The Influence of Accounting on Public Governance:

An Analysis in Public Universities

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Abstract: With regard to governance in Federal Public Universities, it can be said that this topic has been increasingly addressed with the purpose of promoting the use of good practices to corroborate the institutional activity in this thematic area. The general objective of this study is to analyze the impact and correlation between accounting and public governance at Federal Public Universities. To this end, we used the questionnaire prepared by the Federal Audit Court (TCU), with the aim of understanding their level of governance. For data analysis and tabulation, the software R was used, using descriptive analysis, Spearman correlation and simple linear regression, respectively, to understand the dispersion of data in relation to the mean, the direction and strength of the correlation and the how much of the public governance index is explained by the budgetary governance index. As a result, it was obtained that the correlation between the variables is positive and strong and, also, that the budgetary governance index explains 78.5% of the public governance index, so that the average value of the Budgetary governance index increases by 0.1550 points considering an average growth of 1 point in the Budgetary governance index.

Key words: public governance, public accounting, efficiency
JEL codes: G300

1. Introduction

Progressively, the social body has demanded from governments the rationalization of public spending, fiscal balance, monetary stability and investments in infrastructure, health, education, urban mobility, housing and security. Therefore, to achieve such demands, it is necessary to manage good governance in public organizations, considering that governance, which encompasses leadership, strategy and control procedures, corroborates the efficient allocation of public resources (TCU, 2014).

However, given the importance of governance for public administration, the literature presents six essential elements for the practice of good public governance, which are divided into two large groups: personal qualities of everyone in the institution and the result of the stipulated processes, in the first of which includes the factors leadership, integrity and commitment, while the second covers responsibility, integration and transparency (Barret, 2002; Marques, 2007).

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Furthermore, according to the Federal Accounting Council (CFC, 2016), the General Purpose Accounting Reports of Public Sector Entities (RPGs), which cover financial statements and explanatory notes, support decision-making processes, provision of accounts and accountability, data that makes it possible to identify information, such as the institution's performance during the year, liquidity, solvency, among others. In this way, the articulation of accounting using principles, concepts and standards in the management of public collection and expenditure, together with public governance, allows the population to be provided with vast clarity about the application of public resources (Matias-Pereira, 2010).

Federal Public Universities are constituted in the form of autarchies or foundations, which are linked to the Ministry of Education (MEC), which belongs to the direct federal administration, despite enjoying administrative, didactic-scientific and financial and asset management autonomy. , inherently, are subject to laws in a broad sense, and need to comply with regulations that deal with governance actions in public administration (Marques et al., 2020; Sales et al., 2020). In this sense, there is Decree No. 9, 203 of 2017, which deals with the governance policy of direct, autonomous and foundational federal public administration, establishing principles, guidelines and guiding its implementation.

The Federal Audit Court (TCU) is the body responsible for controlling the federal government and provides support to the National Congress in several dimensions, such as: in the duty to monitor the country's budgetary and financial execution, control of legality, economicity and corroborate the improvement of Public Administration to the detriment of social well-being. In this way, Brazilian federal universities are subject to TCU assessment in relation not only to budgetary, financial and patrimonial aspects, but also governance actions in the public sector.

The most recent monitoring carried out by the TCU, which refers to the 2021 financial year, had 378 responding institutions, of which 63 of these are Federal Public Universities (BRASIL, 2021b, 2021c). As a result, it was obtained that, for the public governance index (iGovPub) that measures the adoption of leadership, strategy and control procedures in federal universities, classifying them into unimpressive, beginner, intermediate and improved stages, only 17% reached the improved level, which demonstrates the need for studies that contribute to improving governance within the scope of Federal Public Universities.

Regarding studies related to the topic addressed by this research, it is seen that it has been increasingly addressed in recent years, being the target of analyzes such as that of the author Pasquali (2021), which deals with public governance and efficiency of Brazilian public universities, aiming to understand public governance practices to increase the performance and effectiveness of institutional activities developed in Brazilian federal universities.

The author Belo (2022) proposed a study regarding the implications of public governance for the management of extension in the academic environment, proposing to demonstrate the conceptual structure, elementary notions, discrepancies and the chain that public governance fosters for the management of educational institutions higher.

This investigation is intended to corroborate the research already carried out, not only validating results already achieved, but also highlighting the impact provided by the use of budgetary control, auditing and controllership mechanisms, which in turn are fields of science belonging to dimension of accounting knowledge, for the public governance index.

Considering the need for good public governance to support the increase in the rationalization of public spending, the research question was formulated: what is the impact of accounting practices on the public governance of Federal Public Universities?

The general objective of this study is to analyze the impact and correlation between accounting and public governance at Federal Public Universities. To this end, three specific objectives were outlined: i) identify the main

accounting procedures that assist public governance; ii) describe the need to apply the principles and guidelines of public governance; and iii) investigate the existence of correlation and causality between the adoption of accounting techniques and the improvement of the public governance index.

From a practical point of view, this research is justified by the need to contribute to the understanding and application of the theme of Organizational Public Governance in Federal Higher Education Universities and, in this way, provide the increase and preservation of the value that the State grants to those who maintains it, through leadership, strategy and control techniques, which will allow decision makers in a public unit and those interested in it to evaluate its situation, direct its activity and monitor its performance (TCU, 2020).

However, from an academic perspective, this work is characterized as relevant for developing a study on transparency, accountability and public governance, which are topics of great notoriety in Brazil and the world, which contribute to overcoming and mitigating the impacts and recurrences of democratic deficits, return to social well-being, economic crises, increased unemployability, decreased trustworthiness in public bodies and their administrators and consecutive cases of corruption (Martins et al., 2018).

2. Literature Review

2.1 Public Governance

The concept of public governance is quite polysemic, therefore, for the knowledge and application of this area of study, it is necessary to fully understand it, for both the Federal Audit Court (TCU, 2021) and Brazil (2017) conceptualize it as a process that fundamentally encompasses leadership procedures, with mechanisms that guarantee the promotion of the exercise of governance, strategy, which encompasses the direction towards achieving strategic objectives, and control, which comprises topics of transparency, accountability and audit, used to evaluate , direct and monitor whether the assets and powers granted to public administrators are being conducted through strategic procedures.

According to Lynn and Malinowska (2018), public governance is an area of knowledge that has an interdisciplinary characteristic with particular interest in the power relations between the social fabric, government bodies and the market, in a context of modification in the practices of political authorities to govern. and act concretely. In agreement, Paines, Aguiar and Pinto (2018) state that public governance consists of instruments that help the maturity of a managerial culture, guided by the following precepts: efficiency, transparency and accountability to users.

In Table 1, there are the principles of public governance, in accordance with Decree No. 9, 203 of 2017, such principles represent values and precepts that serve as a foundation for the theme proposed in this research and will enable greater applicability of governance in the operational environment of companies. public administration activities.

Table 1   Governance Principles

Principles	Concept	Reference
Responsiveness	Characterized by the ability to react effectively and efficiently to the needs	(ONU, 2015)

	of interested parties.	
Integrity	It concerns the adoption of values, principles and standards, and has three essential pillars: application of integrity systems, promotion of an integral organizational culture and enabling accountability, accountability and transparency.	(OECD, 2017;2022)
Confiability	It portrays the reduction of uncertainty for the population in the economic, political and social spheres.	(OECD, 2017)
Regulatory improvement	It relates to the efforts that are used to encourage improved regulation.	(TRIGO, 2018)
Accountability	Indispensable relationship between public resources, government decisions, conduct and competencies and their respective authors	(CIG, 2018)
Transparency	Commitment of the public administration to the dissemination of its activities, providing reliable, material and timely data to the population.	(CIG, 2018)

Furthermore, according to the International Federation of Accountants (IFAC) and the Chartered Institute of Public Finance and Accountancy (CIPFA) (2014), Table 2, the following principles are established that govern public governance.

Table 2   Governance Principles

Principle	Concept
Integrity	It refers to the observance of moral values, which need to be communicated, understood and shared and must be stated with objectivity, altruism and honesty.
Openness and comprehensive stakeholder engagement	Tool that makes it possible to show that administrators are acting in accordance with public interests, as it demonstrates decisions, actions, plans, use of resources, forecasts and results obtained and the involvement of related parties is nothing more than the participation of citizens, service users and other institutional stakeholders in decision-making processes.
Economic, social and environmental sustainability	Demonstra que as ações executadas pela administração pública devem ter como pilar basilar a sustentabilidade, tendo em vista a finitude dos recursos disponíveis.
Optimization of resource acquisition	It values the optimization of obtaining the correct arrangement for legal, regulatory and practical intervention measures to achieve the outlined results.
Development of the entity's leadership capacity and individuals	It states that the governing body has the prerogative to ensure that it is able to manage its own mandate, exercising full leadership, and contributing to the development of employees' skills, qualifications and mentality.
Risk and performance management	It values the implementation of a management system, which has internal and risk control, which efficiently and effectively favors the provision of planned public services.
Good transparency, reporting and auditing practices	It highlights the need to carry out internal and external auditing to contribute to the accountability process.

After stating the principles, it is worth highlighting which guidelines will make it possible to outline paths and strategies to achieve good public governance, since this is the population's right (Carmo, 2020). Thus, we can highlight the following guidelines (BRASIL, 2017):

a)   Point out timely and innovative measures to address resource restrictions and that result in social well-being;

b) Provide administrative simplification, updating of public management and the interrelationship of public services;

c) Monitor and evaluate the effectiveness of public policies;

d) Instigate the relationship between institutions and improve integration between different categories and spheres of the public sector;

e) Articulate the actions of government agents so that they are consistent with the entity's duties and functions;

f) Implementation of internal controls and risk management; appreciate suggestions for creating, expanding, improving public policies and tax incentives;

g) Guide the decision-making process in accordance with legality, regulatory quality, reduction of bureaucracy and involvement of the social fabric;

h) Establish the responsibilities of each institutional component and promote the strengthening of access to information by individuals.

The concept, principles and guidelines of public governance constitute the governance policy of public administration, which is established with the purpose of strengthening society's trust in public institutions, and thus preserving the legitimacy of public action, promoting initiatives of institutional improvement, observing the coordination and coherence of the governance model, and defining minimum levels of governance, considering the structure of the body and its institutional maturity (CASA CIVIL, 2018)

2.2 Public Governance Practices and their Impacts on Public Administration

Regarding good practices for exercising public governance, article 5 of decree 9,203, of November 22, 2017, deals with the mechanisms to be adopted to carry out such actions, which are: leadership, encompasses a framework of techniques of a human nature held in the main positions of the entities; strategy, refers to the establishment of guidelines, goals and action programs, and control that concerns the establishment of processes that aim to mitigate risks and preserve the principles of legality and the economy of public funds.

Aiming to expand the use of good public governance techniques, the Federal Audit Court (TCU), through the basic reference of organizational governance for public organizations and other entities under the jurisdiction of the TCU, listed the main practices that must be put into practice to the enhancement of results obtained by government entities, such practices are divided into mechanisms, thus we have to that of leadership — which according to the Organization for Economic Cooperation and Development (OECD, 2018) is a key component for promoting good governance public:

a) Establish the governance model: it boils down to delimiting the framework of guidelines (exposed in chapter 2.1 of this literature review), principles, processes and structure essential to good governance according to the size, heterogeneity and level of risk of the company entity.

b) Promote integrity: the Institute of Internal Auditors (IIA, 2019b) treats integrity as one of the essential principles that subsidize the product of public organizations, which is the interest of citizens.

c) Promote leadership capacity: conceptualizes that to achieve the desired goals it is essential to mobilize knowledge, skills and leadership attitudes of individuals in management positions with a view to maximizing results.

Furthermore, with regard to the strategy mechanism, which according to Chiavenato (2004) is conceptualized as the procedures that are put into practice by the organization with the aim of managing problematic circumstances inherent to the entity's operational activities, the following practices were therefore listed assistants (TCU, 2020, p. 52):

a)   Manage risks: aiming to know and understand the risks involved in the entity's operational processes and nurture decision-making bodies so that they can take appropriate measures.

b) Establish the strategy: consists of choices and priorities based on the conjecture in which the organization is inserted.

c) Promote strategic management: this is the branch of the strategy, which, based on monitoring the adopted strategy, makes timely changes to the institution's planning.

d) Monitor the results: checking the products obtained to verify that the results are in accordance with the established priorities and objectives.

e) Monitor the performance of management functions: this practice is directly related to the immediately previous point, given that the evaluation and monitoring of management position assignments assumes that the entity's indicators, goals and objectives are defined and leveled with the strategy organization and its organizational results.

Regarding the control mechanism, which according to the document prepared by the TCU (2020, p. 52) refers to actions that have the capacity to enable control of the public entity by interested parties, instigating the commitment of organizations and the responsibility for their actions. In this way, we have the following practices:

a)   Promote transparency: the Access to Information Law (LAI, Law 12,527/2011) standardized this constitutional right, forcing federative entities to follow procedures to ensure this right to citizens

b) Guarantee accountability: guaranteeing this practice is closely related to transparency. However, they were addressed separately, aiming to highlight that transparency alone does not ensure accountability, given that the latter requires managers to demonstrate how public resources are used, and that the processes managed ensure that they bear the consequences. of your actions.

c) Evaluating the satisfaction of interested parties: consists of monitoring and evaluating the population's perception of the Public Administration.

d) Ensure the effectiveness of internal auditing: a practice that provides the increase and protection of the institutional value of Public Administration.

Accounting as an applied social science captures and refers to the political, legal and economic conjecture of the environment in which it is inserted (Costa, Fonseca, 2019). In this way, considering the increasing prominence of highlighting the need to apply processes that strengthen leadership, strategic planning and control in its most diverse areas, thus demonstrating that what is needed is good governance. Thus, it is to be expected that accounting, placed in such a context, will provide a theoretical and practical framework to contribute to public governance.

Accounting is a mechanism of notable relevance for public administrators, especially with regard to decision-making, financial control and asset management (Abraham, 2017). To this end, public accounting uses standards issued by the regulatory body and also current legislation, as is the case with law 4,320 of March 17, 1964, complementary law no. 101 of May 4, 2000, the International Public Sector Accounting Standards (IPSAS) and Brazilian Accounting Standards applied to the Public Sector (NBC TSPs), to establish the actions and treatments due to the facts and accounting acts that occurred.

With regard to public governance, more specifically the control mechanism, this presupposes the duty to guarantee transparency and accountability, thus guaranteeing effective accountability and adequate accountability for the acts carried out by public managers. Therefore, we have the General Purpose Accounting Reports of Public Sector Entities (RCPGs) that provide accountability and accountability, and also contribute to decision-making. As an example, the data provided by RCPGs includes costs, cash availability that will support future activities and sources of cost recovery (CFC, 2016). In this way, the relationship between governance in the public sector and accounting is briefly seen.

2.3 Related Studies

The topic of public governance linked to the institutional environment grows prominently. Therefore, it is crucial to demonstrate which aspects are being studied, methodologies adopted and what results were achieved. To this end, we carried out the following studies: Santos and Souza (2022), the objective was to analyze the standards and basic elements of governance in Federal Public Universities, as well as the results presented in the public

governance index. To this end, the methodology consisted of a quantitative-qualitative approach and was based on bibliographic and documentary research. Furthermore, data classification was carried out based on content analysis and, in addition, descriptive statistics. As a result, Federal Public Universities demonstrate unsatisfactory results in the assessment of the governance index.

Oliveira et al (2022), established a research with the aim of analyzing the relationships between public governance in federal universities and their academic performance, measured by the increase in graduation success rates. To this end, the methodological techniques of linear correlation and scatter diagram, multiple regression by least squares, quantile regression and propensity score matching were used. The database used is from the federal court of accounts. For this research, the results indicate that there was no direct relationship between the TCU's index of good governance practices and the academic performance of the institutions, given the need to adapt the instruments used for the conjecture of Brazilian federal universities.

Lugoboni and Marques (2022) formulated a study to understand how public governance practices could influence the instrumentalization of sustainability actions promoted by universities. In this way, interviews with administrative units and university units were used, applying case study procedures, with an exploratory research bias and qualitative characteristics. As a final result, they concluded that although there is a tenuous relationship between sustainability and governance, this relationship is more expressed in documents than in the routine of administrative units.

Freire, Conejero and Parente (2021) carried out a study with the purpose of demonstrating how the influences of stakeholders are manifested in the prioritization of their needs by administrators of Public Higher Education Institutions, as well as their participation in governance structures and the process of decision making. For this purpose, a case study was carried out through the application of questionnaires, documentary research and participant observation and as a result it was possible to demonstrate that the opinions of internal stakeholders prevail in deliberative instances and consequently it can be stated that governance practices are put into practice with the same precept.

In conclusion, it is worth highlighting the differentiation between the aforementioned studies and the purpose of this research, this distinction is due to the reason that the objective exposed here is about identifying the correlation and impact provided by accounting, within the scope of budget management through of processes such as annual preparation of the budget proposal, construction of indicators to manage budgetary processes, alignment between planning and execution, compliance with budgetary priorities, among others, with the public governance index of Public Higher Education Institutions.

3. Methodology

This study, with regard to the type of research, presents itself as quantitative, with a view to having a research nature that operates on a problem of a social or human nature and is made up of variables evidenced in numerical values, which will be analyzed statistically (KNECHTEL, 2014). Regarding the objectives, it is characterized as descriptive, as it describes the events or episodes of study and builds relationships between its variables (GIL, 2008). Regarding the procedures, it consists of a survey research, which, according to Cajueiro (2015), is characterized as an instrument for direct collection of people from whom you want to obtain information, thus knowing the problem studied for later perform quantitative analyzes and obtain conclusions regarding the data collected.

In the current study, population is understood as all 63 public federal educational institutions under the

jurisdiction of the Federal Audit Court, belonging to the thematic area of educational institutions and linked to indirect administration with an autonomous and foundational legal nature, which responded to the questionnaire in the 2021 financial year, by the respective jurisdictional body, in compliance with the Strategic Plan (PET) 2019-2025, which has a conglomerate of strategic objectives whose monitoring will take place through public governance and management indices, aiming to analyze the integrated profile of Organizational Governance and Public Management and, in this way, understand in detail the conjecture of governance in public administration and also promote the use of proposed good practices.

Table 3 shows the 63 responding Federal Public Universities and their respective results for the information technology, hiring, budgetary and public governance index, respectively.

Table 3   Indexes Obtained From the TCU Questionnaire

University	Governanca TI	Governanca Contrat	Governanca Orcament	iGovPub
University Foundation Federal District of Vale do São Francisco	27.37%	33.94%	44.54%	54.30%
Federal University of Alagoas	43.07%	23.12%	50.48%	33.91%
Federal University of Bahia	47.77%	55.88%	52.92%	64.72%
Federal University of Ceará	58.12%	100.00%	100.00%	81.31%
Federal University of Espírito Santo	47.39%	90.25%	89.83%	55.96%
Federal University of Goiás	91.85%	53.33%	43.92%	74.68%
Federal University of Fluminense	34.72%	47.85%	15.00%	56.17%
Federal University of Juiz de Fora	41.57%	55.88%	52.92%	42.74%
Federal University of Minas Gerais	48.75%	19.02%	72.27%	49.58%
Federal University of Pará	66.17%	67.36%	79.65%	82.49%
Federal University of Paraíba	43.85%	50.00%	59.31%	60.97%
Federal University of Paraná	48.77%	31.15%	89.83%	62.90%
Federal University of Pernambuco	71.07%	90.25%	100.00%	78.78%
Federal University of Rio Grande do Norte	78.97%	100.00%	85.23%	95.84%
Federal University of Rio Grande do Sul	46.45%	23.12%	24.12%	50.69%
Federal University of Rio de Janeiro	9.58%	90.25%	100.00%	59.60%
Federal University of Santa Catarina	62.25%	77.11%	100.00%	63.56%
Federal University of Santa Maria	52.96%	51.03%	79.65%	66.24%
Federal University of Pernambuco	66.09%	80.29%	100.00%	74.65%
Federal Rural University of Rio de Janeiro	42.59%	15.00%	15.00%	43.56%
Federal University of Roraima	73.77%	54.42%	59.31%	72.13%
Foundation University of Tocantins	42.10%	64.83%	92.62%	53.90%
Federal University of Campina Grande	36.18%	20.41%	15.00%	31.27%

(Table 3 to be continued)

(Table 3 continued)

Federal Rural University of Amazônia	58.85%	73.04%	89.83%	80.00%
Federal University of Triângulo Mineiro	54.17%	41.28%	37.15%	69.45%
Federal University of Vales do Jequitinhonha e Mucuri	84.38%	100.00%	100.00%	80.47%
Federal Technological University of Paraná	40.31%	52.37%	43.92%	58.75%
Federal University of Alfenas	22.53%	52.37%	100.00%	60.26%

Federal University of Itajubá	97.87%	28.53%	100.00%	95.34%
Federal University of São Paulo	61.63%	47.85%	89.83%	80.38%
Federal University of Lavras	97.87%	100.00%	100.00%	94.93%
Federal Rural University of the Semiárido	22.65%	34.50%	0.00%	43.37%
Federal University Foundation do Pampa	20.01%	6.88%	15.00%	35.40%
Federal University of Latin American Integration	33.52%	34.40%	35.54%	42.21%
Federal University Foundation Rondônia	38.92%	41.28%	59.31%	35.53%
Federal University of Estado do Rio de Janeiro	45.84%	15.00%	44.54%	55.15%
Foundation University of Amazonas	33.74%	8.12%	33.24%	49.26%
Foundation University of Brasília	89.15%	100.00%	100.00%	91.37%
Federal University Foundation of Maranhão	37.33%	15.00%	15.00%	32.68%
Federal University Foundation of Rio Grande	37.48%	100.00%	100.00%	67.72%
Federal University Foundation of Uberlândia	60.16%	67.36%	36.69%	62.30%
Federal University Foundation Acre	36.82%	15.00%	100.00%	46.45%
Federal University Foundation of Mato Grosso	50.21%	43.28%	52.92%	58.22%
Federal University Foundation of Ouro Preto	56.12%	70.54%	92.62%	73.65%
Federal University of Pelotas	44.95%	32.54%	57.68%	51.08%
Federal University Foundation of Piauí	26.32%	47.85%	44.54%	51.97%
Federal University Foundation of São Carlos	50.91%	36.56%	35.54%	51.49%
Federal University Foundation of Sergipe	75.41%	25.82%	100.00%	67.86%
Federal University Foundation of Viçosa	89.30%	100.00%	100.00%	92.29%
Federal University Foundation of Mato Grosso do Sul	60.65%	100.00%	100.00%	93.69%
Federal University of Health Sciences Foundation of Porto Alegre	53.50%	15.00%	15.00%	51.59%
Federal University Foundation of São João Del Rei	41.32%	77.11%	82.44%	59.71%
Federal University Foundation of Amapá	56.62%	70.24%	50.00%	47.08%
Federal University Foundation of Grande Dourados	23.01%	13.53%	27.53%	48.47%
Federal University of Recôncavo da Bahia	14.13%	2.71%	13.90%	35.41%
Federal University Foundation of ABC	28.18%	28.53%	100.00%	56.13%
Federal University of Fronteira Sul	23.58%	31.15%	100.00%	61.26%
Federal University of Oeste do Pará	78.40%	100.00%	100.00%	76.43%
University of International Integration of Afro-Brazilian Lusofonia	23.29%	16.23%	24.12%	27.73%
Federal University of Oeste da Bahia	65.42%	35.16%	71.87%	70.29%
Federal University of Sul e Sudeste do Pará	61.62%	31.15%	75.06%	59.58%
Federal University of Cariri	61.66%	27.13%	56.11%	57.26%
Federal University of Sul da Bahia	38.42%	8.12%	21.08%	43.65%

Regarding the research instrument, we used the answers obtained through the questionnaire, available at: https://bit.ly/httpLevantamentoìndicedeGovernançaeGestão2021, prepared and applied by the TCU, referring to the year 2021 in Public Administration bodies, which It has 114 questions grouped by the themes of leadership, strategy, control, people management, technology and information security management, contracting management and budget management, prepared by the Federal Audit Court (TCU). These themes were presented in six governance

profiles: a) Integrated governance and management profile; b) Governance and organizational management profile; c) Governance and people management profile; d) Security and Information Technology governance and management profile; e) Governance and contracting management profile; and f) Budget governance and management profile.

The dissemination of the results of the applied questionnaire was categorized into capacity levels, based on the governance and management index, as insignificant (0 to 14.99%), starting (15 to 39.99%), intermediate (40 to 70%) and enhanced (70.01 to 100%). Furthermore, the questionnaire uses the CSA method (Control Self-assessment or self-assessment of controls), which is a methodology used to analyze and investigate the organization's fundamental goals and the risks inherent to the processes carried out to achieve the desired purposes and the internal controls implemented (Febraban, 2004).

Furthermore, according to Gil (2011), the questionnaire can be conceptualized as an observation procedure formed by a certain number of questions presented in written form to the respondents, which, when placed in an orderly manner, will make it possible to promote information that will become in knowledge, with the purpose of knowing in detail the group of individuals studied.

For data analysis and tabulation, the software R was used, using descriptive inferential statistics, thus providing a global overview of the data studied, then the statistical method called Spearman correlation coefficient (ρ) was used to verify the meaning and the strength of the correlation. Also, simple linear regression was applied, consisting of the equation $Y = a + bX + e$, to measure the degree of influence of the results found, measuring the impact of adopting good accounting practices, measured through the budget governance index , of federal public universities, to the public governance index, thus establishing a cause and effect relationship.

Considering simple linear regression, we have the following equation as the econometric model for this study:

$$iGovPub = \quad + \beta 1 GovernancaOrcament +$$

Where:

   is the constant of the function;

$\beta 1$ is the estimated regression coefficient;

   is the regression error factor;

For the aforementioned statistical analyzes we have the following variables, explained in Table 4, listing the name, type and objective to assist in understanding the data obtained.

The independent variable (GovernancaOrcament) matches the ability to establish the organizational budget process involving the annual budget proposal process, budget indicators, alignment of the budget with strategic planning, establishment of financial savings goals, adequacy of budget resources in the PLOA and contemplate budgetary priorities correctly, referring to the prioritization of known demands and evaluation of public policies implemented by the organization. With regard to the dependent variable public governance index (iGovPub), this corresponds to the actions evaluated in the theme of organizational public governance, covering indicators of leadership, strategy and control capabilities.

Table 4   Description of Variables

Variable	Type	Measurement
Public Governance Index (iGovPub)	Dependent	Actions evaluated on the topic of organizational public governance, adding indicators of leadership, strategy and control capabilities.
Budget governance index (GovernancaOrcament)	Independent	Ability to propose planning instruments consistent with the agency's conjecture, monitoring budget execution and prioritizing

		essential demands.
Governance Index in Information Technology (GovernancaTI)	Control	Ability to develop an IT structure, risk management and data protection.
Contract governance index (GovernancaContrat)	Control	Competence to carry out sound hiring, the level of hiring planning and risk management.

Considering that not only the aforementioned variables impact the public governance index (iGovPub) and also aiming to reduce the error factor of the simple linear regression, two control variables were included, shown in Table 4, which are: governance index in Information technology (GovernancaTI) consisting of information technology planning, service management, service level and information technology risks, definition of responsibilities policies for information security management and establishing activities for information security management and the contracting governance index (GovernancaContrat) based on the aspects of promoting integrity in the contracting area, developing the capacity of the contracting area, carrying out contracting planning, establishing contracting work processes, managing risks in contracting, contracting and managing based on performance and carry out sustainable hiring.

4. Analysis of Results

Regarding the descriptive inferential statistical analysis for the dependent variable, observed in Table 5, it can be seen that the average iGovPub for the analyzed database is 0.607, for a minimum value of 0.277 and a maximum corresponding to 0.958. However, it can be seen that in relation to the independent variable GovernancaOrcament we have an average value of 0.642, for a minimum value of 0.000 and a maximum of 1.0.

Opportunely, it is essential to analyze, together with the respective means of the variables studied, the standard deviation of each one, thus having the possibility of ascertaining the degree of dispersion of the data sets. That said, for iGovPub we have a value of approximately 0.173 and for GovernancaOrcament a result of 0.320.

Table 5   Descriptive Statistics

	Média	Desv. Padrão	Mínimo	1º Quartil	Mediana	3º Quartil	Máximo
iGovPub	0.607	0.173	0.277	0.494	0.596	0.729	0.958
GovernancaOrcament	0.642	0.320	0.000	0.369	0.593	1.000	1.000
GovernancaTI	0.504	0.208	0.096	0.371	0.478	0.616	0.979
GovernancaContrat	0.498	0.301	0.027	0.265	0.478	0.718	1.000

Source: Prepared using R software (2023).

Regarding the Spearman correlation test (ρ), carried out with the aim of investigating the relationships between the dependent and independent variable, the correlation matrix was calculated, as can be seen in Table 6, with the aim of identifying the direction of the correlation and strength, in which it is possible to identify that all variables are positively correlated with each other, despite this, such correlation coefficients cannot be interpreted as a finding of causal correlation, given that they only demonstrate the sign and intensity of the linear association between the variables.

Table 6   Spearman Correlation Matrix

	iGovPub	GovernancaTI	GovernancaOrcament	GovernancaContrat
iGovPub	1			
GovernancaTI	0.76	1		

GovernancaOrcament	0.70	0.46	1	
GovernancaContrat	0.71	0.51	0.63	1

Source: Prepared using R software (2023).

Furthermore, in the aforementioned test between the dependent variable iGovPub and the independent GovernancaOrcament, we have the following HO: the correlation coefficient is equal to zero, that is, there is no correlation. In the present study, as stated before, a positive relationship with strong intensity was obtained, considering the scale constructed by the scholar Cohen (1992), that is, when one variable increases, the other — therefore — also increases ($\rho = 0\,.70$, $p < 0.05$).

It should be noted that, according to table 3, the existence of a correlation between the independent variables is seen, in this way, the chance of there being multicollinearity between such variables was verified, which would harm the simple linear regression model, thus affecting the quality of the results and would problematize their interpretation. To this end, the variable inflation factor (VIF) test was carried out, in which the results are presented in Table 7, where the absence of multicollinearity can be verified considering that the values presented vary between 1 and 2:

Table 7   Multicollinearity Tests

	GovernancaOrcament	GovernancaTI	GovernancaContrat
VIF	1.83	1.39	1.94

Source: Prepared using R software (2023).

With regard to simple linear regression, this, broadly speaking, is concerned with the study of the subjection of a dependent variable in relation to another independent one with the aim of acquiring information about the analyzed fact (Gujarati, Porter, 2008). Therefore, the present study sought to analyze the dependency relationship between the variables iGovPub and GovernancaOrcament. Furthermore, prior to building the regression model, the assumptions were analyzed so that the results found could be ratified. The first assumption is that of the normality of the residues, which can be analyzed in Figure 1:
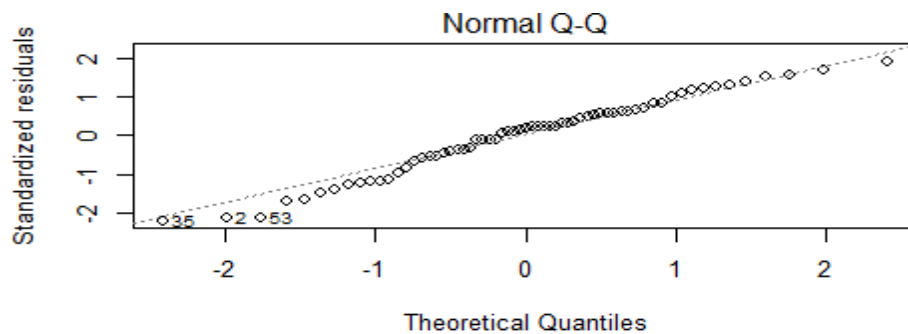

Figure 1   Quantile-Quantile Graph.
Source: Prepared using R software (2023).

From the figure shown above, we can deduce the normal disposition of the residues considering that the points highlighted on the Y axis — standardized residues — and on the X axis — theoretical values — tend to be located on the straight line, which demonstrates that the mean, mode and median of the residuals has the same value. Not only, given that Figure 1 demonstrates normality only visually and, therefore, does not allow us to reach an airtight conclusion, the Jarque-bera test was applied to the regression residuals, which has the HO that these follow a normal

distribution, for this test we conclude that the HO is not rejected, considering a p-value of 0.332 ($p > 0.05$).

As assumption number two we have that the variance of the residuals must be constant, for this purpose the homoscedasticity analysis was carried out using the Breusch-Pagan test which has the HO that the data are homoscedastic and thus indicates that the values of the residuals tend to be close to the average, that is, the data have low dispersion. The Breusch-Pagan test resulted in the rejection of HO with a p-value of 0.919 ($p > 0.05$). Furthermore, to also enable a visual analysis, Figure 2 is shown below, which highlights the residuals using the adjusted values:
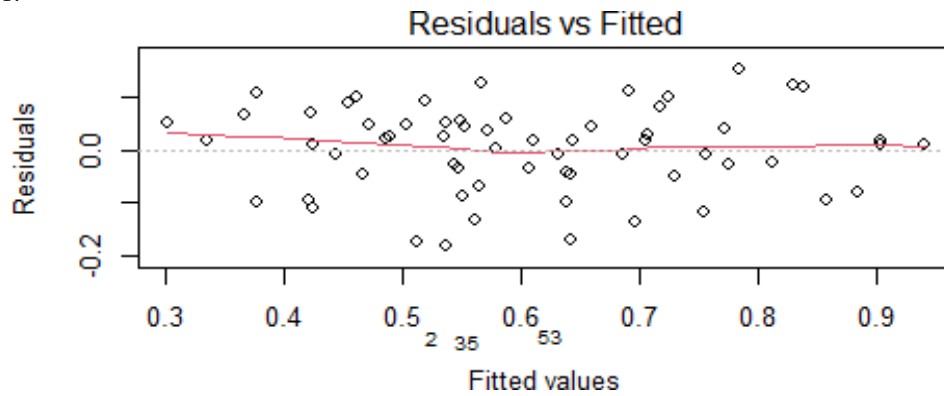

Figure 2   Residuals vs Fitted.
Source: Prepared using R software (2023).

Finally, we have the assumption of independence between the residues, therefore there is a need for the model errors to be random and uncorrelated, before that the Breush-Godfrey test was used, which has the HO that there is no correlation serial between the residues, given a p-value of 0.673 ($p > 0.05$), it is possible to affirm the non-rejection of the null hypothesis and thus ratify that, for the model constructed by this research, one error does not interfere with the other. Considering that the residues are normal, homoscedastic and uncorrelated, the simple linear regression command was executed, in which the result can be seen in Table 8:

Table 8   Summary of Simple Linear Regression

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	0.2176	0.0293	7.42	0.00000000053 ***
GovernancaOrcament	0.1550	0.0443	3.50	0.0009 ***
GovernancaTI	0.4217	0.0594	7.10	0.00000000181 ***
GovernancaContrat	0.1555	0.0484	3.21	0.0021 **
Quality measures	R²	Adjusted R-squared	F-statistic	
	0.785	0.774	71.8	

Source: Prepared using R software (2023).

Considering Table 8, when analyzing the t test (t value) which has as HO that the estimation coefficient is equal to zero ($p > 0.05$), that is, the independent variable has no impact on the dependent variable, however, a p-value lower than 0.05 is demonstrated using the statistical method, which denotes that the independent variable, as well as the control variables, have an estimation coefficient different from zero and, therefore, have an impact on the dependent variable (iGovPub) of the model studied, in view of this we can infer that the average value of iGovPub

increases 0.1550 points considering an average growth of 1 point in GovernancaOrcament.

By analyzing R-squared we can deduce that the budget governance index (GovernancaOrcament) explains 78.5% of the public governance index (iGovPub). Regarding the F-statistic analysis, for this, we have an HO that the created model predicts equally to the null model. Starting from a p value ($p < 0.05$) for the F-statistic, it is pointed out that we rejected the HO, which implies the occurrence of a difference between the achieved model and the null model, thus being the model constructed by this study predicts the budget governance index more assertively than without any forecaster. To summarize the simple linear regression model for the analyzed data, Figure 3 is shown.
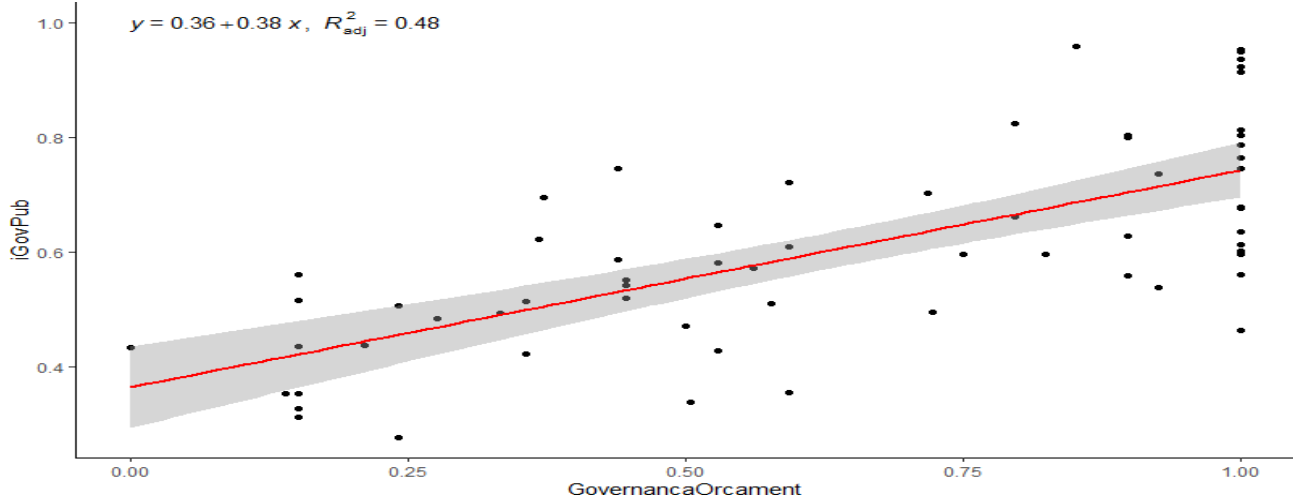

Figure 3   Scatter Plot With the Straight Line Equation
Source: Prepared using R software (2023).

In conclusion, Figure 3 gives us, in an illustrative way, the dispersion of the data and the straight line equation, making it possible to measure the forecast of the public governance index taking into account the value of the budgetary governance index.

5. Conclusions

In the present study, the objective was to identify the subjection of the public governance index (iGovPub) to consolidate good accounting practices and measured through the budgetary governance index (GovernancaOrcament). the description of the data studied, thus having an expanded knowledge of the data set and its variables, subsequently the direction and strength of the correlation between the variables was observed considering the Spearman correlation and also the causality existing between the dependent variable - public governance index — and the independent - budgetary governance index — through simple linear regression.

As a product of statistical analyses, a positive relationship with strong intensity was found between the variable public governance index (iGovPub) and budget governance index (GovernancaOrcament), therefore showing that the two are directly related, that is, growth positive effect of one variable implies growth of the other in the same direction ($\rho = 0.70$, $p < 0.05$).

Regarding simple linear regression, it was established that the independent variable GovernancaOrcament is statistically significant in explaining the dependent variable iGovPub, thus, from the regression analysis, it was estimated that the average value of the variable iGovPub increases by 0, 1550 points considering an average growth of 1 point for GovernancaOrcament. Not only that, taking into account the interpretation of R-squared, it appears

that the budgetary governance index explains 78.5% of the public governance index.

PClearly, this research is based on the assumption of positively corroborating, from a practical point of view, the understanding and measurement of the importance of accounting, especially in public administration, for the promotion of efficient public governance, enshrining good mechanisms for targeting, monitoring and evaluation of stipulated processes. Together, from an academic perspective, this study endeavored to develop an analysis that could contribute to research relating to transparency, accountability and public governance, topics which have a direct impact on the quality of public services and — therefore — the effectiveness of actions carried out.

As a suggestion for future work, with a view to using the database for the year 2021, as the database update is not yet available on the Federal Audit Court website, it is recommended to use the responses referring to the 2022 financial year to use the analysis of the impact of accounting for public governance not only for Federal Public Universities, but also for other bodies that make up the organizational structure of Administration at all federative levels.

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