

# Does Public Governance Impact Performance? An Analysis of Higher Education Institutions in Brazil

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## ABSTRACT

**Objective:** this study investigates how public governance practices influence the performance of public organizations. Defined as a mix of formal and informal mechanisms shaping decision-making in the public sector and encouraging diverse societal participation, public governance aims to enhance management effectiveness and governmental results. **Methods:** panel data regression analysis was applied to assess higher education institutions in Brazil across 2017, 2018, and 2021. Student scores in the National Performance Exam (ENADE) and the Performance Difference Indicator (IDD) were used as performance metrics and dependent variables while governance practices and the public governance index were used as independent variables. **Results:** the data collected at the Federal Court of Accounts (TCU) and the National Institute of Educational Studies and Research Anísio Teixeira (Inep) revealed a positive correlation between 'monitoring user satisfaction' and institutional performance, whereas the public governance index presented unexpected results. **Conclusions:** this investigation elicits deeper inquiries on the actual impact of public governance on the performance of public organizations, potentially guiding the implementation of governance actions within them.



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## INTRODUCTION

Despite its polysemy, multidimensionality, and ambiguity (Buta & Teixeira, 2020; Rose-Ackerman, 2017), the concept of governance in the public sector encompasses principles deemed essential for democratic administration, such as effectiveness, accountability, transparency, rule of law, social participation, equity, human rights, regulatory quality of the state, political stability and absence of violence, control of corruption, integrity/ethics, and legal compliance (AlQudah et al., 2021; Giovanini, 2020; Kaufmann et al., 2011; McFerson, 2015; Minassians, 2015; Oliveira & Pisa, 2015; Santos & Rover, 2019).

Improved results within the public sector are the underlying pillars of public governance. Over the last decades, researchers have developed several assessment tools to gauge whether countries possess satisfactory governance standards. However, studies in the field have more prominently emphasized measuring attributes instead of the actual impact of these practices on governance results (Minassians, 2015), unlike many studies investigating the private sector (Chen et al., 2022; Kock & Min, 2016; Veltri et al., 2022).

Public governance in Brazil gained more attention after the Federal Court of Accounts (TCU) prepared and released a set of public governance guidelines for the federal government (Brasil. Tribunal de Contas da União, 2014) and the start of the research titled 'Integrated Profile of Organizational Governance and Public Management' in 2014. Furthermore, in 2017, the federal government Decree No. 9,203 came into force providing governance guidelines directed toward federal agencies and entities.

The TCU holds that one of the objectives of public governance is to "enhance the performance of public agencies and entities" (Brasil. Tribunal de Contas da União, 2014, p. 6). Assessing performance in the public sector is a complex, challenging task due to the many factors that can influence the performance of organizations and public policies (Höfling, 2001). Cohen and Franco (2007) expressed that "evaluation is the activity that aims to maximize the effectiveness of programs in achieving their goals and the efficiency in allocating resources to achieve them" (p. 77). Therefore, assessing the results of governance practices is crucial, given the combination of factors and resources employed in establishing and maintaining governance frameworks within public agencies. This importance extends to the activities developed by the TCU involving the oversight and evaluation of these structures.

Despite the significant role of public governance, research focusing on its direct results has been limited (McFerson, 2015). Between 2015 and 2023 (the latter

being the year in which this study was carried out), a survey across the main journal databases, involving publications from all countries, using the terms 'public governance,' 'performance,' and 'result,' was performed on two databases: Scopus and Web of Science. The search revealed only 144 articles in Scopus and 145 articles in Web of Science. When further narrowing the survey in search of titles or abstracts with performance-related expressions, only 75 articles in Scopus and 76 articles in Web of Science presented such characteristics. When focusing on public governance studies in higher education institutions, the number decreased further. The result was a mere seven articles in Scopus and four in Web of Science. Finally, when analyzing scientific production in public governance and performance in higher education institutions, the search in Scopus and Web of Science produced only one article and three articles, respectively.

In Brazil, the survey on public governance revealed only 11 studies in Scopus and 18 in Web of Science. It is relevant to mention that despite using the terms 'performance,' 'result,' 'effectiveness,' 'efficiency,' and 'performance,' in this search, the articles do not effectively evaluate the relationship between levels of governance and actual organizational performance. Most focus more on management processes than the tangible impacts of governance on organizational results.

In Brazil, studies such as that of Oliveira and Pisa (2015), Santos and Rover (2019), and Rodrigues and Rodrigues (2020) have begun to explore how governance impacts performance. Similar studies on an international scale, such as the works of Minassians (2015) and AlQudah et al. (2021), also investigate the relationship between public governance and performance variables. However, these studies focus on broader external factors rather than the direct influence of public governance on organizations, which is the main goal of this study.

Therefore, this study aims to analyze how public governance affects performance, specifically using results from the National Student Performance Exam (ENADE, acronym for *Exame Nacional de Desempenho dos Estudantes*, in Portuguese) and Performance Difference Indicator (IDD, acronym for *Indicador de Diferença de Desempenho*, in Portuguese) as indicators. The sample includes higher education institutions listed in the TCU survey for the years 2017, 2018, and 2021. These institutions stand out within the TCU's analysis for having the largest number of components and performance metrics such as ENADE. Moreover, research exploring the connection between public governance and performance in such a setting is uncommon both in Brazil and worldwide (Meoli et al., 2019; Veltri et al., 2022).

## THEORETICAL FRAMEWORK

Public governance is a multifaceted concept involving several definitions, ideas, and approaches. It is a polysemic, multidimensional concept with its fair share of ambiguities (Kaufmann et al., 2011; Buta & Teixeira, 2020; Rose-Ackerman, 2017). As a consequence of its range, touching on several dimensions and often associated with transparency, social participation, democracy, and external control, among other terms, it is often subject to several interpretations (Grindle, 2017).

According to the Organisation for Economic Co-operation and Development (OECD), public governance is “the set of formal and informal arrangements that determine how public decisions are made and how public actions are taken to maintain the country’s constitutional values when facing problems and changing environments” ([www.oecd.org](http://www.oecd.org)). Similarly, Kaufmann et al. (2011, p. 4) describe it as “the traditions and institutions by which authority in a country is exercised,” while the World Bank (1994, p. 7) considers it “the way in which power is exercised in the management of a country’s social and economic resources for development.”

Public governance emerged with the rise of New Public Management (NPM) aiming to overcome the lack of active citizen participation in public sector decision-making processes and to sustain democratic participation (Bevir, 2010; Grossi & Argento, 2022; Osborne, 2006). Public governance expands the scope of public organizations, improving their engagement with a broad range of stakeholders. This makes the management of these organizations more horizontal and complex, allowing for the insertion of actors with distinct interests, values, and logic (Klijn, 2012; Kurunmäki & Miller, 2006; Parker & Gould, 1999). Consequently, the shift from NPM to public governance has broadened the operational scope of organizations within the public sector (Broadbent & Guthrie, 2008; Grossi & Steccolini, 2014; Steccolini, 2019).

The conversation around new public governance emphasizes that organizations should increase integration with other actors to build a unified group (Taylor et al., 2021; Fierlbeck et al., 2018). This group brings together independent entities from the public and private sectors, aiming to achieve a more inclusive and participatory approach to management (Sorensen & Torfing, 2007; Torfing, 2012). Achieving this goal implies the need to adopt a horizontal approach to decision-making and action, enhancing expertise and fostering greater cooperation across the different levels and sectors of government (Bakvis & Juillet, 2004; Carey & Crammond, 2015; Desveaux et al., 1994; Lindquist, 2012; Taylor et al., 2021).

The discussion of public governance centers on making the public sector work better and more efficiently. It seeks inspiration from corporate governance in the private sector, incorporating a set of principles aimed at refining oversight of public entities and improving government actions and results. Despite its wide scope, which can cover numerous aspects (Buta & Teixeira, 2020; Kaufmann et al., 2011), its main objective is to enhance public administration to provide greater societal value through its actions (Bell et al., 2010; Minassians, 2015).

Public governance is founded on collaborative agreements involving government agencies, private entities, citizens, civil society organizations, and other interested or capable collaborators (Mayntz, 2001). Buta and Teixeira (2020, p. 371) further explore the concept, concluding that “public governance involves a collective decision-making process,” which significantly increases the possibility of many actors participating in the said process (Oliveira & Pisa, 2015; Giovanini, 2020; Santos & Rover, 2019).

Erkkilä and Piironen (2014) describe how the concept of governance in political science evolved to reflect the changes in state roles that began in the 1990s. This aligns with the observation by Pierre and Peters (2000), who understood governance as a shift in the power of the state toward international organizations, public organizations, and local government, through decentralization — this period marked the rise of public governance to prominence, driven by the efforts of international organizations to benchmark country performances. Consequently, several were established to evaluate public governance and compare it across countries. The Worldwide Governance Indicators (WGI), developed by the World Bank, and the Ibrahim Index of African Governance (IIAG) stand out among the benchmarks devised (AlQudah et al., 2021; Buta & Teixeira, 2020; McFerson, 2015).

Governance includes multiple dimensions that help assess the level of governance achieved by a public entity. Although there are several instruments to measure public governance, they often share a core set of principles. The WGI, for example, assesses governance across six dimensions: voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption. IIAG uses the following dimensions in its assessment: safety and security, rule of law, transparency and corruption, participation and human rights, economic sustainability and opportunity, and human development (Mo Ibrahim Foundation, 2017). Despite other governance measurement indicators introducing additional dimensions, “many of them are repeat-

ed across different indices,” as described by [McFerson \(2015, p. 269–270\)](#). Among noteworthy governance indices are those from [Gani and Duncan \(2007\)](#), [Mello and Slomski \(2010\)](#), [Fukuyama \(2013\)](#), [Morrison \(2014\)](#), in addition to [Oliveira and Pisa \(2015\)](#).

This study emphasizes the most prevalent dimensions identified in public governance research, commonly used to assess the governance levels within governments and public organizations in general.

Accountability is defined as the obligation born by public managers to be accountable for their actions and decisions before society, being subject to sanctions imposed by this society whenever inappropriate behaviors are identified. [Oliveira and Pisa \(2015\)](#) and [Santos and Rover \(2019\)](#) affirm that this obligation should align with superior accounting and auditing practices. The concept of accountability appears in both the WGI and the IIAG, albeit associated with other terms ([Kaufmann et al., 2011](#); [McFerson, 2015](#); [Buta & Teixeira, 2020](#)).

Transparency refers to ensuring citizens have easy access to clear, comprehensible information about government activities and decision-making processes. The OECD frames transparency as an essential principle in efficiency assessment: “the state should be transparent enough in presenting data so that it is possible to assess whether resources are being applied efficiently, effectively, and successfully” ([OECD, 2011, p. 3](#)).

Participation is a critical dimension in governance measurement, as it deals with the expansion of societal involvement in governmental decision-making. Notably, WGI and IIAG predominantly associate participation with electoral processes — which is, in fact, significant ([AlQudah et al., 2021](#); [Buta & Teixeira, 2020](#); [McFerson, 2015](#); [Minassians, 2015](#); [Oliveira & Pisa, 2015](#)). However, there is a plea for other more direct forms of participation, suggesting that civil society should be more involved with routine decisions made by public authorities. This is evident in the understanding of the [European Commission \(2001\)](#) when it states: “the quality, relevance, and effectiveness of policies depend on broad participation throughout the political process, from conception” (p. 8).

Integrity/Ethics: [Yong and Wenhao \(2012\)](#) define integrity as the obligation of governments to maintain honesty and an unwavering commitment to combat corruption. According to them, this principle correlates with the control of corruption in the WGI, a concept also recognized in the IIAG.

It is important to acknowledge that the principles/dimensions or practices identified in public governance are not exhaustive. Other authors have identified additional elements that contribute to good public governance, such as internal audits, codes of conduct, com-

mittees, risk management, stakeholder engagement strategies, ombudsmen, strategic planning, and performance monitoring ([Ramos et al., 2021](#)).

Another facet of public governance is the need for evaluation. [McFerson \(2015\)](#) noticed a significant discussion regarding whether governance should be measured based on its attributes or its results. The conclusion is that most studies focused more on evaluating the inherent attributes of governance than its results. [Minassians \(2015\)](#) suggests that the development of governance measures has been greatly advanced by the understanding that measurement provides public value to organizations. Thus, his studies on certain North American public entities revealed a minimal concern with result indicator-based evaluation.

Studies have predominantly concentrated on understanding governance characteristics rather than its actual impacts on organizations, governments, and societies. The study conducted by [Buta and Teixeira \(2020\)](#) identified three dimensions of governance in the literature on the topic: conceptual, mensural, and democratic. Their analysis reveals that the majority of studies continue to focus on the analysis of governance features, with few studies evaluating governance performance. There are exceptions, obviously, such as the work by [AlQudah et al. \(2021\)](#) and [Santos and Rover \(2019\)](#). Importantly, [Gisselquist \(2014\)](#) highlights the importance of advancing theoretical discussions to effectively understand the concept of public governance and the appropriate means for its measurement, considering there are several, which pose challenges to their practical application.

## CONTEXT OF THE STUDY: THE FEDERAL COURT OF AUDITORS AND THE PERFORMANCE OF FEDERAL HIGHER EDUCATION INSTITUTIONS IN BRAZIL

This topic describes the public governance model advocated by the TCU, which has taken on a leading role in shaping public governance in Brazil ([Grin, 2020](#)) by issuing standards and processes and assessing the public governance levels of federal government bodies and entities. Another reason for choosing the TCU as a case study is the fact that it has an instrument that has been in use for several years and assesses public governance levels. The TCU is “the federal government’s external control body and assists the National Congress in the mission of monitoring the country’s budgetary and financial execution and contributing to the improvement of Public Administration for the benefit of society” ([Brasil. Tribunal de Contas da União, 2022, p. 14](#)).

In 2014, the TCU launched the Basic Governance Reference for public administration agencies and entities

(Brasil. Tribunal de Contas da União, 2014) and began the 'Integrated Profile of Organizational Governance and Public Management' survey, conducted in 2014, 2017, 2018, and 2021. The survey aims to "gather information on the state of governance in public administration and encourage its jurisdictional organizations to adopt good practices on the subject" (Brasil. Tribunal de Contas da União, 2021, p. 9). This survey, which is a self-administered questionnaire, is filled out by the top authorities of the organizations and covers various aspects of public governance. However, the TCU states that it has been collecting data on governance in the public sector since 2007 (Brasil. Tribunal de Contas da União, 2021).

According to the TCU, governance in public administration agencies and entities "involves performance evaluations, achieving established goals, monitoring results and performance, and compliance with policies and plans" (Brasil. Tribunal de Contas da União, 2014, p. 30). Therefore, there is an expectation around improving the public governance structure of federal agencies and consequently their performance. The federal government enacted Decree No. 9,203 (Brasil. Decreto n. 9.203, 2017) in 2017, which provides for the federal public governance policy. It aims to implement public governance practices in federal direct, autarchic, and foundational organizations and entities of the administration. This decree specifies the principles that should guide public governance in the federal government, such as responsiveness, integrity, reliability, regulatory improvement, accountability, responsibility, and transparency. Furthermore, the same decree establishes guidelines for public governance practices.

A key aspect outlined in Article 4 of the decree is the emphasis on results: "The guidelines of public governance are I – to direct actions toward achieving results for society, finding timely and innovative solutions to deal with limited resources and changing priorities." Despite this focus, literature reflects the diminished interest in studies that evaluate the impacts of governance, favoring studies centered around its processes instead. Examples of this can be seen in the works of Oliveira and Pisa (2015), Fukuyama (2013), Gani and Duncan (2007), Mello and Slomski (2010), Merry (2011), Morrison (2014), and Aquino et al. (2021).

Following Decree No. 9,203 (Brasil. Decreto n. 9.203, 2017), two bodies were established: the Interministerial Governance Committee (CIG, acronym for *Comitê Interministerial de Governança*, in Portuguese) and the internal governance committees. These internal committees are tasked with implementing and monitoring governance actions within each government agency. An important point is that failure to monitor the results of public governance may lead to expenditures that do

not deliver societal value. The infrastructure in place for executing surveys conducted by TCU is substantial, as it involves material, human, and technological resources, among others. Consequently, public governance must go beyond being a mere objective, it must bring tangible benefits.

That said, a critical reflection on the prominent role that the TCU has undertaken in shaping and managing the public governance model in Brazil (Grin, 2020; Martins et al., 2022; Caldeira et al., 2023; Grin, 2023) is needed. Grin (2020) identifies several elements that have contributed to what he calls the expansionism of the TCU. He notes, "the concept of governance adopted by the federal government since 2017 was proposed by the court itself" (Grin, 2020, p. 35), indicating the leading role of the TCU in this issue. Such influence was further legitimized with Decree No. 9,203 (Brasil. Decreto n. 9.203, 2017), which adopts the definition of public governance established by the TCU in 2014 (Martins et al., 2022).

Grin (2020) argues that the TCU's expansive influence on public administration bodies is rooted in its interpretation of Article 70 of the 1988 Federal Constitution. Further elaborating, Grin (2020, p. 65) identifies other factors that have contributed to this phenomenon:

international practices, the epistemic community of organizations such as Intosai and the OECD, society's erosion and loss of confidence in public administration, the elevation of corruption to a central issue for public opinion, and the rejection of politics and representative democratic institutions such as parties and parliament.

Regarding international practices and the epistemic community, organizations often reproduce models considered efficient, either voluntarily or mandatorily (DiMaggio & Powell, 1983). These models, however, require adjustments to reflect a sociological reduction (Caldeira et al., 2023). Nonetheless, other factors do not justify the expansionist actions of the TCU, seen as an attempt to fill an alleged void left by other institutions (Grin, 2023). This approach could potentially threaten democracy itself, as it allows a regulatory body to assume roles reserved for democratically elected officials (Grin, 2020; Caldeira et al., 2023).

Another issue affecting the approach of the TCU is that the governance model was developed in a somewhat isolated way, without involving external stakeholders, including the organizations under evaluation, as can be seen from the excerpt: "The questionnaire was prepared by a team from the Federal Court of Auditors (TCU) to gather information about the maturity of organizational governance." Although more recent docu-

ments mention the inclusion of ‘experts and managers’ in the questionnaire validation process, they do not detail who the experts and managers are (Brasil. Tribunal de Contas da União, 2021). This clashes with the very concept of public governance, which includes, in most definitions, the active participation of multiple internal and external, formal and informal actors (Bianchi et al., 2021; Calmon & Costa, 2013).

This centralization leads to another issue: the adoption of uniform governance standards across all federal public organizations. Given the number of entities and consequent diversity of sectors, segments, types, and other classifications under TCU jurisdiction, this diversity poses a challenge to standardization. Aligned with this observation, Caldeira et al. (2023) criticize the model adopted by the TCU that standardizes the public governance model, applying the same metrics for all organizations, and ignoring the specificities of each. This approach disregards relevant aspects like the culture, history, and traditions of these institutions (Bianchi et al., 2021). Lack of such perception is particularly problematic in a country like Brazil that has a vast territory with public organizations in practically every state and dozens of cities. This is exemplified by higher education institutions, which despite belonging to the same sector, have specific characteristics in various areas, and maintain autonomy that allows for differences even among those located in the same state.

Furthermore, another problem emerges from standardizing governance instruments. They are intra-organizational and focus on management, leading to a model of governance that is bureaucratic, directive, and formal (Martins et al., 2022; Cavalcante & Pires, 2018). This approach is geared toward adherence to regulations, the improvement of management processes, and a focus on the inside of the organization, which once again excludes external agents, considered crucial in the broader concept of public governance (Grin, 2020; 2023; Caldeira et al., 2023). With this model comes the risk of public organizations losing their autonomy and having to conform to the Brazilian governance framework.

Within the scope of this research, the investigation used a sample of Brazilian federal higher education institutions, evaluated for their public governance practices during the study years. These institutions are spread throughout the country and have autonomy in teaching-scientific, administrative and financial, and asset management. The external performance metrics for these institutions were ENADE and IDD scores.

ENADE is the annual exam carried out by the Brazilian Ministry of Education that evaluates the academic achievement of undergraduates. This evaluation aims to verify the extent to which students were able to

assimilate the knowledge proposed in the program content of each course, as set out in the curricular guidelines, assessing their competencies and skills in relation to their professional field.

The IDD measures the educational value added by the course to the academic development of its graduates. It factors the students’ ENADE performance and their academic advances from the start of the undergraduate program, using the Enem, or *Exame Nacional do Ensino Médio* (National High School Exam) ([www.inep.gov.br](http://www.inep.gov.br)), as a baseline for the comparison.

The ENADE and IDD scores range from zero to five, with higher scores indicating better performance. To take advantage of a greater variability of scores, this study chose to use both scores in their ‘continuous’ form, instead of using score ranges.

## METHODOLOGY

This study adopts an exploratory approach, given the scarcity of similar studies. It aims to evaluate the relationship between public governance practices and organizational performance, measured through the ENADE and IDD of students from Brazilian federal higher education institutions in the years 2017, 2018, and 2021. This study employs a quantitative method, using panel data regression analysis. The selection of this sample and period was motivated by the TCU’s implementation of the ‘Integrated Profile of Organizational Governance and Public Management’ survey in 2014, with subsequent surveys conducted in 2014, 2017, 2018, and 2021. The years with the highest number of similar questions were chosen for comparative analysis.

The sample comprises 89 higher education institutions that completed the TCU questionnaire and had students participating in the ENADE exam in all three periods. This choice was because out of the total number of organizations evaluated by the TCU (482 in 2017, 498 in 2018, and 378 in 2021), there are organizations from various sectors, including courts, ministries, offices, the Federal Senate, the House of Representatives, and public companies such as Petrobras and banks. Considering the differences among these public organizations, there is not yet a single result indicator that can be used to compare the performance of all organizations and entities. Therefore, this sample was selected because it allows for the use of external evaluation data from the organization itself, which is common to all institutions, such as the ENADE and the IDD scores. Moreover, these indicators serve as quality indicators for higher education.

Data on public governance was collected from questionnaires administered by the TCU. This questionnaire contains questions that involve dimensions aligned with

TCU's governance mechanisms: Leadership, Strategy, and Control. A set of public governance practices is

identified for each of these mechanisms, as detailed in Table 1.

**Table 1. Public governance practices.**

Mechanisms	Leadership	Strategy	Control
Practices	<ul style="list-style-type: none"> <li>Establish the governance model</li> <li>Promote integrity</li> <li>Promote leadership capacity</li> </ul>	<ul style="list-style-type: none"> <li>Manage risks</li> <li>Establish the strategy</li> <li>Promote strategy management</li> <li>Monitor the achievement of organizational results</li> <li>Monitor the performance of the management functions</li> </ul>	<ul style="list-style-type: none"> <li>Promote transparency</li> <li>Ensure accountability</li> <li>Evaluate stakeholder satisfaction</li> <li>Evaluate internal audit effectiveness</li> </ul>

Note. Prepared by the author based on Brasil. Tribunal de Contas da União (2021). *Dez passos para a boa governança*. 2.ed. TCU.

For each practice, there is a group of questions that undergo factor analysis, using principal component analysis by the TCU. The results of this factor analysis generate the factors or indices for each of these governance practices. This study used the indices generated by factor analysis for each of the governance practices. Two regression models were developed based on these data: one considering each governance practice individually and another using the public governance index developed by TCU for each organization.

Therefore, for the first model, the independent or explanatory variables are the governance practices presented in Table 1. The scores obtained for each of these variables range from zero to one, where scores closer to one indicate more effective governance practices.

The second model employs the iGovPub (public governance) generated by TCU using Leadership, Strategy, and Control dimensions as the explanatory variable. This step assessed whether iGovPub is also related to performance. The iGovPub ranges from zero to one, with a score closer to one indicating a better governance index within each organization.

The dependent variables in both models are the average ENADE and the IDD scores of students across courses within each higher education institution in each year under review.

The study proposes the following hypotheses based on this framework:

H1: Public governance practices evaluated by the TCU are positively related to the performance of federal higher education institutions in Brazil.

H2: The public governance index measured by the TCU is positively related to the performance of federal higher education institutions in Brazil.

The data on public governance were obtained from the TCU website: (<https://portal.tcu.gov.br/governanca/governancapublica/organizational/levantamento-de-governanca/>).

The data from ENADE and IDD were obtained from the electronic website of the *Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira* (Inep) (<https://www.gov.br/inep/pt-br/aceso-a-informacao/dados-abertos/indicadores-educacionais/indicadores-de-qualidade-da-educacao-superior>).

Control variables (Table 2) were included in the model, in addition to the data concerning dependent and independent variables, to refine the specificity of the regression models. This inclusion aims to capture relevant differences among individuals and municipalities where the institutions are located. According to the literature on this subject, these control variables are frequently used to explain student performance, even though in some studies there may be discrepancies (Matos et al., 2021).

**Table 2. Definition of control variables.**

Variable	Definition	Data source
Percentage of women in the institution	Indicates the percentage of women from each institution who took the ENADE test.	<a href="http://www.inep.gov.br">www.inep.gov.br</a>
Percentage of non-white students in the institution	Indicates the percentage of non-white individuals from each institution who took the ENADE test.	<a href="http://www.inep.gov.br">www.inep.gov.br</a>
Students studying more than 8 hours per week	Indicates the percentage of students from each institution who took the test and reported studying more than 8 hours per week.	<a href="http://www.inep.gov.br">www.inep.gov.br</a>
GDP per capita of the municipality	GDP of each municipality in relation to the number of individuals in the municipality of the organization.	<a href="http://www.ibge.gov.br">www.ibge.gov.br</a>
Municipality Education Index	An index that measures the educational performance of each municipality as calculated by the <i>Conselho Federal de Administração</i> (Federal Council of Business Administrators) based on official indicators.	<a href="https://igm.cfa.org.br/">https://igm.cfa.org.br/</a>

Note. Elaborated by the author.

### Panel data regression

Panel data regression is indicated when data can be collected repeatedly over time from the same individuals (or-

ganizations). According to Fávero and Belfiore (2017), this approach offers several advantages compared to other models: a greater amount of information, greater data vari-

ability, lower multicollinearity among variables, and more degrees of freedom, allowing for greater efficiency in estimating parameters. For these authors, the main advantage is the possibility of studying variations of a particular phenomenon among individuals (organizations) in each period under review, also allowing the analysis of how this phenomenon evolved over time for each individual (organization).

The study in question includes data from 89 organizations across three distinct periods, facilitating the use of panel data analysis. In this case, we have a balanced panel, meaning it has data for all organizations in all periods, in a total of 267 observations.

Data analysis followed the initial recommendation of testing panel data models to choose the most suitable to analyze the results. Thus, POLS models were tested, applying the ordinary least squares method, the fixed effects method, and the random effects method for estimation. In the POLS model, the intercept of the model and the angular coefficients are considered constant over time and space, and the error term reflects variations over time and among individuals (organizations). The fixed effects model considers that angular coefficients are constant, and the intercept varies among individuals. Finally, in the random effects model, the intercept assumes a common average value among individuals, and the angular coefficients vary over time and among individuals (Fávero & Belfiore, 2017). Data analysis was performed using R software, version 3.1.

The following tests were performed to choose the most suitable model:

Chow test (fixed effects vs. POLS): the null hypothesis indicates that the effect of individuals (universities) is not significant, indicating that the POLS model is more suitable. If the null hypothesis is rejected, it indicates that

the effects of individuals (universities) are significant, which indicates that the fixed effects model is more appropriate.

LM test of Breusch-Pagan (random effects vs. POLS): the null hypothesis indicates that the panel is not significant, suggesting that the POLS model is more suitable. On the other hand, rejecting the null hypothesis indicates that the random effects model is more appropriate (Breusch & Pagan, 1980).

Hausman test (fixed effects vs. random effects): the null hypothesis indicates that there is no correlation between effects and regressors, indicating that the random effects model is more suitable. Rejection of the null hypothesis indicates a correlation between effects and regressors, which suggests that the fixed effects model is more appropriate (Hausman, 1978).

Autocorrelation — Breusch-Godfrey/Wooldridge test: tests the correlation between data. A p-value > 0.05 indicates a non-correlation between the data (Wooldridge, 2010).

Heteroscedasticity — Breusch-Pagan test: tests the presence of homoscedasticity. A p-value < 0.05 indicates the presence of heteroscedasticity, indicating problems with the regression residuals (Breusch, 1978).

## RESULTS

### Descriptive data analysis

The initial presentation of the results offers a descriptive analysis of the data. Table 3 presents key metrics of the data used in this study.

**Table 3. Data descriptive statistics.**

Variables	Average	Standard deviation	Minimum	1st quartile	Median	3rd quartile	Maximum
Percentage of women in the institution	52.63	9.73	18.95	46.99	53.62	52.63	82.89
Percentage of non-white students in the institution	51.42	22.69	8.62	32.03	53.07	71.11	90.20
Students studying more than 8 hours per week	26.17	9.28	1.47	19.64	24.90	31.98	61.96
GDP per capita of the municipality	30,735.26	14,541.84	7,995.35	20,839.00	26,463.16	40,747.00	87,016.16
Municipality Education Index	5.55	2.28	0	3.97	5.69	7.33	9.93
IDD	2.48	0.36	0	2.95	2.44	3.25	3.70
ENADE	2.81	0.73	0	2.39	2.79	3.25	5.00
Governance structure	0.61	0.25	0	0.48	0.66	0.75	1.00
Leadership capability	0.34	0.26	0	0.12	0.28	0.52	1.00
Integrity	0.47	0.27	0	0.25	0.46	0.66	1.00
Risk management	0.23	0.23	0	0.05	0.15	0.32	1.00
Establishing strategy	0.56	0.25	0	0.42	0.58	0.75	1.00
Promoting strategic management	0.45	0.26	0.02	0.23	0.41	0.63	1.00
Monitoring the performance of management functions	0.37	0.26	0	0.15	0.34	0.54	1.00
Transparency	0.57	0.26	0	0.36	0.57	0.79	1.00
Accountability	0.57	0.24	0	0.39	0.62	0.77	1.00
Effectiveness of internal audit	0.52	0.22	0	0.37	0.51	0.65	1.00
User satisfaction	0.44	0.26	0	0.23	0.42	0.66	1.00
iGovPub	0.47	0.17	0.12	0.35	0.45	0.60	0.96

Note. Prepared by the author.



An important initial observation about the data is that considering the three years used in the sample, the governance practices indicators for the mechanisms defined by the TCU show relatively low averages. The worst indicator, when considering a range from zero to one, is Risk Management, with an average of 0.23, and the best indicator is Governance Structure, with an average of 0.61. The study by Ramos et al. (2021) also identified difficulties in implementing governance in federal organizations. It is noteworthy that respondents acknowledge this because while they recognize the existence of an established governance structure, they do not perceive the implementation of governance prac-

tices as easily. In summary, governance structures exist, but not the practices associated with that structure.

### Panel data analysis – ENADE and IDD versus public governance dimensions

The first analysis verified the relationship between public governance dimensions/practices and performance in the ENADE and IDD. In this step, tests were performed using three-panel data regression models. The regression results are described in Table 4.

The tests performed to identify the most appropriate model to analyze the data are reflected in Tables 5, 6, and 7.

**Table 4. Regression model results – Public governance dimensions.**

Explanatory variables	Dependent variable ENADE			Dependent variable IDD		
	POLS	Fixed effects	Random effects	POLS	Fixed effects	Random effects
Governance structure	0.214 (0.185)	0.338* (0.202)	0.245 (0.179)	-0.089 (0.110)	-0.029 (0.144)	-0.084 (0.111)
Leadership capability	-0.025 (0.166)	-0.061 (0.177)	-0.042 (0.159)	-0.102 (0.099)	-0.037 (0.127)	-0.092 (0.099)
Integrity	-0.151 (0.174)	-0.002 (0.192)	-0.111 (0.169)	0.011 (0.103)	0.107 (0.137)	0.028 (0.104)
Risk management	-0.210 (0.201)	-0.488** (0.209)	-0.343* (0.189)	0.060 (0.119)	-0.050 (0.150)	0.051 (0.118)
Establishing strategy	-0.435** (0.199)	-0.256 (0.228)	-0.352* (0.195)	-0.099 (0.118)	-0.145 (0.163)	-0.108 (0.120)
Promoting strategic management	0.021 (0.284)	0.094 (0.299)	0.055 (0.268)	-0.014 (0.168)	0.023 (0.215)	-0.006 (0.167)
Monitoring the performance of management functions	0.368 (0.271)	0.024 (0.277)	0.243 (0.257)	0.101 (0.160)	0.074 (0.199)	0.093 (0.160)
Transparency	0.394 (0.300)	-0.188 (0.295)	0.138 (0.280)	0.281 (0.178)	0.002 (0.212)	0.232 (0.177)
Accountability	-0.906*** (0.345)	0.006 (0.336)	-0.554* (0.321)	-0.342* (0.204)	-0.136 (0.241)	-0.306 (0.203)
Effectiveness of internal audit	0.010 (0.187)	0.173 (0.206)	0.037 (0.182)	-0.079 (0.111)	-0.040 (0.147)	-0.074 (0.112)
User satisfaction	0.341** (0.168)	0.099 (0.192)	0.300* (0.164)	-0.034 (0.100)	0.100 (0.138)	-0.020 (0.101)
Percentage of women in the institution	0.002 (0.004)	0.008* (0.005)	0.004 (0.004)	-0.001 (0.002)	0.002 (0.003)	-0.0002 (0.002)
Percentage of non-white students in the institution	-0.016*** (0.002)	-0.027*** (0.008)	-0.018*** (0.002)	-0.002** (0.001)	0.002 (0.005)	-0.002* (0.001)
Students studying more than 8 hours per week	0.002 (0.004)	-0.012** (0.006)	-0.003 (0.005)	0.007*** (0.003)	0.010** (0.004)	0.007*** (0.003)
GDP per capita of the municipality	0.00000 (0.00000)	-0.00000 (0.00000)	-0.00000 (0.00000)	-0.00000 (0.00000)	-0.00000 (0.00000)	-0.00000 (0.00000)
Municipality Education Index	0.037** (0.017)	0.014 (0.031)	0.036** (0.018)	-0.002 (0.010)	-0.007 (0.022)	-0.002 (0.011)
Constant	3.544*** (0.345)		3.562*** (0.365)	2.695*** (0.205)		2.654*** (0.214)
Observations	267	267	267	267	267	267
R <sup>2</sup>	0.373	0.267	0.323	0.118	0.066	0.105
Adjusted R <sup>2</sup>	0.333	-0.204	0.279	0.062	-0.534	0.047
F Statistic	9.294*** (df = 16; 250)	3.680*** (df = 16; 162)	119.010***	2.091*** (df = 16; 250)	0.713 (df = 16; 162)	29.214**

Note. \* p < 0.1; \*\* p < 0.05; \*\*\* p < 0.01. Source: Prepared by the author.

**Table 5. Tests performed.**

Test	Results – ENADE	Results – IDD
F test	p-value = 2.618e-08	p-value = 0.1106
Lagrange multiplier test (Breusch-Pagan)	p-value = 6.528e-06	p-value = 0.2638
Hausman test	p-value < 2.2e-16	p-value = 0.7142

Note. Prepared by the author.

**Table 6. Breusch-Godfrey/Wooldridge test – Autocorrelation.**

Test	POLS model	Fixed effects	Random effects
ENADE	p-value = 0.0008735	p-value < 2.2e-16	p-value = 0.1835
IDD	p-value = 0.4875	p-value = 4.201e-16	p-value = 0.5809

Note. Prepared by the author.

**Table 7. Breusch-Pagan Test – Homoscedasticity.**

Test	POLS model	Fixed effects	Random effects
ENADE	p-value = 0.95	p-value = 0.95	p-value = 0.95
IDD	p-value = 0.4534	p-value = 0.4534	p-value = 0.4534

Note. Prepared by the author.

The test results indicate the random effects model as the most appropriate for the dependent variables ENADE and IDD. The fixed effects model did not show statistical significance when using IDD. In other tests, the p-value for the random effects value was slightly better than that of POLS. The homoscedasticity test was suitable for both dependent variables. The findings on idiosyncratic effects, which measure the percentage of random unobserved factors not included in the model, represented 0.747 for the random models of the ENADE variable and 0.903 for the IDD variable, respectively, which further grounds the choice of the random effects model in both cases.

This result leads us to the analysis of regression results, which unexpectedly suggest that public governance does not relate to student performance – measured by the ENADE and IDD scores – as positively as previously hypothesized. Among variables tested that represent governance dimensions, only Monitoring User Satisfaction showed statistical significance and behaved as expected, indicating that better user (student) performance is directly related to increased user satisfaction monitoring.

The explanatory variables Risk Management, Establishing Strategy, and Accountability were statistically significant but showed an opposite effect than expected. On the other hand, the variables Governance Structure, Leadership Capacity, Integrity, Promoting Strategy, Monitoring the Performance of Management Functions, Transparency, and Effectiveness of Internal Audit were not significant, indicating no relation to performance in the ENADE score.

Concerning control variables, only the Percentage of Non-White Students in the Institution and the Municipality Education Index were significant and

presented expected effects. Findings from other studies indicated that non-white students tend to perform worse than their white counterparts. It was also anticipated that municipalities with higher education levels from elementary school onward would create a cultural capital that would favor individuals throughout their educational journey.

Surprisingly, the regression for the IDD variable found no significant factors that could explain student performance. Even variables that were not significant showed a negative correlation, similar to the ENADE variable. For IDD, the control variables Percentage of Non-White Students in the Institution and Students Studying More Than 8 Hours per Week were significant and similar to other studies (Matos et al., 2021).

### Panel data analysis – ENADE and IDD x public governance index (iGovPub)

This part of the study uses the raw results of the public governance indicators, obtained in the TCU research, and related to the dependent variables ENADE and IDD. The results are presented in Table 8.

The tests in Tables 9, 10, and 11 were conducted to choose the most appropriate model for data analysis.

Tests performed using the dependent variable ENADE indicate the random effects model as the most suitable. Although the Hausman test suggested that the fixed effects model was more suitable, the Breusch-Godfrey/Wooldridge test indicated the random effects model due to its non-significant p-value for the random effects model, indicating it as the most suitable model. It is worth noting that for both models (fixed and random), the result for the explanatory variable (iGovPub) was very similar, varying only in intensity, demonstrating certain coherence in the results.

**Table 8.** Regression results – iGovPub x ENADE – IDD.

Explanatory variables	Dependent variable ENADE			Dependent variable IDD		
	POLS	Fixed effects	Random effects	POLS	Fixed effects	Random effects
iGovPub	-0.476** (0.215)	-0.400* (0.237)	-0.508** (0.205)	-0.247** (0.124)	-0.118 (0.166)	-0.218* (0.125)
Percentage of women in the institution	0.001 (0.004)	0.009* (0.005)	0.005 (0.004)	-0.001 (0.002)	0.002 (0.003)	-0.0004 (0.002)
Percentage of non-white students in the institution	-0.017*** (0.002)	-0.030*** (0.006)	-0.019*** (0.002)	-0.002** (0.001)	0.003 (0.005)	-0.002* (0.001)
Students studying more than 8 hours per week	0.002 (0.004)	-0.011** (0.005)	-0.005 (0.004)	0.008*** (0.003)	0.010** (0.004)	0.008*** (0.003)
GDP Per capita of the municipality	-0.00000 (0.00000)	-0.00000 (0.00000)	-0.00000 (0.00000)	-0.00000 (0.00000)	-0.00000 (0.00000)	-0.00000 (0.00000)
Municipality Education Index	0.041** (0.017)	0.018 (0.029)	0.038** (0.019)	-0.002 (0.010)	-0.011 (0.021)	-0.002 (0.010)
Constant	3.557*** (0.337)		3.720*** (0.356)	2.614*** (0.194)		2.563*** (0.204)
Observations	267	267	267	267	267	267
R <sup>2</sup>	0.325	0.220	0.270	0.096	0.052	0.085
Adjusted R <sup>2</sup>	0.309	-0.207	0.253	0.075	-0.466	0.064
F Statistic	20.838*** (df = 6; 260)	8.063*** (df = 6; 172)	95.950***	4.603*** (df = 6; 260)	1.571 (df = 6; 172)	24.080***

Note. \* p < 0.1; \*\* p < 0.05; \*\*\* p < 0.01. Source: prepared by the author.

**Table 9.** Tests performed.

Test	Results – ENADE	Results – IDD
F test	p-value = 1.12e-09	p-value = 0.04422
Lagrange Multiplier test (Breusch-Pagan)	p-value = 1.586e-07	p-value = 0.1172
Hausman test	p-value = 8.373e-09	p-value = 0.5029

Note. Prepared by the author.

**Table 10.** Breusch-Godfrey/Wooldridge test – Autocorrelation.

Test	POLS model	Fixed effects	Random effects
ENADE	p-value = 0.0004531	p-value < 2.2e-16	p-value = 0.2126
IDD	p-value = 0.5132	p-value = 3.149e-16	p-value = 0.6595

Note. Prepared by the author.

**Table 11.** Breusch-Pagan test – Homoscedasticity.

Test	POLS model	Fixed effects	Random effects
ENADE	p-value = 0.733	p-value = 0.733	p-value = 0.733
IDD	p-value = 0.8393	p-value = 0.8393	p-value = 0.8393

Note. Prepared by the author.

The results for the IDD variable indicated the random effects model as the most suitable once again. The fixed effects model did not show statistical significance, and the random effects model has a slightly better p-value compared to POLS. The homoscedasticity test was suitable for all models. The findings on idiosyncratic effects, which measure the percentage of random unobserved factors not included in the model, represented 0.672 for the random models of the ENADE variable and 0.886 for the IDD variable, respectively, which further grounds the choice of the random effects model in both cases.

These results do not support the initial hypothesis that better public governance indexes favor the quali-

ty of the results presented by the organizations in the sample measured by the performance of students in ENADE and IDD. The public governance index had a negative and significant result for both variables, contradicting the hypothesis and what the literature has defended as an expected result of public governance structures.

Concerning the control variables, with ENADE as the dependent variable, only the Percentage of Non-White Students in the Institution and the Municipality Education Index were significant and similar to other findings in the literature. However, for the IDD dependent variable, only the variables Percentage of Non-White Students in the Institution and Students Studying

More Than 8 Hours per Week were significant and similar to other results.

## Discussion of results

The findings across all models present a discussion-worthy scenario considering the unexpected results. User satisfaction practice was the exception, with a significant and positive result. This practice, titled Monitoring User Satisfaction, includes items such as 'the organization promotes user participation to improve the quality of public services provided.' This statement aligns with this study when considering that users of the services provided by this type of organization are primarily students, and equally important, society in general. This is important because, in most of these organizations, there are satisfaction surveys, applied among students as well, that cover the services provided by the teachers and other aspects of the courses offered.

While specific concepts such as 'social participation' and 'social control' measure society's influence on public administration, there is a strong and justified appeal for public governance to have social participation as one of its main pillars (Buta & Teixeira, 2020; AlQudah et al., 2021; Erkkilä & Piironen, 2014; Giovanini, 2020; Fierbeck et al., 2018). The emphasis on these concepts stands out more compared to other dimensions/principles and practices of public governance. Emmendoerfer et al. (2022) observed that a significant part of the studies on public governance has adopted a reductionist approach, focusing on participatory and cooperative processes, a characteristic that was not evident in the TCU governance model.

Studies by Asatryan and Witte (2015), Drechsler (2004), and Höfling (2001) reveal that this could strengthen public governance. However, Veltri et al. (2022) and Diogo et al. (2021) advise caution, warning against expanding the participation of external members if they do not have a critical mass to influence the universities' strategic decisions.

The findings of this study align with certain findings from Santos and Rover (2019), where among the variables representing societal participation in governance, only voter turnout and participation in municipal education councils were significant. Silva and Almeida (2012) also relate participation to the improvement of efficiency with education-gear spending in the municipalities of Rio Grande do Norte. This result also aligns with the findings of Asatryan and Witte (2015), who concluded that more governance, including greater participation in decisions, leads to a higher possibility of accountability and a decrease in government efficiency.

The other variables prompt important reflections, as they were either significant or not significant in unex-

pected ways. This observation is noteworthy as other studies also failed to identify the anticipated significance and effects in all public governance variables, despite measuring different aspects under the same name, as in the works of Oliveira and Pisa (2015) and Santos and Rover (2019) on 'integrity' that considers different elements from those defined by the TCU. This limitation hinders a deeper understanding of governance dimensions due to a lack of studies that consistently define and explore identical concepts across different contexts. This impairs comparative analysis and advancements in the comprehension of the actual effects of each public governance practice.

This reflection on metrics may become more detailed as the governance indicator used or constructed by TCU (iGovPub) provided unexpected results. In the models used (random effects) for the two dependent variables (ENADE and IDD), iGovPub proved to be significant, but negative, indicating that as governance level increases, student performance tends to decrease. This outcome is in full contradiction to the expectations surrounding public governance effects. Such findings may reflect concerns posed by Apaza (2009) and Thomas (2010) regarding the dubious accuracy of governance metrics.

Reiterating the need to improve public governance indicators, Gisselquist (2014) highlighted two key aspects: first, the need to consider the basic principles of social sciences, taking into account issues related to concept formation, content validity, reliability, replicability, robustness, and relevance of specific metrics, and second, the need to focus on governance indicators, particularly on descriptive complexity, theoretical adequacy, precision of estimates, and 'correct' weighting. The findings of this study reinforce the need to carefully consider what is effectively measured when referring to public governance within such organizations. Other studies, such as those by Veltri et al. (2022), have raised similar questions, with their findings revealing that in Italian state universities, certain aspects of governance either did not prove to be significant or produced results opposite to those expected.

This study highlights the need to reflect on what indicators should be used to effectively measure public governance within these organizations, based on the results obtained in the index that measures the effects of variables not observed by panel data models. In all models,  $\theta$  was relatively high, indicating that other unobserved factors significantly affect performance more than the variables that were included in the model. Thus, it is possible that the governance practices used by TCU may not closely align with the performance measured by ENADE.

It is also possible that problems in the TCU model design have led to low adherence by educational institutions, revealed in the low average scores for governance practices and the low public governance index. Public universities are constitutionally granted teaching-scientific, administrative and financial, and asset management autonomy. This aspect alone can lead these organizations to disregard the TCU's directives regarding the form of management, since the TCU's model is much more focused on aspects of control (Grin, 2020; 2023) and management (Caldeira et al., 2023), which directly affects the autonomy of these organizations.

It is also necessary to consider that public governance ideally incorporates collective coordination and participation that goes beyond the act of its creation, reaching its management as well (AlQudah et al., 2021; Buta & Teixeira, 2020). However, from its inception, the model 'proposed' by the TCU seems to ignore this dimension of governance. The model itself did not include this dimension in its design, since it was 'proposed' by the control body (Brasil. Tribunal de Contas da União, 2014). This approach to design may deter organizations from implementation, as it disregards the existing capacities of the organization. Nonetheless, Grin (2020) points out that the TCU has taken the lead on this issue, in part because it considers the low capacity of public organizations and their superior knowledge of various topics.

The standardized nature of the TCU model may also have affected this result and influenced the low adherence of educational institutions. These organizations are complex, and it would be difficult for a standardized model to consider the specificities of all organizations and all sectors, including those that are the subject of this study. As argued by Martins et al. (2022), there are many meanings and uses of the concept of public governance. If we consider what Bianchi et al. (2021) point out, which suggests valuing cultural aspects, history, and traditions when defining a governance model, the TCU model does not fit into this perspective. It is known that cultural values act as interpreters of the meanings and senses attributed to objects. The interpretation of governance practices varies among individuals and organizations. Influenced by the cultural context, traditions, and history, they assign different meanings to the same practice, which aligns with the idea of an ambiguous polysemic concept (Buta & Teixeira, 2020; Rose-Ackerman, 2017). Therefore, despite the TCU defining uniform practices for all organizations, there is no guarantee that they will all assign the same meanings to these practices. This may explain the low adherence to the model as well as the disconnection between

these practices and the performance of educational institutions.

Consequently, it can be concluded that the proposed model is inadequate to assess the impact of public governance on higher education institutions in Brazil. This implies the need to rethink a model that considers the active participation of multiple actors, adapts to the reality of each organization, and is not focused on control and management.

## CONCLUSIONS AND RECOMMENDATIONS

This study investigated the relationship between public governance practices and organizational performance, using federal higher education institutions as its sample. The results did not confirm the hypotheses formulated, which stated that public governance practices and public governance index are positively related to the performance of federal higher education institutions in Brazil, except for the 'monitoring of user' satisfaction practice.

Despite the unexpected results, the findings prove to be an important theoretical contribution by challenging the idea that public governance is a panacea for the public sector. Furthermore, it questions common sense around the real effects of public governance on organizational performance and public policies, revealing an even greater importance of debating the generalization of governance practices across all organizations. The practices or variables used for this group of organizations may not be the most appropriate, suggesting the need for future studies to evaluate the need to specify governance practices based on the type of organization.

In a practical sense, managers can use these findings to improve public governance practices in areas that can generate organizational performance. Furthermore, they can be used to identify which practices are more aligned with the activities of each organization and relate more directly to the performance of each, leading to the conclusion of which should consequently be abandoned, and which should be created. Moreover, the TCU can use these results to review both the content of the practices and the data collection instrument. In addition, considering that the variable 'user satisfaction monitoring' was positively related to the performance of these organizations, managers can also focus their actions to strengthen governance on the dimension of social participation.

Determining the most appropriate models to analyze the results is of utmost importance. The random effects model proved to be the most appropriate. The analysis of idiosyncratic effects revealed that the performances of the dependent variables were mostly

associated with unobserved random effects, which means public governance practices are less associated with the results analyzed in this study. External factors specific to these organizations could also play a role, as found in the study by Riviezzo et al. (2019), which indicates that contextual factors affect the performance of European universities.

The main limitation of this study is its sample size. Despite the reasoning presented, the sample is small, although it includes most of the federal higher education institutions in Brazil. Future qualitative studies could explore why the governance practices proposed by the TCU and adopted by these organizations did not impact performance in the analyzed variables. Future studies should aim to develop performance indicators that are applicable across a greater number of public organizations. This would allow studies to include more organizations. Selecting ENADE and IDD as independent variables is another limitation of this study, as organizations have various outcome indicators. It is important to study other outcome and quality variables to verify if there are others more strongly correlated to governance practices.

Not monitoring the results produced by inserting public governance into public organizations could lead to a new issue known as governance insulation, caused by governance itself. This situation happens when the evaluation focuses on the process and attributes of governance instead of the results delivered to society, which is and should be the beneficiary of all improvements made within the public sector. Thus, the results contribute to the literature by adding a critical perspective to the governance model proposed by the TCU, particularly by revealing that it is not suitable for application in the evaluation of governance in higher education institutions. They also signal the need to reflect on less standardized models that focus less on management and control and do not interfere with the autonomy of organizations.

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**1<sup>st</sup> author:** conceptualization (lead), data curation (lead), formal analysis (lead), investigation (lead), methodology (lead), project administration (lead), supervision (lead), validation (lead), visualization (lead), writing – original draft (lead), writing – review & editing (lead).