	Moderate Risk [2,1 a 6]	Manageable	Reduce or treat	High Risk [6,1 a 9]	Undesirable	Transfer or share	Critical Risk [9,1 a 16]	Unacceptable	Avoid
Residual Risk Level	Risk Evaluation	Risk Response														
Minimum Risk [0,1 a 2]	Acceptable	Accept														
Moderate Risk [2,1 a 6]	Manageable	Reduce or treat														
High Risk [6,1 a 9]	Undesirable	Transfer or share														
Critical Risk [9,1 a 16]	Unacceptable	Avoid														

Source: Based on UFSC (2020a).

In the interviews conducted with the civil servants directly responsible for the flows of actions carried out for the fulfillment of the strategic initiatives listed in the PDI, the interviewees were able to discuss the presented actions and the points questioned during the work. According to their perceptions, 37 risk events were identified, which may impact the actions performed in the departments, and the causes and consequences arising from their occurrences were also pointed out.

#### ***4.2.1 Risk Classification and Treatment***

Regarding the classification of risks, the definition in the UFSC Risk Management Policy (UFSC, 2020c) was followed, with the classifications interpreted in the context of the departments' activities, and their concepts adapted for the operational levels. The majority of the risk events (30 events) corresponded to Operational Risks, understood as those events that may compromise the departments' objectives due to failures, deficiencies, or inadequacy of processes, people, infrastructure, and systems.

The other classifications indicated referred to Financial Risks (04 indications), which reflect events resulting from budgetary and financial issues necessary for carrying out their activities; Legal Risks (02 indications), related to events derived from legislative or normative changes that may compromise the University's activities; and Communication/Information Risks (01 indication), which may compromise the ability to generate appropriate, timely information or harm the identification, collection, storage, and communication of information.

For the assessment of the Inherent Risk, in a first round of interviews, the teams pointed out the degree of likelihood of the events occurring and the severity of impact of these occurrences on the departments' objectives, while also evaluating the existing controls to prevent them. A second round of interviews was held with the directors to balance the inherent risk assessment, based on a more systemic view, and to complement new controls implemented during the research.

After the consolidation of the risk mapping in the surveyed departments, the synthesized results demonstrated that risk events classified as Financial Risks, stemming from the unavailability of budget, were indicated as factors that may impact the fulfillment of strategic initiatives related to the following themes:

- a) Promotion of internationalization with training in foreign language disciplines;
- b) Expansion of the hiring of foreign visiting professors;
- c) Execution of recognition actions for retirees;
- d) Expansion of health promotion actions.

Risk events classified as Legal Risks, resulting from the lack of updated legislation governing their themes, were pointed out in the initiatives related to fostering policies on deviation of function and the regulation for the participation of faculty in scientific events. Furthermore, this lack of specific legal artifacts makes it unfeasible to create policies that enable impartial and equitable treatment to meet these demands in the institution.

Communication/Information Risks were identified in the occurrences of digital registration of civil servants, due to initiatives adopted by the Federal Government that encourage the adoption of technologies for access to public services. The use of technological tools still generates access difficulties due to the lack of ability to deal with computerized solutions, especially by the retired public (Direito et al., 2024), which impacts the need to improve institutional communication.

For the assessment of controls, the interviewees identified the existing actions in the sectors to control each of the causes pointed out in the risk identification. As results of this classification, 02 risks with nonexistent controls were identified, 06 risks with weak controls, 17 risks with moderate controls, 11 risks with satisfactory controls, and 01 risk with the control classified as strong. Figure 3 demonstrates the quantity of risk events, according to the risk classification and the assessment of existing controls:

**Figure 3**

*Number of risks according to the classification and assessment of controls*

Classification	Controls				
	Non-existent	Weak	Medium	Satisfactory	Strong
Communication / Information Risk			1		
Financial / Budgetary Risk		1	2		1
Legal Risk			1	1	
Operational Risk	2	5	13	10	

Source: Author's own elaboration based on research data.

Among the strategic initiatives that presented risks with nonexistent controls, the strategy for expanding the hiring of foreign visiting professors at the University was highlighted. Due to the institution not having the autonomy to interfere in processes related to visas and consular documents required for foreign professors to take up positions in the country, no controls that could mitigate these events were identified, thus being classified as nonexistent.

Related to the same strategic initiative, the non-hiring of foreign professors in selection processes for the admission of visiting professors was identified as a risk event, because the public notices did not limit quotas for international candidates, resulting in a majority of approved Brazilian candidates. Thus, the strategic initiative, although manageable cannot be fully realized, impacting the achievement of the institutional objective.

Among the risks classified with weak controls, with residual risks reaching undesirable levels, the following events were observed:

- a) Inaccessible location for servicing civil servants through occupational medicine;
- b) Absence of civil servants with knowledge of LIBRAS (Brazilian Sign Language) to serve the deaf public;
- c) Non-compliance, by management, with the rules established in the relocation public notices, resulting in *ex officio* removals, which weakens the internal relocation policy;
- d) Lack of financial resources to promote actions for the appreciation of retirees;



- e) Low number of civil servants who complete training in foreign languages, impacting the promotion of internationalization at the university;
- f) Pending issues in processes preceding the holding of public exams for university admission, creating dissonance with the movement policy.

Another 17 risks were evaluated with moderate controls, reaching a manageable residual risk level. Among these risks, which require the improvement of actions to mitigate them, the following stand out:

- a) Low adherence of civil servants to training for university management;
- b) Unsatisfactory welcome for civil servants entering through Affirmative Actions;
- c) Performance of activities inconsistent with the role, leading to deviation of function;
- d) Lack of consensus for updating the normative framework for Performance Evaluation, Probationary Period, and Internal Relocation;
- e) Lack of follow-up on civil servants via periodic medical examinations;
- f) Nonexistence of a policy and technological tools for civil servant dimensioning;
- g) Low adherence to the policy promoting in-service development actions;
- h) Restriction of referrals in psychosocial and mental suffering care;
- i) Appointment of approved candidates in public exams, beyond the technical capacity of the sector, to process taking office and entry into service.

The other risk events identified in the operational actions of the pro-rectorate, classified with satisfactory or strong controls, resulted in 12 risks, which, although subject to improvement, satisfactorily mitigate the risk or all relevant aspects of the risk (UFSC, 2020a).

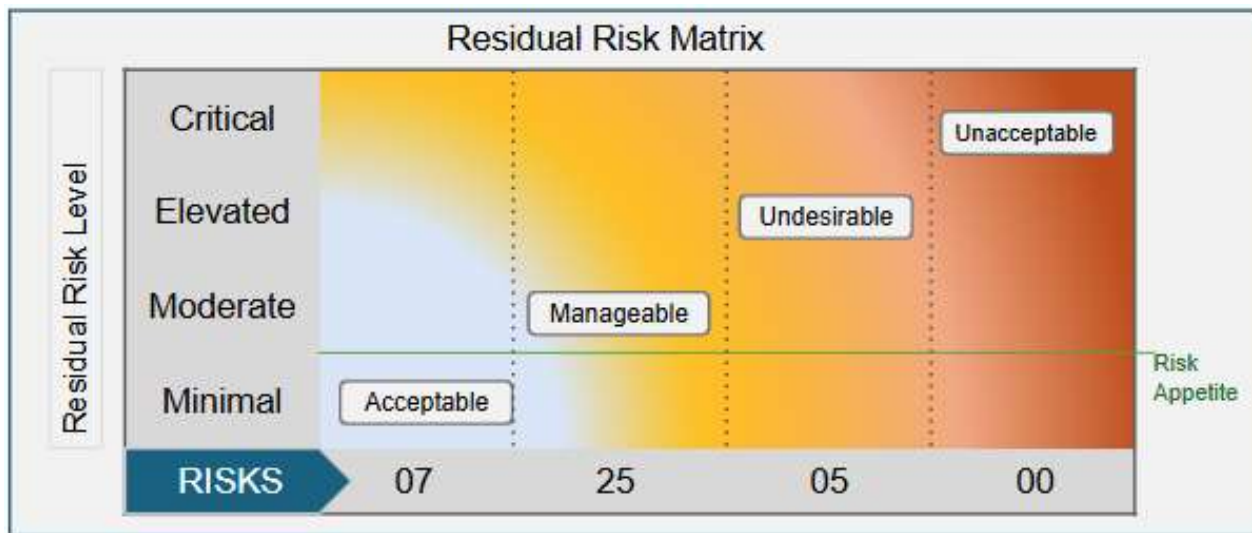
After the identification and classification of existing controls in the sectors to mitigate the occurrence of risks, and having already carried out the inherent risk assessment, with the assignment of weights for the degrees of impact and probability of risks occurring, the result of the Residual Risk is reached. Residual risk refers to the risk remaining after controls have been applied to reduce them (UFSC, 2020a), and they are classified as acceptable, manageable, undesirable or unacceptable.

The mapping of risks identified in the pro-rectorate's activities indicates that 07 risk events can be considered acceptable, 25 risks are manageable, 05 risks are undesirable and no risk is

classified as unacceptable. As a result of this process, the Residual Risk Matrix can be generated, presented in Figure 4:

**Figure 4**

*Residual Risk Matrix*



Source: Author's own elaboration based on research data.

According to the classification of residual risk, the tool indicates the Risk Response and the course of action that must be taken by managers to reduce the level of exposure. The results indicated as Risk Response define the response plans, which consist of planning to reduce the degree of exposure to residual risk.

Since UFSC has defined a minimum degree of exposure appetite for achieving its objectives, only risks that present a minimum degree of exposure will be accepted, and an action plan must be presented for the others (UFSC, 2020a). Table 5 presents the synthesis of this classification and the indicated Risk Response, according to the levels achieved in the residual risk assessment.

**Table 5**

*Residual Risk Classification Risk Response and Follow-up*

<b>Residual Risk Classification</b>	<b>Risk Response</b>	<b>Recommended Action</b>
Acceptable	Accept	Level within the risk appetite, where possible improvements may be explored. The risk must be recorded, but its treatment is optional, with the manager judging whether it is appropriate or convenient to elaborate a response plan.
Manageable	Reduce / Treat	Level beyond the risk appetite. They must be reduced or treated, and response plans must be elaborated. They demand specific monitoring and control activities by the risk manager to maintain them at this level or reduce them.
Undesirable	Transfer / Share	Level beyond the risk appetite. They must have executable response plans ready at any time. They must be communicated to higher authorities (senior management/superior instances) for monitoring.
Unacceptable	Avoid	Level beyond the risk appetite. Must be communicated to higher authorities and evaluated at the strategic level. Response plans with the possibility of immediate execution for their mitigation must be elaborated and approved by these authorities.

*Source:* Self-elaboration and adapted from UFSC (2020a).

It is observed that of the 37 operational risks identified, 07 were classified as acceptable, without the need for any specific action for treatment. The remaining risks, evaluated at a scale superior to the risk appetite, must be studied in a response plan to mitigate them. Among these are those indicated at the manageable levels, which correspond to 25 risks, and those considered undesirable, which correspond to 05 risks, with no risks evaluated at the critical level. Table 6 presents the synthesis of the five main risks whose Residual Risk reached the undesirable level.



**Table 6**

*Risk Events Evaluated with Undesirable Residual Risk*

Strategic Initiative	Risk Event	Assessment of Controls
Maintain recognition actions for retirees	Lack of financial resources	Weak
Expand health promotion actions	Lack of financial resources	Moderate
Conduct periodic medical examinations	Inaccessible service location	Weak
Encourage and foster participation in LIBRAS courses	Absence of civil servants with knowledge of LIBRAS (Brazilian Sign Language) to serve the deaf public;	Weak
Improve internal relocation policy	Non-observance of the relocation calls for applications, with <i>ex officio</i> removals	Weak

*Source:* Self-elaboration based on research data.

### 4.3 Discussion of Results

Upon completion of the risk map construction, it was observed that, of the 24 civil servants interviewed, including teams and directorates, the majority were unaware of the objective of risk management and the existence of methodologies to support it, although they had heard the term. Of the interviewees, 06 civil servants reported having prior knowledge about risk management, which was acquired through participation in training courses offered by the institution or in response to questions related to the strategic plan.

At the institutional level, following the issuance of the Risk Management Policy (UFSC, 2020c) and the Manual for the elaboration of plans (UFSC, 2020a), the Strategic Management Coordination of UFSC offered annual courses to train civil servants to manage risks in their activities (UFSC, 2024c). For the issuance of the first Institutional Plan (UFSC, 2020b), the Coordination involved managers in the construction of the plan and in risk monitoring, supporting the dissemination of these practices within the institution.

The importance of disseminating the tool at all levels of the organization is pointed out as an alternative for risk management to be instrumentally integrated, and for public agents to see and understand its applicability as a management tool (Braga, 2018; Vieira & Barreto, 2019; Furlan & Pacheco, 2021). However, the results showed that even with the dissemination of the practice



within the institution, risk management is still neither understood nor used as a management strategy.

This reflects on the risk management culture, because the presented resource becomes a mere legal formalism, lacking the understanding that the actions planned therein, with the adoption of the methodology, have an effective impact on the objectives outlined, surpassing the mere formality of documenting compliance and conveying legitimacy (Bracci et al., 2021; Furlan & Pacheco, 2021; Araújo & Callado, 2022).

The interviewees mentioned that participation in the research made it possible, by identifying risks and reflecting on possible causes and controls, to highlight issues that had not been observed until then. This occurs due to the intense work routine and the habit of concentrating efforts on isolated actions, limited to immediate problems or the resolution of individual needs of service users.

The findings are consistent with studies suggesting that the adoption of risk measures must take into account the social aspects, performance, and personal interests of the agents (Christopher & Sarens, 2015). However, these factors can be influenced by the excessive workload, which is one of the challenges that can compromise the success of adopting management tools, resulting in unmotivated, unqualified, and overburdened civil servants (Araújo & Gomes, 2021).

Other evidence verified from the collected data analysis indicates failures in internal communication, which compromise knowledge of institutional objectives and the alignment of flows between strategic and operational levels. Effective communication is not limited to a process of transmitting guidelines, as it encourages understanding of lines of action, promotes discussions in the face of differing opinions to facilitate adjustments, and strengthens the collaborator's sense of commitment, trust, and belonging to the organization (Machado, 2013).

The authors Viera and Barreto (2019, p. 102) clarify that "the structure, principles, and components of risk management permeate all levels of the organization, from the definition of strategy to the execution of operational activities," because only then will this implementation be effective in the institution. Supporting this diffusion, there is a need for strategic managers to clearly establish objectives, functions, and responsibilities, so that operational levels understand these purposes for which they are working (Belluz, 2010).

Effective communication allows collaborators to be qualified to achieve institutional goals, fostering proactive attitudes that are generated through knowledge of objectives and more

humanized personal interrelationships, which are beneficial for the development of joint actions (Savi & Burigo, 2023). This provides workers with a systemic understanding of processes, decreasing conflicts and increasing satisfaction generated by belonging (Savi & Burigo, 2023).

The alignment that is generated must be consistent with the ethical values, principles, and norms that defend and prioritize public interest, as they are the foundation of public integrity (OECD, 2025). In this sense, cultivating a culture of integrity in the public sector requires going beyond laws and regulations, but demands helping public servants understand, adopt, and implement common values and high standards of conduct in their daily activities (OECD, 2025).

## Conclusion

Risk management is one of the governance mechanisms that assists public agents in the effectiveness of planned objectives, in line with public integrity. The results obtained in the present investigation indicate that the practice has been implemented and is advancing progressively only at strategic levels, failing to reach the operational levels in public entities.

The results reveal the importance of disseminating strategic planning to the operational levels of the organization, so that objectives are clear and promote better direction of the actions to be executed within the operational scope. The understanding of the definition of risks, how to manage them, and the tools available for this planning are also themes that need to mature within the organization.

It was observed, in the internal environment analysis, that the execution of this stage should preferably be carried out jointly - managers and teams - so that the responses are aligned with the context investigated. Although it was possible to correlate some strengths and weaknesses pointed out by managers, with the risks identified by the teams, some points diverged, which were indicated as risk factors. In this sense, the results of the internal environment analysis, in dissonance with some of the risk events, reinforce the need for the improvement of more effective internal communication.

Regarding the fostering of the tool within the institution, several actions were observed to promote risk management, such as the standardization of guidelines for the institution, the issuance of a manual, the involvement of senior management in the Institutional Plan, in addition to the permanent support of a specialized coordination unit, with the offer of courses for the dissemination of the methodology. However, the understanding of the tool and its use is still not

perceived at the operational levels, given that 75% of the interviewees mentioned having no knowledge of these processes.

This fact demonstrates that there is no risk culture at the strategic and operational levels of the institution, which weakens the adherence and effectiveness of the tool. This reality points to the need for effective communication, which ensures civil servants' understanding of institutional objectives and their roles and responsibilities in achieving them (Belluz, 2010; Christopher & Sarens, 2015; Brasil, 2020b; Araújo & Callado, 2022). Without this understanding, risk management does not reach instrumental levels, persisting in the reproduction of documents to convey legitimacy, thus weakening institutional governance and integrity policies (CGU, 2018; OECD, 2025).

The practice may advance once strategic planning and institutional risk management plans are accepted by strategic leadership as effective governance instruments which, when understood and put into practice, pave the way for achieving institutional objectives. When adopted, they generate the alignment of operational activities with strategic objectives, enabling the identification of priorities to guide efforts in support of decision-making (Medeiros et al., 2020; Araújo & Gomes, 2021; Bauer et al., 2022).

The research demonstrated that it is possible to promote operational risk management through the structuring of activities developed within the sectors. This includes the identification and analysis of risk events that may impact their flows, the identification of causes and consequences, the evaluation of impacts and probabilities of occurrence, and the analysis of existing controls to mitigate them.

Thus, the research offers some practical implications, with guidelines for the implementation of risk management, through the replication of the framework used or its adaptation by other PHEIs, promoting the practice of these operations within the scope of university management. By systematizing these processes, actions can be defined for a coherent and executable risk planning.

Complementarily, the results support theoretical-methodological implications by demonstrating the application of the framework at the operational level, validating the method to be used in higher education institutions. Furthermore, the research promotes discussion for the development of public policies by oversight bodies to improve guidelines specifically aimed at

PHEIs, with instruments to effect public integrity, given the particularities and challenges of higher education.

As limitations identified in the construction of the present study, the following can be highlighted: a) unavailability of the interviewees' schedule, which made it impossible to obtain joint responses from teams and directorates; b) the discontinuity of some interviews, due to the leave and vacation of civil servants; c) the non-participation of some key positions in the research, which made it impossible to obtain their perceptions to contribute to the study.

For future research, it is suggested to conduct studies on the diffusion of risk management practices at operational levels; research the relationship between the adoption of incentives and the governance practices required in the public sphere; and expand studies that address the application of response plans and risk monitoring at the operational levels.

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