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Risk-Based Auditing In Federal Educational Institutions

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Abstract
Purpose: This study investigates the relationship between organizational factors and the implementation of Risk-Based Internal Auditing (RBIA) in Federal Higher Education Institutions (IFEs). Specifically, it examines the influence of senior management support, the role of internal auditors in risk management, risk management training, formalized risk management structures, and formalized internal control systems on the adoption of RBIA.
Design/methodology/approach: A quantitative, cross-sectional survey was conducted with a sample of 226 internal auditors from Brazilian IFEs. Data were collected through a structured questionnaire and analyzed using correlation, regression, and exploratory factor analysis techniques. A logit regression model was applied to evaluate the influence of the independent variables on RBIA implementation.
Findings: The results indicate that the role of internal auditors in risk management (PAIGR) and the existence of a formalized risk management structure (EGRF) significantly influence the implementation of RBIA. PAIGR increases the likelihood of RBIA adoption by 7.6 times, while EGRF enhances it by 1.6 times. Conversely, senior management support, risk management training, and formalized internal control systems did not demonstrate a statistically significant impact.
Originality: This study contributes to literature by addressing a gap in research on RBIA in educational institutions, particularly within the public sector. It underscores the importance of integrating internal audit functions with risk management processes and highlights structural factors that facilitate RBIA implementation.
Research limitations/implications: Findings suggest that future research should explore qualitative approaches to better understand the contextual factors affecting RBIA adoption, particularly regarding top management support and internal control systems.
Practical implications: The study provides insights for policymakers and auditors, emphasizing the need to enhance the internal auditors' role in risk management and formalize risk management structures to improve RBIA implementation.
Social implications: Effective RBIA implementation in public higher education institutions can improve governance, accountability, and resource allocation, enhancing service delivery in the education sector.
Keywords: *Risk-Based Internal Auditing (RBIA), Risk Management, Internal Auditing, Federal Higher Education Institutions (IFE)*

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I. Introduction

Risk management has gained increasing relevance in public administration, becoming a benchmark for good corporate governance around the world (Power et al., 2009). Risk-based auditing (RBIA) emerges as a natural offshoot of this emphasis, establishing itself as an essential practice for aligning internal auditing with organizations' strategic priorities (IIA, 2017; Machado & Carneiro, 2024).

In Brazil, bodies such as the Federal Court of Auditors (TCU) have assessed the maturity of risk management practices and internal controls in the public sector (TCU, 2013). Legislation, with initiatives such as Joint Normative Instruction No. 1/MP-CGU of 2016 (Brazil, 2016) and Decree No. 9.203 of 2017 (Brazil, 2017), highlights the responsibility of senior management in implementing these processes (Brito et al., 2016).

The Federal Education Institutions (IFE) stand out in this context because of their complexity and social relevance. With 133 units, including universities and federal institutes, they serve millions of students at different levels of education (MEC, 2025). In 2024, R$61.2 billion was earmarked for federal universities and R$22.9 billion for federal institutes, highlighting their importance to the Brazilian education system (MEC, 2025; INEP, 2025).

However, studies show that many of these institutions have not yet adopted risk management in a structured way (Gomes et al., 2015; Maia & Oliveira, 2020), which compromises the effectiveness of the RBIA.

It is therefore essential to investigate which organizational factors influence the implementation of the

RBIA in IFEs. There is still a gap in literature regarding studies that specifically address internal auditing in educational institutions (Brito et al., 2016) and the organizational factors that affect them (Zainal Abidin, 2017; Lois et al., 2021; Mujalli, 2024). Coetzee and Lubbe (2014), Zainal Abidin (2017), Turetken et al. (2020), Lois et al. (2021) and Mujalli (2024), for example, highlight the importance of conducting further research to empirically assess the factors that influence the implementation of risk-based internal auditing (RBIA).

Based on this problem, the following question was formulated: Do organizational factors, such as the support given by senior management to internal auditors, the role of internal auditors in risk management, risk management training, the organization's risk management structure and the implementation of internal control, influence the likelihood of implementing risk-based auditing?

The aim is therefore to explain the relationship between these factors and the RBIA in the internal audit of the IFEs.

The quantitative survey collected data from 226 internal auditors via a structured questionnaire. Correlation, regression, and exploratory factor analysis techniques were applied to validate the study's constructs. The results contribute to theory by studying the influence of organizational factors on the practice of internal auditing, and offer practical implications for managers and auditors, suggesting strategies to strengthen the governance and efficiency of audit processes in IFEs.

The research contributes by investigating the relationship between organizational factors and the implementation of the RBIA in the IFEs, expanding the theoretical framework on auditing and governance in the public sector. It also provides support for auditors and managers, highlighting the importance of the active participation of internal audit in risk management as an essential factor for the success of the RBIA. In addition, the results highlight that the formalization of risk management favours the adoption of this approach, reinforcing the need to structure and document practices, standardize procedures, and adopt internationally recognized frameworks.

II. Theoretical Framework And Formulation Of Hypotheses

The Context Of Federal Education Institutions

The Federal Education Institutions (IFE) play an essential role in providing free public education in Brazil (Zielinski & Costaldello, 2014). According to the Higher Education Census (2023) of the National Institute of Educational Studies and Research Anísio Teixeira (INEP), the country has 133 IFEs, distributed among 69 universities, 38 Federal Institutes, 2 Federal Technological Education Centers (Cefets), the Federal Technological University of Paraná (UTFPR), as well as 22 technical schools linked to federal universities and Colégio Pedro II.

Given their social role and the complexity of their services, the management and control of these institutions demand special attention, since they operate with significant budgets, reflecting their relevance within the education sector (Frias et al., 2023). In 2024, R$61.2 billion was allocated to federal universities and R$22.9 billion to federal institutes, which corresponds to approximately 46% of the Ministry of Education's (MEC) total budget, initially set at R$181.4 billion (MEC, 2025; PNP, 2025).

However, the administration of these resources faces challenges that transcend the unpredictability of budget allocations, including contingencies and blockages (Santos & Pereira, 2022). Heins et al. (2019) argue that, more than the reduction in government transfers, poor management of available resources compromises strategic planning and the execution of essential activities, impacting everything from infrastructure maintenance to the development of academic and research programs (Santos & Pereira, 2022). Thus, the magnitude of the resources managed, and the relevance of the activities carried out reinforce the need for effective governance, backed by solid control and transparency mechanisms (Moreira & Palmisano, 2016).

Risk-Based Internal Audit

Risk-Based Internal Auditing (RBIA) is an essential approach to ensuring the effectiveness and efficiency of audit processes, especially in the public sector (Lois et al., 2021).

It stands out for allowing internal auditors to prioritize critical and vulnerable areas, focusing on identifying and assessing risks that could compromise organizational objectives (Coetzee & Lubbe 2014; Lois et al., 2021). This methodology, recommended by the Institute of Internal Auditors (IIA), seeks to replace the traditional reactive model with a more strategic and preventive approach, covering all stages of the audit process, from planning to reporting (Lois et al., 2021; Coetzee & Lubbe, 2014; Brito et al., 2016; Mujalli, 2024).

In Brazil, Public Sector Governance Decree No. 9.203/2017 also recognizes the importance of risk-based auditing as a strategic practice for improving governance and risk management (Brazil, 2017). However, many organizations still face challenges in implementing this approach due to the lack of a robust risk management framework, which makes it difficult to align internal auditing with organizational processes (Benli & Celayir, 2014; IIA, 2021).

To overcome these limitations, effective communication with senior management and the adoption of alternative risk assessment methods become fundamental, as guided by CGU Normative Instruction No. 3/2017

(Brazil, 2017). The RBIA not only requires a more integrated approach to organizational risks, but also demands a constant evolution of internal auditing, aligning with strategic objectives and the support of senior management to consolidate more effective governance practices and promote proactive and responsible public management (Pinho & Bezerra, 2015; Gomes et al., 2023).

Senior Management Support For Internal Auditors

Top management support is one of the important factors for the successful implementation of Risk-Based Internal Audit (RBA) in organizations (Alqudah et al. 2019). Top management plays a strategic role in ensuring that adequate resources, ongoing training, development, and qualified personnel are made available for the effective execution of audit activities (Alzeban & Gwilliam, 2014; Lenz & Hahn, 2015). The study by Chang et al. (2019) showed that having a qualified internal audit team with an adequate number of professionals contributes to improving the results of audit activities.

In addition, recognizing the importance of the auditors' work and aligning senior management's priorities with the most critical risks significantly increases internal auditing's contribution to strengthening governance and continuous improvement (Cohen & Sayag, 2010; Alzeban & Gwilliam, 2014). Considering the information presented, it is hypothesized that:

H_1. Senior management support for internal auditors increases the chances of implementing risk-based auditing.

The Role Of The Internal Auditor In Risk Management

In June 1999, the IIA redefined the role of internal auditing, highlighting its responsibility to evaluate, examine and report on the effectiveness of governance, risk management and control processes (Sarens & Beelde, 2006). In addition, the IIA (2009a) identifies various activities that internal auditors can perform in the context of risk management. These activities are classified into three categories: essential, which must be fulfilled by internal auditors; optional, which can be performed under specific conditions; and those to be avoided, as they can compromise the independence and effectiveness of internal audit responsibilities.

Internal auditing must therefore be essential in improving risk management, while maintaining its independence, as Pickett (2011) points out. It is important that auditors understand their role in this process (Abdullatif & Kawuq, 2015). According to Lois et al. (2021), internal auditors contribute by integrating the results of the risk assessment into the annual audit plan.

In addition, the increase in consulting activities by Internal Audit can boost the adoption of risk-based auditing (Kurniawan et al., 2023).

In this sense, Internal Audit, when positively related to risk management, evolves into risk-based auditing (Drogalas & Siopi, 2017). Therefore, the more effective Internal Audit is, the more effective the implementation of Risk-Based Auditing will be (Kurniawan et al., 2023)

Considering the information presented, it is hypothesized that:

H_2. The role of internal auditors in risk management increases the chances of implementing risk-based auditing.

Provision Of Risk Management Training

Providing training in risk management strengthens internal auditing, allowing it to contribute more significantly to organizations by establishing an audit approach centered on risk management, especially with the implementation of Risk-Based Auditing (Lois et al., 2021). These trainings enable internal auditors to generate accurate information on risk identification and assessment, including fraud detection (Mujalli, 2024), which contributes to the effectiveness of auditing and risk management practices in organizations (Zainal Abidin 2017; Castanheira et al., 2009; Drogalas & Siopi 2017).

Salehi and Khatiri (2011) state that a proper risk assessment is essential to ensure a high-quality audit. They also point out that the risk-based audit approach improves the risk assessment model by changing the audit perspective.

In addition, research by Rae and Subramaniam (2008) highlights that the level of risk management training offered to staff is one of the most important organizational factors for improving the effectiveness of internal control procedures in an institution.

In addition, risk management training also contributes to efficient communication of risks and internal controls (Sarens & Beelde, 2006). Considering the information presented, it is hypothesized that:

H_3. Risk management training increases the chances of implementing risk-based auditing.

Formalized Risk Management

According to agency theory, organizations adopt systems to align and supervise management actions (Zainal Abidin, 2017). Formalizing risk management is one of these strategies, ensuring that managers' interests are aligned with the organization's objectives (*Committee of Sponsoring Organizations of the Treadway Commission* [COSO], 2004). This process involves the creation of controls to identify, assess and manage risks,

seeking to ensure the achievement of objectives (Brasil, 2017). Gomes et al. (2023) state that internal auditing contributes to improving management, identifying risks and strengthening internal controls. It uses a systematic and risk-based approach (IIA, 2017), helping management to detect threats to strategic objectives (Mujalli, 2024).

The level of internal audit's contribution to risk management depends on the institution's risk maturity (Coetzee, 2016). The lack of a structured process is the main barrier to implementing RBIA, according to Pinho and Bezerra (2015), Grifiths (2005) and Pommerening and Bencke (2011). RBIA connects internal auditing to organizational risk management (Anon et al., 2020), and the formalization of risk management is essential for the implementation of this methodology (Zainal Abidin, 2017; Coetzee & Lubbe, 2014; Lois et al., 2021; Mujalli, 2024; Sarens et al., 2009). Considering the information presented, it is hypothesized that:

H_4. The risk management structure adopted by the organization increases the chances of implementing risk-oriented auditing.

Formalized Internal Control Systems

The formalization of internal control systems provides a strong framework that increases awareness of risks and controls within an organization (Zainal Abidin, 2017). In addition, Woods (2008) argues that this solid awareness of control provides internal audit with a strategic position, enabling it to instruct senior management in the identification of risks, the use of control procedures as part of mitigation practices and the achievement of organizational objectives. As highlighted by Lois et al. (2021), this formalized structure is associated with Risk-Based Auditing, which favours the development of an audit culture integrated into the organizational environment.

In this sense, developing an effective control system would contribute to greater implementation of risk-based auditing (Zainal Abidin, 2017).

Considering the information presented, it is hypothesized that:

H_5. The adoption of Internal Controls increases the chances of implementing risk-based auditing.

III. Research Methodology

In order to investigate the influence of organizational factors on the likelihood of implementing Risk-Based Auditing (RBIA) in Federal Educational Institutions (IFE), a quantitative, descriptive, cross-sectional approach with primary data was adopted. The target population comprised internal auditors from Brazilian FIs.

The collection instrument was a structured questionnaire based on scales recognized in the literature, divided into two blocks: (i) respondent profile and (ii) twenty statements to measure the organizational factors that influence RBIA, adapted from Lois et al. (2021) and Mujalli (2024). A five-point Likert scale was used to capture the participants' perceptions.

The data was collected between August and October 2024 using Google Forms, reaching a population of 450 internal auditors, and resulting in 226 valid responses.

The analysis was carried out using the PSPP software. Initially, descriptive statistics were applied to characterize the sample. Confirmatory factor analysis (CFA) was then carried out to validate the constructs, using Cronbach's α coefficient (>0.7), Kaiser-Meyer-Olkin (KMO) test (>0.6) and Bartlett's test of sphericity ($p<0.001$).

Logit regression was then applied to test the study's hypotheses, using the equation: $RBIA = RBIA = \beta_0 + \beta_1 ADAAI + \beta_2 PAIGR + \beta_3 OTGR + \beta_4 EGRF + \beta_5 ESFCI + \varepsilon i$, where ADAAI represents top management's support for internal auditors, PAIGR the internal auditor's role in risk management, OTGR the provision of risk management training, EGRF the formalized risk management structure and ESFCI the establishment of a formalized internal control system. Correlation analysis was carried out to assess the relationship between the independent variables. This analysis preceded the application Logit regression, which was used to assess the simultaneous effect of the independent factors on the dependent factor. The factors are shown in Figure 1:

Figure I: Factors and the literature on which they were based

Type	Factor	Description	Expected signal	Authors
Dependent	Implementing Risk-Based Auditing (RBIA)	Dummy variable, assigned the value 1 when Risk-Based Audit Implementation occurs and 0 otherwise.		Alqudah et al. (2019); Coetzee and Lubbe (2014); Coetzee, 2016; Lois et al. (2021); Mujalli (2024)
Independent	Senior management support for internal auditors (ADAAI)	Index resulting from the five-point Likert Scale with the extremes: (1) Strongly Disagree and (5) Strongly Agree	Positive	Alqudah et al. (2019); Alzeban and Gwilliam (2014); Cohen and Sayag Lenz and Hahn (2015); Mujalli (2024)
Independent	The role of the internal auditor in risk management (PAIGR)	Index resulting from the five-point Likert Scale with the extremes: (1) Strongly Disagree and (5) Strongly Agree	Positive	Abdullatif and Kawuq (2015); Drogalas and Siopi, (2017); IIA (2009a); Mujalli (2024),

Type	Factor	Description	Expected signal	Authors
				Kurniawan et al. (2023); Pickett (2011)
Independent	Offer risk management training (OTGR)	Index resulting from the five-point Likert Scale with the extremes: (1) Strongly Disagree and (5) Strongly Agree	Positive	Zainal Abidin (2017); Castanheira et al. (2009); Drogalas and Siopi (2017); Lois et al. (2021); Mujalli (2024); Rae and Subramaniam (2008); Salehi and Khatiri (2011)
Independent	Establishment of formalized risk management (EGRF)	Index resulting from the five-point Likert Scale with the extremes: (1) Strongly Disagree and (5) Strongly Agree	Positive	Zainal Abidin (2017); Anon et al. (2020); Coetzee and Lubbe (2014); Coetzee (2016); Lois et al. (2021); Mujalli (2024)
Independent	Establishment of a formalized internal control system (ESFCI)	Index resulting from the five-point Likert Scale with the extremes: (1) Strongly Disagree and (5) Strongly Agree	Positive	Zainal Abidin (2017), Coetzee and Lubbe (2014), Coetzee, 2016); Lois et al. (2021); Mujalli (2024).
Source: Own elaboration.				

IV. Results And Discussions

Table I shows the descriptive statistics based on demographic questions.

Table I. Descriptive statistics and demographic characteristics of respondents

Variables		Total	
Gender		226	100%
Female		102	44,9%
Male		123	54,2%
I'd rather not say		1	0,4%
Experience		226	100%
Less than 5 years		17	7,5%
5 to less than 10 years		68	30,0%
10 to less than 15 years old		103	45,4%
Over 15 years old		38	16,7%
Level of education		226	100%
Graduation		1	0,4%
Postgraduate (Specialization / MBA)		91	40,1%
Master's Degree		120	52,9%
Doctorate		13	5,7%
Post-doctorate		1	0,4%
Age		226	100%
Under 25		1	0,4%
From 26 to 35 years old		34	15,0%
From 36 to 45 years old		104	45,8%
From 46 to 54 years old		56	24,7%
Over 55		26	11,5%
I'd rather not say		5	2,2%
Position		226	100%
Chief Auditor (Audit Coordinator)		94	41,4%
Auditor (member of the audit team)		114	50,2%
Others		18	8,4%
Region		226	100%
North		39	17,2%
North East		60	26,4%
Midwest		21	9,3%
South East		60	26,4%
South		46	20,3%
Professional certifications and qualifications		226	100%
CIA (Certified Internal Auditor)		0	
CRMA (Certification in Risk Management Assurance)		0	
QA (Quality Assessment)		0	
None		206	90,7%
TCU, CGU, ENAP, among other bodies		20	9,3%
Source: Own elaboration.			

Table II shows the results of the Kruskal-Walli's test used to assess the differences between demographic variables and organizational factors.

Table II: Results of the Kruskal-Walli's test

Variables		Factors					
REGION		RBIA	ADAAI	PAIGR	OTGR	EGRF	ESFCI
Chi-squared		0,03	0,55	0,8	0,04	1,91	0,31
Asymp. Sig.		0,869	0,458	0,371	0,834	0,166	0,58
EXPERIENCE							
Chi-squared		0,33	1,18	0,68	0,02	6,8	1,23
Asymp. Sig.		0,567	0,277	0,41	0,886	0,009	0,267
SCHOOLING							
Chi-squared		3,13	0,74	4,08	0,05	0,45	1,29
Asymp. Sig.		0,077	0,39	0,043	0,828	0,503	0,256
AGE							
Chi-squared		1,07	2,44	0,74	0,61	3,66	5,16
Asymp. Sig.		0,301	0,118	0,391	0,434	0,056	0,023
POSITION							
Chi-squared		0,00	5,73	0,56	0,01	2	0,35
Asymp. Sig.		0,962	0,017	0,453	0,912	0,157	0,557

Source: Own elaboration.

Note: This table shows the Kruskal-Wallis test between the variables and factors of the regression model, which are: Implementation of Risk-Based Auditing (RBIA), Senior Management Support for Internal Auditors (ADAAI), the Role of the Internal Auditor in Risk Management (PAIGR), Provision of Risk Management Training (OTGR), Establishment of Formalized Risk Management (EGRF) and Establishment of a Formalized Internal Control System (ESFCI).

The Kruskal-Walli's test indicates that the Region variable does not significantly influence the internal audit factors ($p > 0.05$). Experience affects the Establishment of Formalized Risk Management (EGRF) ($p = 0.009$), Education affects the Role of the Internal Auditor in Risk Management (PAIGR) ($p = 0.043$) and Age influences the Formalized Internal Control System (ESFCI) ($p = 0.023$). In addition, hierarchical position has a significant effect on Senior Management Support for Internal Auditors (ADAAI) ($p = 0.017$).

To assess the suitability of the variables for the factors defined, a confirmatory factor analysis was carried out. Table 3 shows the factor loadings matrix, indicating the association of each variable with a factor.

The results confirm that the selected variables are representative and well aligned with the factors. However, variables V9, V10 and V11 were eliminated from the PAIGR factor due to low or negative factor loadings, in order to improve the consistency of the model.

Table III: Matrix of factor loadings

Factors	Variables	ADAAI	PAIGR	OTGR	EGRF	ESFCI
ADAAI	V1	0,770				
	V2	0,700				
	V3	0,810				
	V4	0,720				
	V5	0,820				
PAIGR	V6		0,850			
	V7		0,880			
	V8		0,860			
	V9		0,430			
	V10		-0,090			
	V11		-0,070			
OTGR	V12			0,920		
	V13			0,940		
	V14			0,900		
EGRF	V15				0,890	
	V16				0,690	
	V17				0,830	
ESFCI	V18					0,860
	V19					0,900
	V20					0,860

Source: Own elaboration.

Note: This table shows the matrix of factor loadings associated with the factors in the regression model, which are: Senior Management Support for Internal Auditors (ADAAI), Internal Auditor's Role in Risk Management (PAIGR), Provision of Risk Management Training (OTGR), Establishment of Formalized Risk Management (EGRF) and Establishment of a Formalized Internal Control System (ESFCI). The content of the variables can be found in Appendix - Factor and reliability analyses.

Table IV shows the Pearson correlation coefficients between the study factors, indicating the intensity and direction of the relationships between the RBIA and the ADAAI, PAIGR, OTGR, EGRF and ESFCI factors. Significant correlations ($p < 0.05$) are marked with an asterisk (*).

Table IV: Pearson's correlation

	RBIA	ADAAI	PAIGR	OTGR	EGRF	ESFCI
RBIA	1,000					
ADAAI	0,151*	1,000				
PAIGR	0,557*	0,388*	1,000			
OTGR	0,133*	0,219*	0,243*	1,000		
EGRF	0,271*	0,293*	0,363*	0,202*	1,000	
ESFCI	0,225*	0,470*	0,378*	0,093	0,422*	1,000

Source: Own elaboration.

Note: This table shows the correlation between factors in the regression model, which are: Implementation of Risk-Based Auditing (RBIA), Senior Management Support for Internal Auditors (ADAAI), the Role of the Internal Auditor in Risk Management (PAIGR), Provision of Risk Management Training (OTGR), Establishment of Formalized Risk Management (EGRF) and Establishment of a Formalized Internal Control System (ESFCI). Correlations marked with an asterisk (*) are statistically significant at the 0.05 level.

The results indicate that the implementation of the RBIA is influenced by multiple factors, with PAIGR (0.557) standing out, followed by EGRF (0.271) and ESFCI (0.225).

Table V shows the results of the logistic regression applied to assess the relationship between organizational factors and the implementation of Risk-Based Auditing (RBIA).

Table V: Logit regression analysis results

Factors in the equation		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ADAAI		-0,45	0,30	2,24	1	0,135	0,64
PAIGR		2,03	0,34	35,68	1	0,000	7,60
OTGR		-0,04	0,25	0,02	1	0,883	0,96
EGRF		0,47	0,24	3,85	1	0,050	1,60
ESFCI		0,06	0,27	0,04	1	0,834	1,06
Constant		-6,56	1,51	18,91	1	0,000	0,00

Source: Own elaboration.

Note. This table shows the results of the logit regression of the following factors: Senior Management Support for Internal Auditors (ADAAI), Internal Auditor's Role in Risk Management (PAIGR), Provision of Risk Management Training (OTGR), Establishment of Formalized Risk Management (EGRF) and Establishment of a Formalized Internal Control System (ESFCI).

Among the factors analyzed, only PAIGR was statistically significant ($B = 2.03$; $p < 0.001$), indicating that an increase in PAIGR increases the chances of implementing RBIA by 7.6 times (Exp(B) = 7.60).
The ADAAI, OTGR and ESFCI factors showed no significant impact ($p > 0.05$).

EGRF had a positive effect ($B = 0.47$; $p = 0.050$), with Exp(B) of 1.60, suggesting that formalizing risk management increases the chances of implementing the RBIA by 1.6 times.

V. Discussion Of Results

The results for the group of organizational factors can be interpreted from Table V. From it, it was possible to conclude the following:

Hypothesis H_1, which proposed that senior management support for internal auditors increases the chances of implementing risk-based auditing, was not corroborated by the statistical results obtained. Although the data from this study did not show a statistically significant association, the results still reinforce the theoretical relevance of this support. This suggests that future research is needed to explore the conditions under which top management support can impact the implementation of RBIA in Federal Educational Institutions (IFE), considering the particularities of different organizational contexts. Furthermore, it is important to highlight that top management support can manifest itself in ways that are not fully captured by quantitative approaches, such as the quality of the relationship between internal auditors and leadership, the degree of strategic involvement of management or even the implicit commitment of top management.

Hypothesis H_2, which proposes that the role of internal auditors in risk management increases the chances of implementing risk-based auditing (RBIA), was confirmed by the study. Several studies, such as those by Abdullatif & Kawuq (2015), Lois et al. (2021) and Mujalli (2024), highlight the importance of redefining the role of internal auditing in the context of risk management. The 1999 definition by the Institute of Internal Auditors (IIA) was a key milestone in establishing that internal auditing should not only assess, but also contribute to improving risk management, control and governance, a vision that has been incorporated into the practice of

internal auditing (Sarens & Beelde, 2006). This aligns directly with the growing expectation that internal auditors play a more active role in risk management within organizations.

As described by Pickett (2011), internal auditors should be well aware of their role, not only as assessors, but as contributors to the improvement of risk management. Integrating the results of the risk assessment into the annual audit plan, as suggested by Lois et al. (2021), illustrates how internal audit can be crucial to the implementation of the RBIA.

In addition, the growing advisory role played by internal audits can also strengthen the implementation of the RBIA. By helping to build greater understanding among managers and stakeholders about the risks the organization faces, internal audit can help align the risk management approach with organizational practices and objectives (Kurniawan et al., 2023). This aligns with research by Drogalas and Siopi (2017), who highlight that internal audit, by actively engaging in risk management, naturally evolves into risk-based auditing, reflecting the trend that the better the role of internal audit in risk management, the more likely it is that RBIA will be implemented effectively.

Therefore, the results of this study corroborate hypothesis H_2, demonstrating that an active role for internal auditors in risk management is positively related to the successful adoption of risk-based auditing. The empirical evidence suggests that integrating internal audit into risk management not only contributes to improving risk governance, but also strengthens the foundations for implementing risk-based auditing within institutions.

Hypothesis H_3, which proposes that the provision of risk management training increases the chances of implementing risk-based auditing (RBIA), was not corroborated by the results of the study. The factor offering training in risk management (OTGR) was not statistically significant, suggesting that, in the context of the Federal Education Institutions (IFEs) analyzed, training in risk management has no direct impact on the implementation of RBIA.

Although several authors suggest that training is fundamental to improving internal auditors' ability to identify and assess risks (Lois et al., 2021; Mujalli, 2024), and that it contributes to the effectiveness of auditing and risk management within organizations (Zainal Abidin, 2017; Castanheira et al., 2009), the results of the study did not show this direct relationship. One possible reason for this is that, although training is an essential tool, its effective implementation may depend on other factors, such as the stage of risk management maturity in the organization or the quality of the training offered. For example, training that is not sufficiently aligned with the practical needs or specific challenges faced by internal auditors may not result in significant changes in the ability to implement the RBIA.

Furthermore, as pointed out by authors such as Sarens and Beelde (2006), training must be part of a broader approach that involves other aspects, such as effective communication about risks and internal controls and the continuous involvement of senior management. Thus, training alone may not be enough to guarantee the successful adoption of the RBIA. Factors such as organizational culture, governance structure and the strategic support of senior management can have a more decisive impact on the successful implementation of RBIA than the provision of training alone.

Hypothesis H_4, which proposes that the risk management structure adopted by the organization increases the chances of implementing risk-oriented auditing (RBIA), was corroborated by the results of the study. This result confirms the relevance of formalizing risk management for the implementation of RBIA, as suggested by the studies by Zainal Abidin (2017), Coetzee and Lubbe (2014), and Lois et al. (2021). The formalization of risk management provides a solid basis for the integration of internal audit with the strategic management of the organization, contributing to the identification and assessment of risks, as pointed out by Gomes et al. (2023) and Mujalli (2024).

The absence of a formal risk management process can lead internal audit to adopt alternative methods for risk assessment, as highlighted by Benli and Celayir (2014) and endorsed by CGU Normative Instruction No. 3/2017 (Brazil, 2017), which guides the use of alternative approaches in situations where risk management is not formalized (Brazil, 2017). These alternative methods often involve traditional approaches, centered on compliance or control audits, which emphasize areas of higher risk, which are not fully aligned with the RBIA's comprehensive approach (Coetzee & Lubbe, 2014).

Hypothesis H_5, which proposes that the implementation of internal control increases the chances of implementing risk-based auditing (RBIA), was refuted by the results of the study, since the p-values were higher than 0.05, indicating the absence of a significant direct impact of the internal control system on the adoption of RBIA. This finding is in line with other studies, such as those by Mujalli (2024) and Lois et al. (2021), which highlight the limitations of control systems in identifying risks and the absence of a robust control environment in public sector organizations in Saudi Arabia and Greece.

Despite this finding, the literature highlights the importance of formalizing internal control systems as an element that strengthens the organizational structure and raises awareness of risks and controls (Zainal Abidin, 2017).

Woods (2008) argues that a solid internal control structure gives internal auditing a strategic position, enabling it to guide senior management in identifying risks, implementing control procedures as part of mitigation

strategies and meeting organizational objectives. Thus, although hypothesis H_5 was not confirmed by empirical data, the development and maintenance of effective control systems continue to be elements recognized by the literature as facilitators of the audit environment.

VI. Final Considerations

The advancement of risk management in public administration, coupled with the emergence of risk-based auditing (RBIA) as a natural offshoot of this evolution, together with the complexity and social relevance of Federal Educational Institutions (IFE), raised the need to investigate the organizational factors that influence the implementation of RBIA in these institutions. Therefore, the research aimed to explain the relationship between organizational factors, such as senior management support for internal auditors, the role of these auditors in risk management, risk management training, the risk management structure and the implementation of internal control, with the likelihood of adopting risk-based auditing within the scope of internal auditing at the IFEs.

The statistical tests confirmed the significant relationship between the active role of internal auditors in risk management and the implementation of risk-based auditing (RBIA), corroborating hypothesis H2. On the other hand, hypothesis H1, which suggested that top management support would increase the chances of implementing RBIA, was not confirmed by the data, indicating that the impact of this support may be more complex and dependent on other contextual factors. Similarly, hypothesis H3, relating to the impact of risk management training, also lacked empirical support, suggesting that the effectiveness of training depends on broader conditions, such as the maturity of risk management in the IFEs or the quality of the training offered.

In addition, the research corroborated hypothesis H4, which emphasizes the importance of formalizing the risk management structure for the successful implementation of the RBIA. This finding highlights the need for more solid integration between internal auditing and risk management practices in the IFEs, aligning auditing activities with the organization's strategic objectives. Finally, hypothesis H5, which proposed a relationship between the implementation of internal controls and the adoption of the RBIA, was refuted by the data, suggesting that although internal control systems are essential for strengthening organizational governance, their direct influence on the implementation of the RBIA may be limited without a more strategic alignment with risk management.

Theoretical contributions of the study include confirmation of the relevance of the active role of internal auditors in risk management as a key factor in the implementation of the RBIA, corroborating the literature that advocates redefining this role beyond mere evaluation, making it an integrating element in risk management. The formalization of risk management was also identified as a positive factor, reinforcing agency theory and approaches that advocate the importance of formal structures for mitigating risks and aligning organizational interests. On the other hand, the lack of significance in the factors of support from senior management, the provision of training and a formalized internal control system defies expectations and suggests that these factors may depend on other contextual variables to have an impact.

From a practical point of view, the study offers contributions for auditors and managers of IFEs. The emphasis on the participation of internal auditors in risk management, in an independent and consultative manner, ensures that internal audit focuses on evaluating and monitoring risk management processes, without taking on operational functions. This approach underlines the need to promote closer collaboration between internal audit and other institutional areas, strengthening integration and effectiveness in risk management. The formalization of risk management also proved to be a facilitator of the RBIA, indicating that IFEs should invest in processes for structuring and documenting risk management practices, including the standardization of procedures and the adoption of internationally recognized frameworks. Although support from senior management and the provision of training did not show direct significance, their theoretical relevance should still be considered, suggesting the need for more comprehensive future studies.

This study has some limitations that should be taken into account. Firstly, the use of a questionnaire may limit the depth of responses and the interpretation of respondents' perceptions. In addition, the sample, made up of 226 auditors from a universe of 450, may not capture all the nuances and variations possible within the IFEs.

In the course of the research, several possibilities for future investigations were identified, including: (1) carrying out a longitudinal analysis to observe the evolution of the factors over time; (2) exploring the inclusion of other contextual variables, such as organizational culture and political support; (3) carrying out comparative studies with other entities, whether in the public or private sector; (4) deepening the understanding of the impacts of factors such as top management support and internal control systems on the RBIA through qualitative case studies.

References

[1]. Abdullatif, M., & Kawuq, S. (2015). The Role Of Internal Auditing In Risk Management: Evidence From Banks In Jordan. Journal Of Economic And Administrative Sciences, 31(1), 30-50. Https://Doi.Org/10.1108/Jeas-08-2013-0025

[2]. Alqudah, H. M., Amran, N. A., & Hassan, H. (2019). Factors Affecting The Internal Auditors' Effectiveness In The Jordanian Public Sector. Euromed Journal Of Business, 14(3), 251-273. Https://Doi.Org/10.1108/Emjb-03-2019-0049

[3]. Alzeban, A., & Gwilliam, D. (2014). Factors Affecting The Internal Audit Effectiveness: A Survey Of The Saudi Public Sector. Journal Of International Accounting, Auditing And Taxation, 23(2), 74-86. Https://Doi.Org/10.1016/J.Intaccaudtax.2014.06.001

[4]. Anon, E., Nasution, A. A., Yahya, I., & Atmanegara, A. W. (2020). The Role Of Risk Based Internal Audit In Improving Audit Quality. International Journal Of Management, 11(12), 299-310. Https://Doi.Org/10.34218/Ijm.11.12.2020.029

[5]. Antonialli, F., Antonialli, L., & Antonialli, R. (2016). Uses And Abuses Of The Likert Scale: Bibliometric Study In The Annals Of Enanpad From 2010 To 2015 [Presented Paper]. Meeting Of The National Association Of Graduate Studies And Research In Administration (Enanpad), São Paulo, SP, Brazil.

[6]. Araújo, A., & Gomes, A. M. (2021). Risk Management In The Public Sector: Challenges In Its Adoption By Brazilian Federal Universities. Revista Contabilidade & Finanças, 32(86), 241-254. Https://Doi.Org/10.1590/1808-057x202112300

[7]. Benli, V., & Celayir, D. (2014). Risk Based Internal Auditing And Risk Assessment Process. European Journal Of Accounting Auditing And Fianance Research, 2(7), 1-16.

[8]. Brazil (2016). Joint Normative Instruction MP/CGU N. 01/2016. Provides For Internal Controls, Risk Management And Governance Within The Federal Executive Branch. Ministry Of Justice And Public Security. Https://Www.Gov.Br/Mj/Pt-Br/Acesso-A-Informacao/Governanca/Gestao-De-Riscos/Biblioteca/Normativos/Instrucao-Normativa-Conjunta-No-1-De-10-De-Maio-De-2016-Imprensa-Nacional.Pdf/View

[9]. Brazil (2017). Decree No. 9.203, Of November 22, 2017. Provides For The Governance Policy Of The Direct, Autarchic, And Foundational Federal Public Administration. Casa Civil. Https://Www.Planalto.Gov.Br/Ccivil_03/_Ato2015-2018/2017/Decreto/D9203.Htm

[10]. Brazil (2017). CGU Normative Instruction No. 03 Of June 9, 2017. Approves The Technical Reference Of The Governmental Internal Audit Activity Of The Federal Executive Branch. Comptroller General Of The Union. Https://Repositorio.Cgu.Gov.Br/Bitstream/1/33409/19/Instrucao_Normativa_CGU_3_2017.Pdf

[11]. Brazil (2022). Ministry Of Science, Technology, And Innovation. Risk Management Methodology. Https://Www.Gov.Br/Mcti/Pt-Br/Acesso-A-Informacao/Governanca/Gestao-De-Riscos/Metodologia-De-Gestao-De-Riscos-Do-Mcti.Pdf

[12]. Brito, G. C., Pimenta, D. P., Souza, E. M. S., & Cruz, A. F. (2017). Benefits And Challenges In The Implementation Of Risk-Based Auditing In Federal Educational Institutions. Revista Gestão Universitária Na América Latina - GUAL, 10(4), 109-133. Https://Doi.Org/10.5007/1983-4535.2017v10n4p109

[13]. Castanheira, N., Lima Rodrigues, L., & Craig, R. (2009). Factors Associated With The Adoption Of Risk-Based Internal Auditing. Managerial Auditing Journal, 25(1), 79-98. Https://Doi.Org/10.1108/02686901011007315

[14]. Chang, Y.-T., Chen, H., Cheng, R. K., & Chi, W. (2019). The Impact Of Internal Audit Attributes On The Effectiveness Of Internal Control Over Operations And Compliance. Journal Of Contemporary Accounting & Economics, 15(1), 1-19. Https://Doi.Org/10.1016/J.Jcae.2018.11.002

[15]. Coetzee, P., & Lubbe, D. (2013). Improving The Efficiency And Effectiveness Of Risk-Based Internal Audit Engagements. International Journal Of Auditing, 18(2), 115-125. Https://Doi.Org/10.1111/Ijau.12016

[16]. Cohen, A., & Sayag, G. (2010). The Effectiveness Of Internal Auditing: An Empirical Examination Of Its Determinants In Israeli Organizations. Australian Accounting Review, 20(3), 296-307. Https://Doi.Org/10.1111/J.1835-2561.2010.00092.X

[17]. Committee Of Sponsoring Organizations Of The Treadway Commission (2004). Enterprise Risk Management - Integrated Framework. COSO. Https://Www.Coso.Org/Documents/Coso-Erm-Executive-Summary-Portuguese.Pdf

[18]. Drogalas, G., & Siopi, S. (2017). Risk Management And Internal Audit: Evidence From Greece. Risk Governance And Control: Financial Markets & Institutions, 7(3), 104-110. Https://Doi.Org/10.22495/Rgcv7i3p10

[19]. Frias, R. P. C., Silva, J. W. D., Amorim, E. R., & Carmona, C. U. De M. (2022). Suggestions For Research On Governmental Internal Auditing: A Look At The Context Of Brazilian Federal Educational Institutions. Revista De Administração, Contabilidade E Economia Da Fundace, 13(3), 73-90. Https://Doi.Org/10.13059/Racef.V13i3.883

[20]. Gil. A. C. (2008). Methods And Techniques Of Social Research (6th Ed.). Atlas.

[21]. Godoy, A. S. (1995). Introduction To Qualitative Research And Its Possibilities. Revista De Administração De Empresas, 35(2), 57-63. Https://Doi.Org/10.1590/S0034-75901995000200008

[22]. Gomes, A. R., Junior, A. J. S. O., & Machado, G. V. (2015). Audit Methodology Focus On Process And Risk. Revista Do TCU, 132, 28-37. Https://Revista.Tcu.Gov.Br/Ojs/Index.Php/RTCU/Article/View/249/235

[23]. Gomes, C., Ferreira, T. A., Soares, N. H., & Alves, C. (2023). The Importance Of Internal Auditing In Organizations. Contribuciones A Las Ciencias Sociales, 16(8), 11309-11320. Https://Doi.Org/10.55905/Revconv.16n.8-132

[24]. Griffiths, P. (2016). Risk-Based Auditing (1st Ed). Routledge. Https://Doi.Org/10.4324/9781315606545

[25]. Institute Of Internal Auditors Of Brazil (2009c). IIA Position Statement: The Role Of Internal Auditing In Enterprise Risk Management. IIA Brazil. Https://Iiabrasil.Org.Br/Ippf/Declaracoes-De-Posicionamento

[26]. Institute Of Internal Auditors Of Brazil (2013). The Three Lines Of Defense In Effective Risk And Control Management. IIA Brazil. Https://Iiabrasil.Org.Br/Ippf/Declaracoes-De-Posicionamento

[27]. Heinz, G., Alves, E. B., Roratto, R., & Dias, E. D. (2019). Budgetary Risks In University Administration: A Case Study In The Public Sector. Avaliação: Revista Da Avaliação Da Educação Superior (Campinas), 24(3), 699-721. Https://Doi.Org/10.1590/S1414-40772019000300008

[28]. Janse Van Rensburg, J. O., & Coetzee, P. (2016). Internal Audit Public Sector Capability: A Case Study. Journal Of Public Affairs, 16(2), 181-191. Https://Doi.Org/10.1002/Pa.1574

[29]. Júnior, D.P.S., & Santos, J.A. (2023). The Role Of Internal Auditing In Supporting Governance: Historical Indications Of Integration In Public Administration. Revista Interdisciplinar Da Universidade Federal Do Tocantins, 10(Especial 4). Https://Doi.Org/10.20873/Dossiegov.Sust_6

[30]. Klein Junior, V. H. (2020). Risk Management In The Brazilian Public Sector: A New Logic Of Accountability? Revista De Contabilidade E Organizações, 14, E163964. Https://Doi.Org/10.11606/Issn.1982-6486.Rco.2020.163964

[31]. Kurniawan, T., Bukit, R. B., & Erwin, K. (2023). The Factors Influencing The Risk-Based Internal Audit In Improving The Effectiveness Of Internal Audit. International Journal Of Social Science And Business, 7(4), 1030-1041. Https://Doi.Org/10.23887/Ijssb.V7i4.51371

[32]. Lenz, R., & Hahn, U. (2015). A Synthesis Of Empirical Internal Audit Effectiveness Literature Pointing To New Research Opportunities. Managerial Auditing Journal, 30(1), 5-33. Https://Doi.Org/10.1108/Maj-08-2014-1072

[33]. Lois, P., Drogalas, G., Nerantzidis, M., Georgiou, I., & Gkampeta, E. (2021). Risk-Based Internal Audit: Factors Related To Its Implementation. Corporate Governance: The International Journal Of Business In Society, 21(4), 645-662. Https://Doi.Org/10.1108/Cg-08-2020-0316

[34]. Machado, M. R., & Paschoal, B. (2016). Monitoring, Investigating, Holding Accountable And Sanctioning: Institutional Multiplicity In Corruption Cases. Novos Estudos - Cebrap, 35(1), 11-36. Https://Doi.Org/10.25091/S0101-3300201600010001

[35]. Machado, T. A., & Carneiro, R. (2024). Risk-Based Auditing In The Internal Control Of Brazilian Public Administration: The Case Of The Comptroller General Of The State Of Minas Gerais. Revista Do TCU, 153(1), 84-110. Https://Doi.Org/10.69518/Rtcu.153.84-110

[36]. Maia, B. F., & Oliveira, A. B. (2020). Risk-Based Auditing: A Study At A Federal Higher Education Institution In Bahia [Paper Presented]. XVII USP Congress On Scientific Initiation In Accounting, São Paulo, SP, Brazil. Https://Congressousp.Fipecafi.Org/Anais/20uspinternational/Artigosdownload/2634.Pdf

[37]. Ministry Of Education (2025). Nilo Peçanha Platform: PNP 2025: Base Year 2024. Https://App.

[38]. Ministry Of Education (2025). Federal Budget Panel: Base Year 2024. Https://Www1.Siop.Planejamento.Gov.Br/Qvajaxzfc/Opendoc.Htm?Document=IAS%2fexecucao_Orcamentaria.Qvw&Host=QVS%40pqlk04&Anonymous=True&Sheet=SH06

[39]. Moreira, P. A., & Palmisano, A. (2016). Transparency: A Principle Of Corporate Governance In The Audit Of Federal Public Funds. Metropolitan Journal Of Corporate Governance, 1(1), 3-25.

[40]. Mujalli, A. (2024). Factors Affecting The Implementation Of Risk-Based Internal Auditing. Journal Of Risk And Financial Management, 17(5), 196. Https://Doi.Org/10.3390/Jrfm17050196

[41]. Oliveira, P. A. A., Araujo, F. G., & Silva, G. O. (2023). Governmental Internal Auditing: A Quick Review Of The Changes In The Form Of Action Since The Publication Of IN SFC Nº 3/2017. Revista Da CGU, 15(28), 241-256. Https://Doi.Org/10.36428/Revistadacgu.V15i28.659

[42]. Pickett, K.H.S. (2011), The Essential Guide To Internal Auditing (2nd Ed.), John Wiley & Sons Ltd, Chichester.

[43]. Pinheiro, D. R., & Oliva, E. C. (2020). The Performance Of Internal Auditing In Public Governance: A Study Based On The View Of Senior Management Of Brazilian Federal Public Universities. Contabilidade Vista & Revista, 31(2). Https://Doi.Org/10.22561/Cvr.V31i2.4933

[44]. Pinho, R. C. De S., & Bezerra, L. B. (2015). Implementation Of Risk-Based Auditing In A "System S" Entity: The Case Of Sebrae/CE. Revista Ambiente Contábil, 7(2), 32-52. Https://Periodicos.Ufrn.Br/Ambiente/Article/View/5511

[45]. Pommerening, E. J., & Bencke, F. F. (2011). Conventional Auditing And Risk-Based Auditing: Contributions To Organizational Management. Unoesc & Ciência - ACSA, 2(1), 15-26. Https://Periodicos.Unoesc.Edu.Br/Acsa/Article/View/746

[46]. Power, M. (2004). The Risk Management Of Everything. The Journal Of Risk Finance, 5(3), 58-65. Https://Doi.Org/10.1108/Eb023001

[47]. Power, M. (2009). The Risk Management Of Nothing. Accounting, Organizations And Society, 34(6-7), 849-855. Https://Doi.Org/10.1016/J.Aos.2009.06.001

[48]. Power, M., Scheytt, T., Soin, K., & Sahlin, K. (2009). Reputational Risk As A Logic Of Organizing In Late Modernity. Organization Studies, 30(2-3), 301-324. Https://Doi.Org/10.1177/0170840608101482

[49]. Rae, K., & Subramaniam, N. (2008). Quality Of Internal Control Procedures. Managerial Auditing Journal, 23(2), 104-124. Https://Doi.Org/10.1108/02686900810839820.

[50]. Salehi, M., & Khatiri, M. (2011). A Study Of Risk Based Auditing Barriers: Some Iranian Evidence. 3923-3934.

[51]. Santos, J. A., & Pereira, V. C. (2022). The Contingency Of Funds In Brazilian Federal Educational Institutions: An Analysis From The Perspective Of Student Cost And Budgetary Allocation. Revista Práticas Em Contabilidade E Gestão, 10(2), 1-23. Https://Doi.Org/10.5935/2319-0485/Praticas.V10n2e14971

[52]. Sarens, G., & Beelde, I. (2006). Internal Auditors' Perception About Their Role In Risk Management. Managerial Auditing Journal, 21(1), 63-80. Https://Doi.Org/10.1108/02686900610634766

[53]. Shuwaili, A. M. J., Hesarzadeh, R. & Bagherpour Velashani, M. A. (2023). Designing An Internal Audit Effectiveness Model For Public Sector: Qualitative And Quantitative Evidence From A Developing Country. Journal Of Facilities

[54]. Silva. (2021). The Role Of The Federal Court Of Auditors In Public Governance. Revista Científica Multidisciplinar Núcleo Do Conhecimento, 08(04), 27-44. Https://Www.Nucleodoconhecimento.Com.Br/Ciencias-Sociais/Contas-Da-Uniao

[55]. Souza, A. A.; Marques, A. M. F.; Oliveira, L. F.; Glória, L. G. L.; Braga, A. S. (2013), Analysis Of The Internal Control System And Internal Audit In Public And Philanthropic Hospitals. Tourism & Management Studies Journal, 3(3), 896-906. Https://Ojs3x.Com/Index.Php/Ectms/Article/View/475

[56]. The Institute Of Internal Auditors (2009a). IIA Position Paper: The Role Of Internal Auditing In Enterprise-Wide Risk Management. IIA. Https://Www.Theiia.Org/Globalassets/Documents/Resources/The-Role-Of-Internal-Auditing-In-Enterprise-Wide-Risk-Management-January-2009/Pp-The-Role-Of-Internal-Auditing-In-Enterprise-Risk-Management.Pdf

[57]. The Institute Of Internal Auditors (2009b). Internal Audit Capability Model (IA-CM) For The Public Sector. IIA. Https://Www.Theiia.Org/En/Promotions/Bookstore/IA-CM/

[58]. The Institute Of Internal Auditors (2017). International Standards For The Professional Practice Of Internal Auditing (STANDARDS). IIA. Https://Www.Theiia. Org/

[59]. Turetken, O., Jethefer, S., & Ozkan, B. (2019). Internal Audit Effectiveness: Operationalization And Influencing Factors. Managerial Auditing Journal, 35(2), 238-271. Https://Doi.Org/10.1108/Maj-08-2018-1980

[60]. Woods, M. (2008). Linking Risk Management To Strategic Controls: A Case Study Of Tesco Plc. International Journal Of Risk Assessment And Management, 7(8), 1074. Https://Doi.Org/10.1504/IJRAM.2007.015295

[61]. Zainal Abidin, N. H. (2017). Factors Influencing The Implementation Of Risk-Based Auditing. Asian Review Of Accounting, 25(3), 361-375. Https://Doi.Org/10.1108/Ara-10-2016-0118

[62]. Zienlinski, D.Z., Costaldello, A.C. (2014). The Nature And Autonomy Of Brazilian Federal Higher Education Institutions (IFES) And The Reflections On University Management. XIV International Colloquium On University Management, Florianópolis, Brazil