

Determinants of the quality of accounting information at Brazilian federal universities

Determinantes de la calidad de la información contable en las universidades federales brasileñas

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Abstract: this research examined the determinants of the quality of accounting information at Brazilian federal universities, from a contingency perspective, focusing on both internal and external factors that influence the information disclosed by these institutions. Understanding these determinants is relevant for improving financial transparency and decision-making in public higher education. An explanatory and quantitative approach was adopted to analyze secondary data and documentary sources. A sample of 62 federal universities was studied, and their quality of accounting information was assessed using the index developed by Beest *et al.* (2009). Seven variables, based on contingency theory, were tested using an Ordinary Least Squares (OLS) multiple regression model. The findings revealed that internal factors —such as administrative efficiency, the number of accounting professionals, the presence of a female dean, and governance quality—have a significant impact on the quality of accounting information. On the other hand, external factors like socio-economic development in education and university location (capital vs. interior) did not significantly affect the quality of information. The study concluded that internal factors play a more critical role than external ones in determining quality of accounting information in Brazilian federal universities. These insights are valuable for university management and control bodies to focus on enhancing internal characteristics, such as administrative efficiency, technical structure, governance and leadership, in the production of information useful for decision-making.

Keywords: quality, accounting, information, universities, contingency, IPSAS, Brazil, determinants.

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Resumen: este estudio investigó los determinantes de la calidad de la información contable en las universidades federales brasileñas, desde una perspectiva contingencial, enfocándose en los factores internos y externos que influyen en la información divulgada por estas instituciones. Resulta fundamentalmente comprender estos determinantes para mejorar la transparencia financiera y la toma de decisiones en la educación superior pública. Se adoptó un enfoque explicativo y cuantitativo para analizar los datos secundarios y las fuentes documentales. La muestra incluyó 62 universidades federales brasileñas, evaluando la calidad de su información contable y utilizando el índice desarrollado por Beest *et al.* (2009). Se probaron siete variables basadas en la teoría de la contingencia mediante un modelo de regresión múltiple por mínimos cuadrados ordinarios. Los resultados revelaron que el ambiente interno, incluyendo variables como la eficiencia administrativa, el número de profesionales contables, la presencia de una decana mujer y la calidad de la gobernanza tiene un impacto significativo en la calidad de la información contable. En cambio, los factores externos, como el desarrollo socioeconómico en educación y la ubicación de la universidad (capital vs. interior), no tuvieron un impacto significativo en la calidad de la información. El estudio concluye que los factores internos son más determinantes que los externos en la calidad de la información contable en las universidades federales brasileñas, ofreciendo valiosos conocimientos para la gestión universitaria y los órganos de control.

Palabras clave: calidad, información, contable, universidades, contingencia, IPSAS, Brasil, determinantes.

Introduction

In recent decades, public sector reforms under the New Public Management (NPM) paradigm have aimed to improve transparency, quality of information, and public finance efficiency and ensure better accountability (Hyndman and Liguori, 2016). This movement has resulted in profound changes in the accounting and budgeting practices of several nations, leading to better decision-making and accountability processes (Schmidhuber *et al.*, 2022).

One of the main pillars of these reforms is the International Public Sector Accounting Standards (IPSAS), designed to ensure international comparability of public financial reports (Bilhim *et al.*, 2022). Their adoption has been encouraged by international organizations such as the International Monetary Fund (IMF) and the World Bank, which view IPSAS as a means to enhance transparency and accountability in public financial management (Aquino *et al.*, 2020), a recommendation especially emphasized for developing countries (Bilhim *et al.*, 2022). Brazil began adopting IPSAS in 2008, to improve public sector transparency and accountability (Lima and Lima, 2019).

Adopting IPSAS is a relevant factor in assuring the confidence of the people and national and foreign investors; by demanding greater transparency and disclosure of accounting information, the expected outcome is an improvement in the quality of information reported by public entities (Bilhim *et al.*, 2022). Empirical studies have confirmed the benefits associated

with the adoption of these standards, particularly enhancements in information quality for both external and internal decision-making purposes (Schmidhuber *et al.*, 2022).

Since the quality of accounting information is vital for its users to benefit from in their decision-making (Zhai and Wang, 2016), and considering that the successful implementation of accounting practices in the public sector depends on various internal and external factors — such as central government policies, information and communication technology, the size of the organization (Woods, 2009), cultural aspects, historical context, and structural elements (Pina *et al.*, 2009) — recent studies have focused on discussing the factors that influence the quality of accounting information in the public sector.

Mnif and Gafsi (2020), drawing on contingency theory, evaluated environmental factors that influenced IPSAS compliance in the financial information disclosed by public organizations across different countries. Sellami and Gafsi (2020) examined the level of transparency and IPSAS compliance among 60 government entities in Sub-Saharan Africa, assessing their relationship with the quality of public management systems and the level of accounting education. Sousa (2022) investigated the determinants of accounting information quality in Brazilian municipalities, including spatial clustering, population size, and per capita administrative expenditures. Gomes and Silva (2022) investigated the explanatory factors behind ranking the

quality of accounting and fiscal information at a municipal level.

Universities are responsible for an extensive operational structure and voluminous financial resources, with a diversity of stakeholders who are increasingly pressing for improvements in efficiency and effectiveness. It leads to great interest in their accounting and fiscal information (Kim and Chung, 2023). Despite their relevance for public sector accounting research (Kim and Chung, 2023), we did not identify any studies dedicated to investigating contingency aspects that influence the quality of their accounting information.

Thus, through the lens of contingency theory, the objective of this study was to examine the determinants of the quality of accounting information at Brazilian federal universities. The Contingency Theory assumes that there is no optimal structure; instead, organizational adapt to internal and external conditions achievement of its objectives (Chenhall, 2003). Public universities play a crucial in the country's development through education, research and innovation (Kim and Chung, 2023). According to the SCImago Institutions Rankings (2024), which evaluates institutions based on research performance, innovation results, and social impact — 16 of the 20 best Brazilian universities are federal institutions.

Understanding what affects quality of accounting information is vital for successful reforms, such as IPSAS (Herath and Albarqi, 2017). By filling a gap in knowledge about the determinants of the quality of university accounting information, this investigation enables public managers to understand the influence of exogenous factors that may require greater managerial effort and internal factors that need to be maximized in order to effectively improve the quality of their accounting reports. This study could also guide policymakers variables that influence reform success in the public sector.

Literature review

Contingency Theory studies the connection between an organization and its environment, seeking to identify patterns or variable configurations, emphasizing their multivariate nature, and elucidating how they operate in specific circumstances (Kast and Rosenzweig, 1972). Greenwood and Hinings (1976) argue that contingencies trigger adjustments in controls and organizational structure. Stoner and Freeman (1985) emphasize the interdependence of the various factors in administrative situations.

cause the optimization of arrangement is a response of the contingencies broader environment (Donaldson, 1999). Organizations strive to adjust between environment and structure to maximize performance and efficiency (Brignall and Modell, 2000).

Contingency Theory is widely applied in accounting research, especially in private sector management accounting (Freitag *et al.*, 2021). This approach understands that accounting systems elements relate to specific operating circumstances, internal and external factors, making their adequacy contingent on these factors (Otley, 2016). Its use also extends to other fields of accounting, such as the public sector, helping identify contextual factors relevant to government accounting reforms (Jorge and Mattei, 2016).

High-quality accounting information is defined as information that is useful for decision-making, meaning it must be understandable and suitable to the needs of its users (Hendriksen and Van Breda, 1999). Thus, the quality of accounting information enhances user value, by promoting efficient resource allocation (Herath and Albarqi, 2017). Considering IPSAS as a platform for improving the quality of accounting information in the public sector, international studies have focused on assessing the quality of reported accounting information based on its compliance with these standards. There has been interest in both low and high quality. While the former increases investor confidence, access to credit and better capital costs, the latter can lead to risks of fraud, misguided deci-

sions and loss of credibility (Opanyi, 2016). In this sense, the literature has approached the elements of quality, the different ways of measuring it and identifying the factors that influence this quality (Herath and Albarqi, 2017).

Within the contingency approach, the organization is an open system, that no structure can be used in all organizations, beThe understanding and analysis of accounting information quality in the public sector are commonly grounded in compliance with the concepts outlined in the IPSAS Conceptual Framework for General Purpose Financial Reporting—specifically, the qualitative characteristics prescribed in this framework: relevance, faithful representation, understandability, timeliness, verifiability, and comparability. Opanyi (2016), studying 19 Kenyan ministries, found improvements in comparability, relevance, timeliness and representation after adoption of IPSAS, while comprehensibility was harmed. Ambarchian and Ambarchian (2020) analyzed 20 supranational organizations, highlighted predictive value, integrity, neutrality, absence of material errors, punctuality and verifiability.

Measurement methods include based on accruals and earnings management (Ambarchian and Ambarchian, 2020; Herath and Albarqi, 2017; Opanyi, 2016), statistical models like Baneish's (Herath and Albarqi, 2017), accuracy in profit forecasts (Opanyi, 2016) and accounting judgment and subjectivity (Ambarchian and Ambarchian, 2020). Influential factors include accounting standards adopted, corporate governance mechanisms, independent auditing and audit committees, the regulatory and legal environment, earnings management and the characteristics of the firm (Opanyi, 2016). Mnif and Gafsi (2020) identified a positive effects from government openness, quality of public administration and previous experience with IFRS in IPSAS compliance, while the financial condition was not a significant factor.

Hypotheses development

Understanding factors that may influence the quality of accounting information is crucial for the success of accounting reforms (Herath and Albarqi, 2017). This study proposes seven hypotheses exploring the determinants of the quality

of accounting information at Brazilian federal universities, grounded in contingency theory.

The first hypothesis relates socio-economic development in education to the external environment and the quality of the organization's accounting information. In the literature, the Municipal Human Development Index (IDHM) is identified as contingent on municipal performance, fiscal and municipal management transparency, as well as the quality of accounting information in Brazilian municipalities. According to Brocco *et al.* (2018, p. 140), the influence occurs because "... citizens with better health, education, and employment conditions are in a better position to exercise social control over municipal management." In this regard, Sell *et al.* (2020) found a positive relationship between the Municipal Human Development Index (IDHM) and municipal performance. Positive relationships between the FIRJAN Municipal Development Index (IFDM) and municipal transparency are observed in Brocco *et al.* (2018), Baldissera *et al.* (2020), and Visentini *et al.* (2021). Gomes and Silva (2022) also identified a positive relationship between the IFDM and accounting information quality in Brazilian municipalities. Supposedly, federal universities based in states with higher socioeconomic educational development have higher-quality accounting information.

H₁: The socioeconomic development in education of the state where the federal university is based positively influences the quality of its accounting information.

The second hypothesis relates to the size of the population served by the university and the quality of its accounting information. According to Souza (2022), population size can positively affect the quality of accounting information, as it provides access to a greater amount of technological and financial resources allocated to maintaining the administrative structure. Baldissera *et al.* (2020) and Visentini *et al.* (2021) found a positive relationship between population size and municipal transparency. Avellaneda and Gomes (2015) identified a positive relationship between population size and municipal performance in terms of tax collection. Sell *et al.* (2020)

observed a positive relationship between size and municipal performance. Sousa (2022) also identified a positive relationship between population size and the quality of accounting information in municipalities, as did Souza (2022) in analyzing the accounting disclosure of Brazilian state governments. Therefore, it is expected that a larger population served by public higher education institutions (IFES), including undergraduate and graduate programs, will lead to higher quality accounting information.

H₂: The size of the population served by the federal university positively influences the quality of its accounting information.

The third hypothesis explores the impact of organizational efficiency on the quality of accounting information. How an organization converts input into products reflects quality of its management (Chenhall, 2003). Efficient practices improve accounting information higher quality (Marengo *et al.*, 2017; Grin *et al.*, 2018). In public institutions, the quality of management relates to adopting more efficient methods (Mnif and Gafsi, 2020). Efficiency is associated with reduced operating costs (Soares *et al.*, 2019). The current cost per student is an efficient metric used to evaluate federal universities' institutional performance from the management quality perspective (Sousa and Callado, 2019). Therefore, this study regards efficiency, as measured by the current cost per student, as a potential explanatory factor for the quality of accounting information reported by federal universities.

H₃: A lower current cost per student positively impacts the quality of accounting information at federal universities.

The fourth hypothesis proposes an association between the size of the accounting team and the quality of accounting information. The expertise of the accounting professional is related to the quality of the financial forecasts disclosed (Clatworthy and Peel, 2021). Anderson *et al.* (2004) indicate that larger audit committees can lead to higher levels of transparency and

disclosure. In the public sector, Sell *et al.* (2020) found that higher per capita personnel expenditure leads to better municipal performance measured by per capita net current revenue. The allocation of professionals with knowledge and understanding of accounting is important for the quality of the financial reports and projections disclosed. In the context of Brazilian federal universities, it is anticipated that a higher number of accounting professionals available to management will improve the quality of accounting information.

H₄: The number of accounting professionals positively impacts the quality of accounting information at federal universities.

The fifth hypothesis explores the influence of the gender of the top manager on the quality of the organization's accounting information. The presence of women in leadership positions has a positive influence on the quality of financial information, often linked to the personal characteristics of women (Krishnan and Parsons, 2008; Molero, 2011). Gul *et al.* (2009) and Burns (2012) argue that women exhibit greater risk aversion and ethical behavior. Arun *et al.* (2015) and Nicoló *et al.* (2022) note that women tend to be more conservative regarding accounting policies and financial reporting practices, thereby contributing to the quality of financial information. Lara *et al.* (2017) reveal that female CEOs, CFOs, or directors manage the financial reporting process more rigorously.

In recent decades, there has been a trend to promote women's participation in university governance structures (Deem, 2003). However, in the Brazilian university context, the advancement of women into managerial positions remains uneven, with only 30.2% of universities being led by female rectors (Ambrosini, 2017). Therefore, it is expected that universities led by women will promote initiatives, practices, and policies that enhance the quality of accounting information.

H₅: Female deans positively impact the accounting information quality at federal universities.

The sixth hypothesis relates the quality of institutional governance and the quality of accounting information. Governance is commonly associated with the level and quality of information disclosed (Pessôa *et al.*, 2018). Setiyawati and Doktoralina (2019) emphasize the adoption of good governance principles significantly influence the quality and reliability of financial reporting, as they tend to reduce fraud and errors in financial statements.

In the university context, governance refers to the mechanisms and structures that aim to ensure the institution's effectiveness, efficiency, and professionalism in its performance, based on improving transparency and accountability (Flórez-Parra *et al.*, 2017). According to Flórez-Parra *et al.* (2021), governance structures and mechanisms, along with stakeholder demands, influence universities' Corporate Social Responsibility (CSR) information disclosure policies. Thus, this study considers that a higher governance index is related to the quality of accounting information reported by Brazilian federal universities.

H₆: A higher governance index positively impacts accounting information quality at federal universities.

The seventh hypothesis proposes that the location of the university influences the quality of accounting information. Because considering higher education institutions as drivers of economic and social development, Brazil initiated an effort in the 21st century to expand universities into rural areas, aiming to promote national development and reduce regional disparities (Casqueiro *et al.*, 2020). Dallagnol and Portulhak (2025) noted that, although there is a strong alignment in the mission and vision statements of Brazilian federal universities, some universities distinguish themselves by emphasizing the promotion of regional development. Thus, considering the differences in strategic directions between federal universities located in capitals and those in rural areas, it is understood that

these variations in strategies lead to differences in the quality of accounting information..

H₇: The location of headquarters in capital cities positively impacts accounting information quality at federal universities.

Methodology

This explanatory and quantitative study is based on secondary data and documentary sources. To identify the variable Quality of Accounting Information (QAI), financial reports disclosed by federal universities were examined using content analysis techniques (Bardin, 2011). For this purpose, the instrument developed by Beest *et al.* (2009) was employed—one of the main sources for measuring accounting information quality (Herath and Albarqi, 2017) and widely applied in empirical studies in the public sector (e.g., Opanyi, 2016; Radebe *et al.*, 2023). The model consists of 21 items and operationalizes the assessment of qualitative characteristics of accounting information, comprising four items for relevance, five for faithful representation (including four related to verifiability), five for understandability, six for comparability, and one item for timeliness.

When applying this index, the following observations procedures were adopted: (I) For the operationalization of item T1 - Timeliness, we inverted the metric so that it adequately represented its purpose, i.e., the higher the number of days required for the auditors to sign the report, the lower the timeliness score; in cases of absence of the audit report, we considered the date of signature of the accounting professional responsible for the reports; (II) the gradation of each characteristic refers to the data collection conducted by two independent investigators, resulting in an average obtained from these collections.

The financial reports were obtained from the federal universities' institutional websites Management Reports. When unavailable, we analyzed the auxiliary reports on the same subject. In both cases, we chose for the research the financial reports released for the year 2022. We

considered the contingency variables shown in Table 1.

For the variables collected on the *Universidade 360* website, the latest data available of 2022 was considered. For availability reasons, data relating to the Education MHDI, the number of accounting professionals, and the governance index are for 2021, the most recent base year available.

It should be noted that the classification of the dean as “female” is based solely on gender,

which is derived from observable elements (social name, textual identification as female dean, and pictures) since not enough information was found to allow classification by gender. The Brazilian Public Governance Index (IGO-VPUB) is derived from the methodology used by the Federal Court of Auditors (TCU) to calculate the Governance and Management Index (IGG). In this study, the index is employed as an indicator to reflect the level of governance across Brazilian federal agencies.

Table 1
Variables of independent researchs

Variable	Measurement	Source	References
Socioeconomic development of the state [EducMHDI]	Education MHDI	Atlas Brazil Website	Baldissera <i>et al.</i> (2020); Visentini <i>et al.</i> (2021); Gomes e Silva (2022).
Affected population [POP]	Natural logarithm of students enrolled in undergraduate and graduate programs	<i>Universidade 360</i> Platform (Brazilian Ministry of Education)	Baldissera <i>et al.</i> (2020); Sell <i>et al.</i> (2020); Visentini <i>et al.</i> (2021); Sousa (2022).
Efficiency [CPS]	Natural logarithm of the current student cost	<i>Universidade 360</i> Platform (Brazilian Ministry of Education)	Grin <i>et al.</i> (2018); Marengo <i>et al.</i> (2017); Mnif and Gafsi (2020).
Accounting Professionals [AP]	Number of accounting professionals in practice	Brazilian Federal Government Transparency website	Clatworthy and Peel (2021); Sell <i>et al.</i> (2020)
Sex of the Dean [FEMALE]	Dummy variable for female dean	University website	Molero (2011); Nicolò <i>et al.</i> (2022)
Governance [IGOVPUB]	Public Governance Index	Brazilian Federal Court of Auditors (TCU) Website	Pessôa <i>et al.</i> (2018); Setiyawati and Doktoralina (2019).
Location [LOC]	Dummy variable for headquarters in the capital or countryside	University website	Baldissera <i>et al.</i> (2017); Casqueiro <i>et al.</i> (2020).

Multiple regression by Ordinary Least Squares (OLS) was applied for data analysis. According to Fávero and Belfiore (2023), the model assumes normally distributed residuals, absence of multicollinearity among explanatory variables, non-sparsity of residuals and variables, and independence and randomness of residuals. These assumptions were preliminarily assessed using R and RStudio software.

$$QAI = \beta_0 + \beta_1(EducMHDl) + \beta_2(POP) + \beta_3(CPS) + \beta_4(AP) + \beta_5(Female) + \beta_6(IGOVPUb) + \beta_7(LOC) + \varepsilon$$

A total of 69 federal public universities were analyzed. The sample consisted of institutions that had all the necessary data to carry out the examination. In the case of three universities (UFR, UFAPE, and UFNT), the financial reports for 2022 had not been published on their websites. For four universities (UFJ, UFCAT, UFDPAR, and UFSJ), the 2021 data for the collected variables could not be found on the *Universidade 360* website. These seven universities were excluded. Thus, the final sample consisted of 62 institutions (89.9% of the population).

Results and discussion

Quality of accounting information

Figure 1 shows the results obtained for the accounting information quality index. Among qualitative characteristics, relevance had the lowest average (2.370). The best score was for non-financial information (item R2, average 3.516), indicating reasonably useful financial disclosures but opportunities for improving predictive value. The worst item evaluated was the use of fair value (item R3; average 1.185), with historical cost predominating and fair value rarely mentioned.

Regarding reliable representation (average 2.733), the choice of accounting principles based on valid arguments (F2) emerged positively

The Shapiro-French test was employed to assess the normality of the residuals. This test is recommended for samples with more than 30 observations (Marôco, 2014), as is the case in this study. The Durbin-Watson test was used for residual autocorrelation, and heteroscedasticity was verified using the Breusch-Pagan test.

Accordingly, the proposed equation for this study is detailed as follows:

(average 3.185) The worst performance regarded the explanations and arguments offered for the estimates made (F1; average 1.887). It is also worth mentioning the less favorable result regarding the type of audit report included in the financial report (F4; average 2.282), an item related to the presence or absence of caveats and reservations to the financial data disclosed.

Comprehensibility received the highest overall score (3.169), particularly due to graphic elements (U3; 4.491). On the other hand, the absence or presentation of an adequate glossary (U5) impacted on the quality, being the worst-rated item (2.153).

Comparability (average 2.826), obtained the lowest score when adjustments to previous periods were considered (C3, 2.056), followed by the item on the disclosure of the current period's results compared to previous years (C4; average 2.080), as universities typically only compared the current year to the previous one. Comparisons over a longer period, as well as the resulting developments or implications, by the quality provisions of the Beest *et al.* (2009) instrument, were not observed. The best results for this characteristic were obtained in item C1, dedicated to explanations of changes in accounting policy (average 3.758).

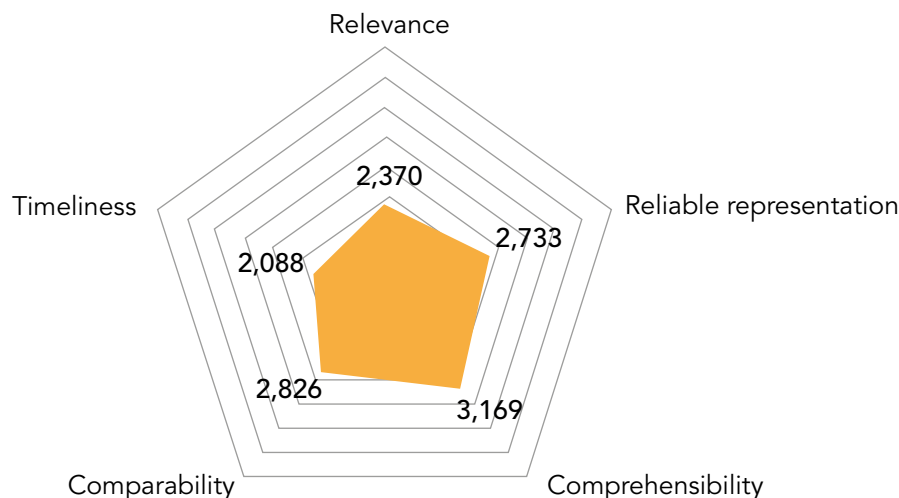
The results for timeliness (average 2.088), which measure the number of days taken for the auditor to review the report after the end of the fiscal year (or, when unavailable, the date

of the responsible accountant's signature), show the lowest among the five assessed qualitative attributes. It is worth noting that the average

number of days taken by all institutions was approximately 86.

Figure 1

Quality of Accounting Information by Information Characteristic



Note. research data.

The universities with the best average scores were the Federal University of Minas Gerais (UFMG), with an average QAI of 3.005, the Federal Rural University of the Semi-Arid Region (UFERSA), with 2.987, and the Federal University of Mato Grosso (UFMT), with 2.937.

Analyzing the ranking of universities based on the results of the accounting information quality index alone does not allow for the identification of patterns or explanatory factors for these results. This was followed by the multivariate analysis stage, in which the QAI variable was evaluated through a contingency lens.

Regression model

The presentation of the multivariate analysis results begins with the diagnostic tests used to verify the assumptions of the regression models. The Shapiro-Francia test for residual normality showed $W=0.988$ and $p\text{-value}=0.768 (>0.05)$, suggesting no statistically significant evidence

to reject the null hypothesis that the residuals are normally distributed.

Autocorrelation of the residuals was evaluated using the Durbin-Watson test, which produced a value of 1.932—indicating low autocorrelation. According to Fávero and Belfiore (2023), the Breusch-Pagan test assesses heteroscedasticity, where the null hypothesis assumes constant error variance (homoscedasticity), and the alternative indicates heteroscedastic errors. The test result was $BP = 5.546$ with a $p\text{-value}$ of 0.593, thus confirming homoscedasticity in the residuals.

The fourth assumption in regression analysis is the absence of high correlations among the independent variables, also referred to as multicollinearity. To evaluate this, correlations between the numerical independent variables were calculated, as presented in Table 2. No high correlations were found among the variables, except for POP (population) and AP (administrative personnel). This suggests that

larger universities require more administrative staff. However, when analyzing the relationship

between the dependent and independent variables, no significant differences were observed.

Table 2

Correlation between the explanatory variables

Variable	EducMHDI	POP	CPS	AP	IGOVPUB
EducMHDI	1.0				
POP	0.17	1.00			
CPS	0.24	-0.07	1.00		
AP	0.04	0.79	0.07	1.00	
IGOVPUB	0.17	0.17	-0.06	0.13	1.00

Note. research data.

In addition to this analysis, we analyzed the Variance Inflation Factor (VIF). According to Fávero and Belfiore (2023), the variance inflation factor measures multicollinearity among independent variables. High VIF values can indicate that a particular variable is highly correlated with other independent variables. The test result did not show high values (maximum VIF of 2.482 for ap); therefore, it is understood that the model is suitable for this analysis in terms of the absence of multicollinearity.

Table 3 shows the coefficients and significance level of each model. The results of the regression model indicate that the F-statistic had a p-value below 0.05, allowing us to reject the null hypothesis that the model does not include a variable capable of explaining the behavior of the QAI variable. The following analysis will focus on the results obtained by this model.

Regarding the EducMHDI variable, a positive value was observed, indicating a direct relationship between the quality of accounting information and the Human Development Index for Education. However, this variable is not significant for the proposed model.

Concerning the population served variable (POP-In), the coefficient showed a negative sign, which was also significant at 10%. These results suggest that as the size of the population served increases, the quality of accounting information tends to decrease, or viceversa.

The cost per student (CPS), an indicator of university efficiency, was also found to be inversely correlated with the dependent variable. This variable was significant, indicating that the lower the current cost per student, the higher the QAI index tends to be.

The variables related to the number of accounting professionals in practice (AP), the female dean (FEMALE), and the governance index (IGOVPUB) were statistically significant and positively related to the dependent variable. The model suggests that more accounting professionals, a female dean, and a higher governance index are associated with better accounting information quality.

Finally, the location of the university's headquarters, whether in the capital or in rural areas (LOC), did not show statistical significance. Therefore, based on the proposed model, it cannot be concluded that this variable influences the quality of accounting information.

Table 3
Coefficients and statistical significance

Variable	Coefficient	Standard error	p value
EducMHDI	0.044	0.460	0.923
POP (ln)	-0.064	0.037	0.090
CPS (ln)	-0.190	0.082	0.024*
Variable	Coefficient	Standard error	p value
AP	0.002	0.001	0.018*
FEMALE	0.107	0.047	0.026*
IGOV PUB	0.254	0.115	0.032*
LOC	0.054	0.047	0.253
Intercept	4.821	0.892	0.000***
Adjusted R ²	0.167		
F- statistics (value p)	0.016		

Note. Statistical significance: 0 '****'; 0.001 '***'; 0.01 '**'; 0.05 '.'; 0.1 '1'. Source: Research data.

Regarding the hypotheses not rejected, it is noted that all of them are related to internal contingency variables. The H3 which addresses the influence of current costs per student on the quality of accounting information at federal universities. This hypothesis was confirmed, and the results indicated a negative relationship, meaning that the lower the cost per student the higher the quality of accounting information. This can be explained by the fact that institutions with greater capacity to optimize the relationship between inputs and outputs (Mnif and Gafsi, 2020), reflecting better managerial quality (Grin *et al.*, 2018; Marengo *et al.*, 2017), also manage to present accounting information with more desirable quality characteristics.

The number of accounting professionals has a positive impact on the quality of accounting information at federal universities (H4). This finding aligns with Clatworthy and Peel (2021) on the importance of accounting expertise for financial reporting quality, and with Sell *et al.* (2020) on the relevance of administrative staff size. Therefore, a higher number of accounting professionals to lead to more detailed and hi-

gher-quality management reports, contributing to greater transparency.

The gender of the university's rector (female) positively influences the quality of accounting information (H5) is consistent with on related studies (Krishnan and Parsons, 2008; Molero, 2011). This can be explained by factors such as tendency of female leaders to have a higher aversion to risk (Arun *et al.*, 2015; Gul *et al.*, 2009; Nicoló *et al.*, 2022), to be more successful in obtaining voluntary information (Gul *et al.*, 2009), and to demonstrate stronger ethical behavior (Burns, 2012; Gul *et al.*, 2009).

The level of governance showed a positive effect on the quality of accounting information at federal universities (H6). Therefore, higher governance standards improve areas such as transparency and control, thus enhancing the attention given to the quality of reports. This finding aligns with similar studies (Pessôa *et al.*, 2018; Setiyawati and Doktoralina, 2019).

The results of the regression model showed a positive, yet non-significant, relationship between the IDHM Education of the state where the university is located and their quality of the

accounting information (H1). This result contradicts expectations based on related studies (Brocco *et al.*, 2018; Baldissera *et al.*, 2020; Sell *et al.*, 2020; Visentini *et al.*, 2021; Gomes and Silva, 2022). The acceptance of other hypotheses suggests that internal factors are more relevant in explaining the quality of accounting information at federal universities.

The provision of services to a larger population by federal universities was negatively related to higher quality of accounting information, rejection of H2. This result is also contrary to other studies that found a positive relationship between population size and variables related to transparency (Baldissera *et al.*, 2020; Visentini *et al.*, 2021), performance (Avellaneda and Gomes, 2015; Sell *et al.*, 2020), and quality and disclosure of accounting information (Souza, 2022; Sousa, 2022). This also suggests that other variables are more relevant for explaining this phenomenon than to the size of the institution.

No significant evidence was found that the location of the university's headquarters in capital cities impacts the quality of accounting information at federal universities (H7). This result is surprising, since the financial and non-financial resources available in Brazilian capital cities are generally higher and there are strategic particularities that distinguish universities located in capital cities from those located in inland areas (Casqueiro *et al.*, 2020; Dallagnol and Portulhak, 2025). Possible explanations for this result include: (I) homogeneous and centralized regulations to which Brazilian federal universities are subject, including accounting rules and evaluation by the same public audit; (II) homogenization in terms of distribution (and contingency) of resources by being subordinated to the same ministry; (III) universities located in the interior are newer, which may lead them to have more modern infrastructures that neutralize the differences in the surrounding environment, while older universities located in the capitals may be more dependent on legacy systems and have less flexible structures.

Dallagnol and Portulhak (2025) argue that some inland universities internalize missions with a regional impact, which can lead to more

detailed and locally relevant reports. Although this result indicates that the strategic differences between universities based in the capital and in the interior may not be strong enough to influence the quality of accounting information, it can be understood that this factor can generate institutional pressure to disclose accounting information of equivalent quality to that of the capitals. Thus, this result reinforces the importance of the institution's internal aspects, such as technical capabilities and quality of governance, in generating higher quality accounting information, in comparison to factors related to the environment, such as location in capital cities.

Conclusions

This research identified determinants that influence the quality of accounting information at Brazilian federal universities from a contingency perspective. The analysis covered 62 of the 69 institutions. The results suggest pathways for themes in public administration and accounting, primarily for public and higher education organizations.

The evaluation of QAI (Quality of Accounting Information) revealed findings that deserve attention. The characteristics of understandability and comparability showed the highest average scores, while timeliness and relevance had the lowest scores. This situation raises a red flag, as the timeliness of information – especially under the scrutiny of auditors' opinions – and the relevance of information can affect decision-making processes. These elements point to priority areas for improving the quality of accounting information at Brazilian federal universities in favor of their users.

In the multivariate analysis phase, the research identified that certain internal contingency factors are important as they relate to the quality of accounting information disclosed by Brazilian federal universities. The study's findings indicate that higher administrative efficiency, a larger number of accounting professionals, the presence of a female rector, and better institutional governance quality positively impact the quality of disclosed accounting

information. On the other hand, external contingency factors such as the socioeconomic development of the region's education sector and the location of the university's headquarters (capital or rural areas) appear not to influence the quality of accounting information produced by these institutions. In other words, the findings suggest that the surrounding environment does not have a significant impact on the quality of accounting information, while the internal environment, from the perspective analyzed, does.

By revealing the determinants of the quality of accounting information disclosed by Brazilian federal universities from a contingency perspective, this study enables university managers and related institutions to better understand the influence of internal and external factors on the management of educational institutions, and consequently, on the quality of accounting information disclosure. In particular, understanding the internal factors that can influence the quality of disclosures allows pro-rectors and directors of accounting and finance to map the strengths and reinforce the necessary aspects of each institution.

These findings may also have implications for actors in the field of internal and external public administration control. Based on the results, it is recommended that actions to improve the quality of accounting information be reinforced in institutions with fewer accounting professionals, lower internal governance quality, and higher current costs per student. Additionally, efforts should focus on monitoring institutions led by male managers.

Based on the quality aspects investigated, it is recommended that actions prioritize the following areas: (I) expand the use of fair value assessment methods to increase the predictive value of information; (II) address issues identified in audit reports to reduce or eliminate reservations or qualifications regarding financial information and internal control (reliability, verifiability, and neutrality); (III) improve explanations and justifications regarding the formation of estimates (reliability and verifiability); (IV) ensure greater speed in signing and disclosing reports, including the audit opinion (timeliness).

Therefore, the study demonstrates that the quality of accounting information at federal universities is determined by internal management aspects and not by external factors. Reinforcing the centrality of organizational capabilities – such as administrative efficiency, technical structure, governance and leadership – in the production of information useful for decision-making. Thus, the study provides empirical evidence relevant to the strengthening of public administration, indicating that reinforcing internal institutional attributes is an effective way to promote greater transparency, accountability and decision-making.

This analysis is not free from limitations. Despite using a validated and widely used instrument, the measurement of the dependent variable is prone to the subjectivity inherent in qualitative methods, although an independent judgment procedure was carried out by two specialists. Additionally, although the multiple regression model used identified statistically significant relationships between some internal factors and the quality of accounting information in Brazilian federal universities, it is important to consider the explanatory power of these findings. The model presented an adjusted R^2 of 0.167, indicating that only 16.7% of the variability in the quality of accounting information can be explained by the variables included. This low predictive capacity suggests that there are other relevant factors not considered in this study, and that the results should be interpreted as indicative rather than conclusive.

Considering the evidence obtained from the research, it is critical to further explore the issues and reflections on the determinants of accounting information quality at public federal universities from other methodological perspectives or theoretical lenses. A similar approach, based on financial reports disclosed by non-federal public universities, could help reinforce or contrast the results obtained in this study. This approach could enable comparisons to be made about differences in the quality of accounting information by organizations with the same characteristics but with control exercised by subnational entities and bring new perspectives or additional ex-

planations about the determinants of the quality of accounting information reported by universities. Future studies could also take an in-depth look at universities with higher or lower quality accounting information, or even consider including moderating variables, which could provide additional explanations for the hypotheses rejected in this study.

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