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ANALYSIS OF BUDGETARY DECISION-MAKING IN A FEDERAL INSTITUTE OF EDUCATION

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ABSTRACT

This article examines the organizational model of decision-making on discretionary spending and its perceptions in a Federal Institute of Education, describing dysfunctionalities resulting from it. The research uses a secondary data analysis of budget execution, norms, minutes and other decision-making sources, as well as perceptions collected at different levels of management through a survey. Dysfunctions were identified through quantitative indicators, and predictive variables were raised through regression. Perceptions about the expenditure management model were reduced to two constructs through factor analysis: budgetary appropriatons protection and generalized apathy. These perceptions about spending management are in line with a political decision-making model characterized by anomalies and contractual failures, which manifest themselves in budgetary dysfunctions, such as rushed spending at the end of the year and excessive flexibility of expenses. Aspects of the prevailing political decision-making model result in unrealized action plans, hasty spending at the end of the fiscal year, and disproportionate use of flexibility in budget execution. The research contributed to the understanding and improvement of the internal decision-making process in bodies endowed with budgetary autonomy.

Keywords: Budget Governance. Budget Institutions. Accountability. Dysfunctionalities. Municipalities.

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1 INTRODUCTION

The 1988 Federal Constitution included the principle of efficiency in the management of public expenditures, leading to the adoption of a managerial public administration model that prioritizes obtaining results and accountability. The annual budget, which is enacted into law, is a central tool for planning, coordinating, organizing and controlling governmental activities. However, due to its wide range of dimensions, it often becomes the target of political disputes (Henley et al., 1992) and fiscal maneuvers (Ferreira & Oliveira, 2017), which can undermine its practical efficiency. In this sense, strict budgetary control could be useful. Yet, if the fiscal pressure is less severe, such rigidity could induce incrementalism, having no effect on unwanted dysfunctionalities (Johansson & Siverbo, 2014).

This scenario of budgetary decision-making and its paradoxes is relevant when it comes to financing the Federal Network of Professional and Technological Education, which has been the subject of intense negotiations in the Federal Executive Branch. The Federal Institutes receive unrestricted budgetary appropriations, which guarantees the autonomy provided for in article 207 of the Federal Constitution, but also imposes the institutionalization of their own budgetary procedures within the limits of the general rules of financial law. This situation arouses the interest of defenders for universal access to high-quality, free technical and vocational education.

This article seeks to contribute to the discussion on budget management and its possible impacts on the management of available resources. It is common for the dysfunctional practice of accumulating expenses at the end of the year to occur due to managerial actions that aim at maximizing the execution of authorized appropriations and forming budgetary reserves through short-term liabilities (STL). If this premise is confirmed, there may be negative impacts on the decentralization of public resources, compromising the execution of government programs and affecting indebtedness, fiscal balance, transparency, and the credibility of the public budget.

In this context, the case study of the analysis of budget execution practices in a Federal Institute (FI) from 2010 to 2019 intends to illustrate the most critical aspects of this process. The FI is located in a region with a high level of socioeconomic development and an annual budget of more than R$ 415 million, distributed in 15 regional *campi*, serving approximately 27 thousand students in approximately 200 courses. The focus of this research rests on the decision model that results in expenses executed in a hurry at the end of the financial year, as well as the flexibility of these expenses due to the increase in the balance of STL.

This article aimed to examine the decision-making model for discretionary spending at the Federal Institute of Education in question and describing the possible dysfunctionalities resulting from it. It is important to study the management and decentralization of discretionary resources in educational units since there are few studies on dysfunctionalities at the level of budgetary units (BUs) in Brazil, and their causes have not yet been fully investigated empirically. Furthermore, this theme is of singular importance, as it can lead to improvements in the management of resources in educational programs, contributing to the efficiency of public spending.

2 LITERATURE REVIEW

2.1 Organizational Models and Budget Dysfunctionalities

In the budget process context of the Federal Institutes of Education (FIs) as budgetary units of the Union, the lack of rational support in the allocation of expenses can lead to an intensely political process of reduction or increase of the amounts authorized for certain initiatives, as well as the creation of others throughout the budget execution (Morgado, 2011). As the FIs have a self-management character, there is no uniform prescription for their budget process, which makes the process assume a managerial character, different from the legal process to which the direct administration of the Union, states, Federal District, and municipalities is submitted.

Although planning is the first step in managing organizations, decision-making within a managerial cycle of planning, execution, and control of results can lead to incomplete decisions from the perspective of an agent-principal relationship due to the extent and planning point of view (Hofstede, 1981; Miller et al., 2004). In addition, managers generally hold more information and technical knowledge than other stakeholders in the organization (Deleon, 2010). In this sense, decision-making processes occur under different modes of governance, which can be structured under collegiate, political, bureaucratic or anarchic models (Figure 1), or a mixture of these angles (Ellström, 2007; Deleon, 2010; Fernandes, 2017; Kocatürk & Karadağ, 2021). It is important to consider these different perspectives when evaluating the management of available resources for educational programs, as in the case of FIs, in which the lack of a uniform prescription for the budgetary process can negatively affect the delivery of government programs, and contribute to the fiscal imbalance and the lack of transparency in the public budget.

Figure 1
Organizational models

		(a) Organizational goals and preferences	
		Clear and shared (consensus)	Unclear and/or not disagreed upon (conflict)
(b) Technology and organizational processes	Transparent/clear	**The Rational model** Keywords: truth, think, task-orientation.	**The Political model** Keywords: power, conflict, struggle.
	Ambiguous/unclear	**The Social system model** Keywords: trust, learning, collaboration.	**The Anarchistic model** Keywords: Foolishness, randomness, play.

Source: Ellström (2007, p. 456).

The rational model of decision-making in educational organizations assumes that they are linked to a set of goals or preferences within a programmatic vision (Deleon, 2010). As behavior becomes standardized, the actions and processes of organizations become more predictable, theoretically increasing efficiency (Kocatürk & Karadağ, 2021), as organizational action becomes a result (Deleon, 2010). Therefore, in this model, job descriptions, rules and regulations have a prominent place, also relating to accountability (Deleon, 2010). The limitation of this model is that different problems are approached in the same way, and there is no incentive for new or original solutions. On the other hand, the decisions taken are not always the best, but they are always grounded, that is, they offer the rationality of making consistent choices within certain restrictions (Kocatürk & Karadağ, 2021).

In turn, the interpretation of the educational organization as a model of a social or collegiate system considers organizational processes as adaptive and spontaneous responses to internal and external problems, rather than previously stipulated intentional actions (Ellström, 2007). According to Kocatürk and Karadağ (2021), managers are chosen from scholars and have a fixed-term mandate. Adaptive social behavior allows people to respond flexibly to the actions of others in a wide variety of social contexts (De Bruijn, Mars, Bekkering & Coles, 2012). Decisions are obtained by consensus, through deliberative structures (Deleon, 2010). As a consequence, the collegiate model is characterized by common goals and collective commitment to the structure, resulting in an agreed organizational identity (Kocatürk & Karadağ, 2021). Integration is assumed from a sociopsychological point of view and implies a cultural system of values, beliefs, and ideology (Ellström, 2007). The organizational culture derived from this model is maintained through symbols, ceremonies, and myths, with permanent communication with its graduates (Kocatürk & Karadağ, 2021).

In turn, the political model of decision-making stems from the existence of subgroups in organizations, which may be united by academic, ethnic or ideological similarities. Powerful subgroups, each in its context, trigger a complex decision structure in which authority, and the chain of command do not apply (Kocatürk & Karadağ, 2021). In this way, the organizational goals are not clear, and the logical process of control becomes political, and depends on power structures. In this sectarianism scenario, negotiation, and mutual agreement become platforms for resolving problems and conflicts that originate in the distribution of scarce resources (Ellström, 2007). For Sykianakis and Ballas (2006), conflict and political behavior arise from antagonistic demands during strategic decision-making processes in response to changes in environmental conditions. For these authors, power is then mobilized through control of resources and references to organizational ideology. Kocatürk and Karadağ (2021) summarize the political model as the sum of subcoalitions of different interests, preferences and goals.

Finally, the anarchic model occurs when goals are conflicting and the means of achieving them are uncertain. It is an open, non-linear system model that routinely confronts problematic goals without a defined technology and fluid participation of its members in the decision-making process (Kocatürk & Karadağ, 2021). This model is also described by the metaphor of the "garbage can", in which problems and solutions would be stirred until they find themselves in a decision-making process triggering an organizational action (Deleon, 2010). Under certain circumstances, an anarchic decision-making system may outperform others as the decision complexity increases (Ma et al., 2019). For Kocatürk & Karadağ (2021), it is an anarchic leader who must understand the meaning of events and the organization's culture, and offer alternative solutions to problems.

Considering these four models, dysfunctions in the budgetary process can be a reflection of decision-making and contribute to a reduction in its effectiveness, that is, in the delivery of public services. In this context, the budgetary process should function as an intermediation platform between agents and principals. However, the budget is seen as a set of incomplete contracts, and the failures resulting from it can be partially explained by deviations from governance principles and rules (Bittencourt, 2015). This study addresses two budget dysfunctions: the concentration of expenditure execution at the end of the financial year and the flexibility of execution via budgetary transfer.

The causes or reasons for contractual incompleteness in the budgetary field can be approached from the actions of individuals (Korac et al., 2019). Two hypotheses that affect decision-making individuals concerning the origin of the dysfunctional phenomenon of accumulation of budget expenditures at the end of the year are uncertainty, partly due to an incremental behavior in planning, which is restricted to replicating previous plans, annually evaluating small incremental actions; and the risk of losing appropriations that were not used during the year.

Regardless of the origin of the causes, there are consequences derived from the dysfunctional accumulation of expenses. McPherson (2007), for example, provides examples that suggest that year-end spending hoarding leads to poor decisions and wasted resources at both federal and state levels.

The dysfunctionality of executing hurried expenses that accumulate at the end of the year is usually accompanied by another, that of budgetary carry-overs, which are expedients of flexibility to the principle of annuality that is foreseen in articles 165, III and 167, §2 of the Brazilian Federal Constitution. Thus, when unexpected problems occur and delay business with the government, or when procurements are carried out near the end of the financial year, the principle of annuality becomes a challenge to budgetary execution. To circumvent these limitations, budgetary transfer mechanisms were developed, the main one being the inscription of short term liabilities of committed but unexecuted or unpaid expenditures in Brazil (Aquino &

Azevedo, 2017). However, this transfer of deficits from one fiscal year to the next reduces the effectiveness of expenditure control (Smith & Hou, 2013).

The concentration of expenses at the end of the fiscal year has been the subject of recent studies, with a negative bias on the flexibility of expenses via the registration of short term liabilities. Aquino and Azevedo (2017) showed parallel budgets at the three levels of the federation based on four types of carry-overs with implications for budgetary credibility and transparency. Cavalcanti's dissertation (2018) carried out a survey on the perception of public managers regarding the reasons that lead to the registration of unpaid balances. Among the reasons given were: the late release of appropriations and budgetary limits; the discrepancy between the commitment and payment limits; the manager's interest in not losing the budget; the lack of planning; the unpredictability in the execution of works; the opposition between the cash and accrual basis, especially for mandatory expenditures; among others. Nonaka's dissertation (2019) proposed an efficiency index in the management of unprocessed payables and concluded that there is no efficiency, but a tendency towards increased future accumulation. In turn, Feitosa's dissertation (2021) related the performance of federal universities in Brazil positively to their financial dynamics and negatively to the registration of short term liabilities. Mota et al. (2022) found that even an imposition, as of 2018, of a validity period for short term liabilities of committed but unexecuted expenditures did not impact the execution of these liabilities at federal universities. Finally, Araújo et al. (2022) detected the relationship between the volume of fourth-quarter commitments at federal universities between 2015 and 2019 on cancellations of short term liabilities of committed but unexecuted expenditures and their re-registration in subsequent years.

This case study differs from previous research in three aspects. First, it addresses a federal educational institute. Second, it generates constructs about the aforementioned dysfunctionalities based on the perceptions of its managers. Third, it reaches more decentralized levels of budgetary decision-making and reveals dysfunctional aspects by spending categories.

3 METHODOLOGICAL ASPECTS

The research is characterized as a case study. It is assumed that the budgetary dysfunctions of execution accumulation and the flexibility of expenses present in the organizational model of a Federal Institute are evidenced through empirical observations of quantifiable and non-quantifiable origins. The use of mixed methods in scientific studies shows a growing trend of application as it represents an alternative for the investigation of complex phenomena (Santos et al., 2017). Thus, three stages were performed (1) quantitative and qualitative document analysis; (2) exploratory factor analysis; and (3) analysis of variance.

The quantitative document analysis was used to demonstrate and mathematically analyze the occurrence of: (1) accumulation of expenses incurred at the end of the fiscal year; and (2) flexibility of the annual budget execution (Figure 2).

Figure 2
Indicators of budgetary dysfunctions

$$\text{indicator } T4 = \left[\frac{\left(\frac{\sum_{10}^{12} LIQt}{3} \right)}{\left(\frac{\sum_{1}^{12} LIQt}{12} \right)} \right] \quad (1)$$

$$\text{Flexibilization} = \frac{LIQ\_RPNP_t}{LIQ_t} \quad (2)$$

The T4 indicator (1) consists of dividing the average expenditure of a certain economic category in the fourth quarter of a financial year (t) by its annual average. The flexibility indicator (2) consists of the division of committed and unexecuted expenses, which have the implementation of the contractual condition in a financial year subsequent (t) to the authorization one (t-1;...;t-n)

as a proportion of expenses of the same nature that are paid in the same year as the budgetary authorization.

Complementarily, a multiple linear regression (OLS) was used to test to what extent the accumulation of expenses can be influenced by the manager's decision. Thus, based on preliminary reports, a set of variables was defined (Table 1).

Table 1
Dependent and independent numeric variables

Description	Variables	Typo	Goal
Commitment to financial aid	$AUX18_t$	Independent	Measure quantity
Commitment to *per diem*	$DIARIAS14_t$	Independent	Measure quantity
Commitment to permanent material	$EQUIP52_t$	Independent	Measure quantity
Commitment to compensations and reinbursements	$REST93_t$	Independent	Measure quantity
Commitment of consumable materials	$CONS30_t$	Independent	Measure quantity
Commitment to works and facilities	$OBRAS51_t$	Independent	Measure quantity
Commitment to tickets and transportation	PASSAG33t	Independent	Measure quantity
Commitment to third-party individual services	$SERVPF36_t$	Independent	Measure quantity
Engagement of third-party legal-entity services	$SERVPJ39_t$	Independent	Measure quantity
Received budgetary limit	$LIMIA_t$	Independent	Measure quantity
Total budgetary limit received	$LIMTOT_t$	Independent	Measure quantity
Current execution	LIQ_t	Dependent	Measure quantity
Registered Short term liabilities	$RPNPANO_t$	Independent	Measure quantity
Paid Short term liabilities	$RPNP_t$	Dependent	Measure quantity

The monetary universe analyzed corresponds to nominal discretionary expenses (except proper funds source) paid between 2010 and 2019. Data were collected from the Federal Senate website in May 2020, and adjusted by reports requested by the Access to Information Law.

Accordingly, budget dysfunctions are also explained by factors internal and external to the organization, unfolding into qualitative variables, defined based on the pre-analysis of documents. At this stage, coded data were used to apply a survey. For that, the research of induction and deduction methods was used.

The survey was structured into 43 closed questions, divided into two blocks. For the first block, attributes dealing with the mechanisms and processes of budget execution based on the management reports of the analyzed FI were validated. The participants evaluated the questions using a Likert-type psychometric response scale, specifying the level of agreement from 0 to 10 for each statement.

The second block of questions referred to (1) the perception of the organizational model guiding the plan of action and decisions at the Institute based on the literature review of organizational models; and (2) the participant's manager profile. In this block, specific scales were used in addition to the Likert-type scale.

In the second stage of the research, exploratory factor analysis was used to reduce the scale of budget execution mechanisms and processes (the first block of questions) into representative factors and followed a systematic construction approach, adapted from the model by Hair Jr. et al. (2009).

The dimensionality of the construct was defined through a parallel analysis, which is the most consolidated factorial retention alternative in the literature, among the most recommended strategies for assessing the number of common factors in empirical practice (Damásio, 2012), and the factorial extraction performed by the Robust Diagonally Weighted Least Squares (RDWLS) method.

In the third and final stage of the research, an analysis of variance was employed to compare the results of the underlying structure derived from factor analysis with the organizational model perceptions of the second block of questions. The non-parametric Kruskal-Wallis test was utilized and the posthoc test by Dunn's method, usual for a multiple comparison of classifications that do not meet the assumptions of the parametric analyses.

To collect data from the survey, the Google Forms application was used. All attributes were considered the most influential in the evaluation of the measured construct and had a preliminary version of the questionnaire that was submitted to an expert's evaluation and a pre-test.

In turn, the Federal Institute was chosen for presenting the characteristics necessary for the research and for allowing easy access to information. The sample inclusion criterion adopted comprises managers (directors, department heads, and course coordinators) present in office between 2016 and 2019 in a survey obtained from the Transparency Portal of the Federal Government. In the selection of participants for convenience, no distinctions were made regarding the effective participation or knowledge of the budget planning or the budgetary execution, in addition to the remuneration aspect or experience in the position performed.

The mean response time to the instrument was 10 minutes, and invitations were sent by e-mail between December 2020 and February 2021. The return rate was satisfactory: 13%, which represented 128 valid cases. The research project was approved in the CEP/CONEP System through Plataforma Brasil under registration CAAE number 40017920.0.0000.5346.

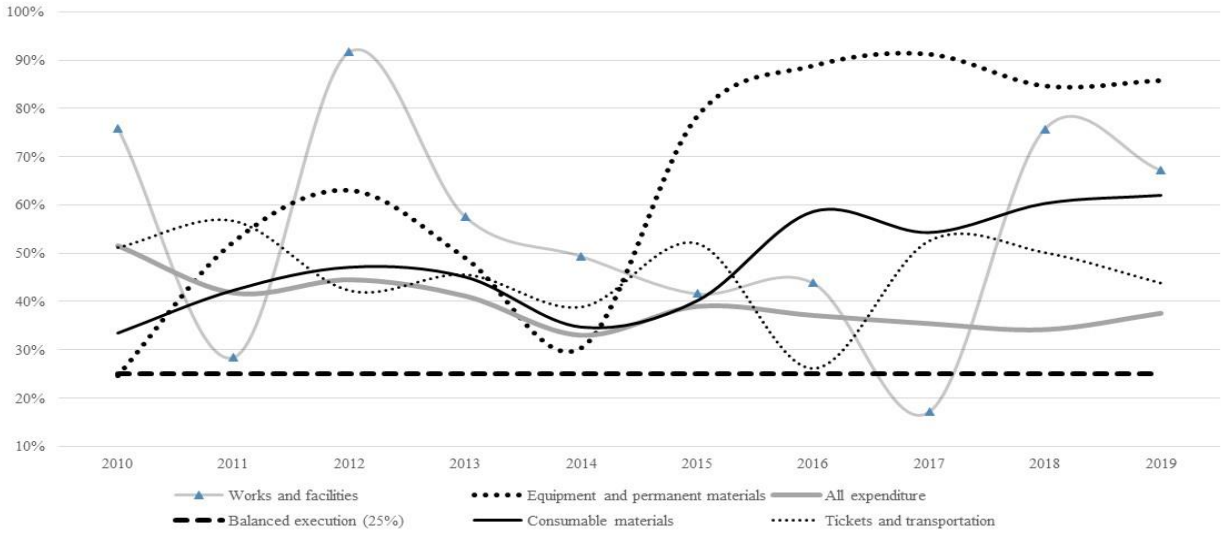
Data were processed using Factor Analysis (version 10), SigmaPlot (version 14.5), and IBM® SPSS Statistics (version 20) software.

4 RESULTS AND DISCUSSION

4.1 Analysis of Accumulation and Flexibility of Expenses

Figure 3 presents the T4 index between 2010 and 2019 of the main discretionary expenses that are highlighted in the series. In general, the data reveal that the expenditure is executed mainly in the last quarter. Only one occurrence (works and facilities, in 2017) was registered with less than 25% of the annual execution. Considering that this limit corresponds to a quarter of the expenditure, the extrapolation of this limit implies an accumulation above the arithmetic mean of an execution uniformly distributed throughout the year. Consumable materials, for example, reach 62% of accumulation at the end of 2019, and permanent materials lead to the accumulation of end-of-year expenses with percentages above 78% in the last five years.

Figure 3
Accumulation of expenses in the FI



In the test with the independent variables, the regression analysis resulted in a statistically significant model for the accumulation of expenses [F (5.84) = 26.928; p<0.001; r2 = 0.616]. The accumulation of commitments, mainly for works, facilities, and materials (permanent and consumption), was a predictor of the accumulation of expenses at the end of the year.

The variables excluded from the model include the accumulation of received budgetary limit (LIMIAt; p = 0.996) and total received of the budgetary limit (LIMTOTt; p = 0.631) (Table 1). Although observations of budgetary cuts and delays in the distribution of resources are recurrent in managers' justifications and responses to hasty expenditures at the end of the year, the statistical interpretation rejected the null hypothesis (H_0) that budgetary limits were predictors of expenditure accumulation. Since the budget is previously defined and published in the budgetary laws, and its commitment limits are authorized by normative decrees, even if contingencies, they obey a certain pattern in the distribution of resources. Thus, it is expected that the hurriedly executed budget has predictive variables more linked to the manager's decision-making by criteria of convenience and opportunity than by variables that are independent of the manager's action.

Table 2
Variables excluded from the regression model[1]

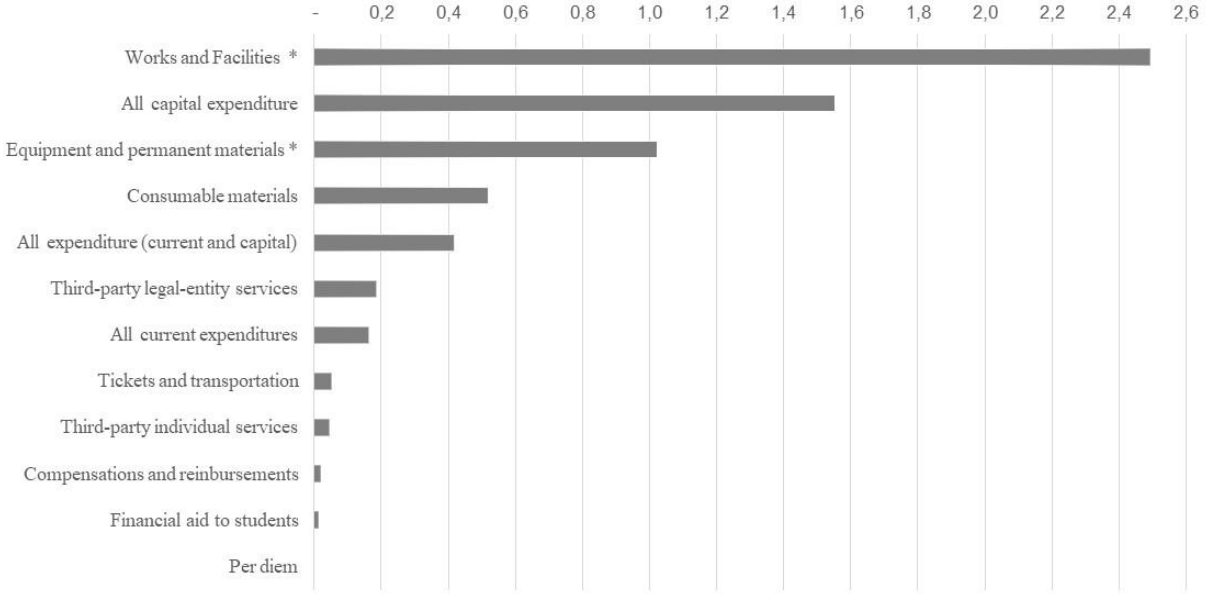
VARIABLE	BETA	T	SIG.	PARTIAL CORRELATION	TOLE-RANCE[2]	VIF [2]	MINIMUM TOLERANCE[2]
DIARIAS14	-0.003	-0.044	0.965	-0.005	0.980	1.021	0.951
AUX18	0.017	0.246	0.806	0.027	0.965	1.036	0.946
SERVPF36	-0.021	-0.309	0.758	-0.034	0.975	1.026	0.949
SERVPJ39	0.004	0.053	0.958	0.006	0.941	1.063	0.936
LIMIA	0.000	0.005	0.996	0.001	0.976	1.024	0.951
LIMTOT	-0.034	-0.482	0.631	-0.053	0.928	1.078	0.928
RPNPANO	-0.093	-1.105	0.272	-0.120	0.642	1.557	0.642

(1) Exclusion of variables by the stepwise method and (2) collinearity statistics.

The flexibilization indicator (Figure 2) enabled the verification of the proportion of paid short term liabilities of committed but unexecuted expenditures (authorized before the current

year) over the execution of expenses authorized in the current year. As Figure 4 shows, capital expenditures are the most subject to this budget transfer mechanism, with considerable amounts exceeding the annual fee: expenditures on works and facilities, for example, are paid 2.5 times more outside the budgetary annuality, which would be between January 1 and December 31 of the year of its authorization. More than half of the expenses with equipment and permanent materials are not incurred within the year in which the appropriation was authorized and distributed, and more than 30% of materials purchased for consumption also have their budgetary execution postponed. As a rule, some costing expenses (reinbursements, financial aid, tickets and *per diem*) should not have a flexible annual execution, since there are no assumptions that justify their inclusion in short term liabilities of unpaid commitments, as with the late delivery of goods or the delay in the execution and completion of services.

Figure 4
Proportion[1] *used for flexibility of annual budgetary execution*



(1) The values on the horizontal axis indicate the number of times that the execution of expenses via the short term liabilities of committed but unexecuted or unpaid expenditures mechanism represents the execution of the same type of expenses carried out within the year of budgetary authorization.

4.2 Scale of Budgetary Execution Mechanisms and Processes

The preliminary analysis of data collected through a survey revealed evidence of mild multicollinearity and interpretability of the correlation matrix (χ^2 = 683.77; gl = 231, $p < 0.001$ and KMO = 0.712). These results justified the performance of a factorial extraction, which was better understood when considering two factors. This occurred because these two factors explained a greater percentage of the variance in the real data compared to the simulated data within a 95% confidence interval.

A factorial solution with 15 variables showed better interpretative adequacy regarding the latent variables (as shown in Table 3), considering the practical significance criteria (Hair Jr. et al., 2009; Wu & Zumbo, 2017). The presence of extreme multivariate outliers did not result in relevant changes in the results, and, therefore, these cases were kept in the analysis. Thus, the final database contained 128 valid cases, that is, an average of 8.5 cases per variable of interest, which is considered acceptable for generalizing the results (Hair Jr. et al., 2009).

When interpreting the factors, it is important to highlight that variables with higher loads are considered more important and have greater influence on the defined label (Hair Jr. et al.,

2009). In this sense, Factor 1 was named “Budgetary Appropriation Protection” (BAP) and explains 26.8% of the construct. Factor 2 was named “Generalized Apathy” (GA) and explains 20.3% of the construct.

Table 3
Factorial structure of the Mechanisms and Processes of Budgetary Execution[1]

	Items label	BAP		GA		Median	h2
		Load	h2 [2]	Load	h2 [2]		
A2	Higher priority expenses arise	0.16	0.06	**0.53**	**0.94**	7.0	0.29
A4	HR insufficient, low technical quality	-0.04	0.01	**0.44**	**0.99**	7.0	0.20
A7	Uncertain institutional policies	-0.20	0.08	**0.71**	**0.92**	6.0	0.56
A8	Centralized decisions	-0.04	0.01	**0.55**	**0.99**	6.0	0.31
A9	Lack of interest of those involved in the execution of actions	0.00	0.00	**0.66**	**1.00**	6.0	0.44
A11	Fluid or dispersed participation in planning	-0.10	0.05	**0.52**	**0.95**	7.0	0.29
A12	Error in estimating the cost of actions	-0.04	0.01	**0.53**	**0.99**	6.0	0.29
B1	The campus knows the budget amount	**0.59**	**1.00**	0.04	0.00	8.0	0.35
B3	The campus budget has credibility/transparency	**0.50**	**0.67**	-0.34	0.33	8.0	0.38
B6	Need for consensus on resource allocation	0.12	0.06	**0.44**	**0.94**	7.0	0.20
B7	Actions taken correspond to planned actions	**0.63**	**0.81**	-0.29	0.19	8.0	0.50
C5	Effort/commitment not to lose budget credits	**0.48**	**0.77**	0.27	0.23	9.0	0.29
C6	There is a delay in releasing resources	**0.60**	**0.99**	-0.04	0.01	9.0	0.36
C7	Overestimation of items on “free rides” and valid records	**0.80**	**1.00**	0.04	0.00	9.0	0.64
C8	Low criterion (waste) in the last months of the year	0.23	0.14	**0.53**	**0.86**	8.0	0.32
	Number of items (r > 0,4)	6		9			
	% of explained variance	26.859		20.347			
	Composite reliability	0.773		0.795			
	H-latent [3]	0.820		0.830			
	H-observed	0.825		0.843			
	ORION [4]	0.820		0.830			
	FDI [4]	0.906		0.911			

(1) Rotated factorial structure by Weighted Oblimin mode. (2) Commonalities by Pratt’s measure of importance (Wu & Zumbo, 2017). (3) Replicability estimates (Ferrando & Lorenzo-Seva, 2018). (4) Precision indices of factorial scores (Ferrando & Lorenzo-Seva, 2016).

In the “Budgetary Appropriation Protection” dimension, the manager understands that the budget is reliable and transparent. They are aware of the budget amount that will be made available, despite recognizing delays in the transfer of financial concessions. In addition, they realize that the actions taken correspond to what was planned, although there is an overestimation of items in “free rides” and price records, which contributes to the effort to commit budgetary resources and avoid the loss of appropriations.

In the “Generalized Apathy” dimension, decisions are moderately centralized in an environment of uncertainty regarding institutional rules and lack of consensus in decision-making on spending. There is a perception of waste at the end of the year and a lack of interest or withdrawal from those involved in carrying out the actions. Cost estimation errors occur, as well as the emergence of expenses with higher priority throughout the year, reflecting in the insufficiency and the reduced technical quality of human resources, and in the dispersed participation in the planning stages.

The factorial analysis showed adequate adjustment indices (χ^2 = 61.125; gl = 76; p = 0.893; RMSEA = 0.048; CFI = 0.967; TLI = 0.954). As for the levels of internal consistency, the standardized Cronbach's alpha was 0.741, considered acceptable (Hair Jr. et al., 2009), and the Composite Reliability index of the factors was adequate (i.e., above 0.70).

4.3. Scale of Organizational Models

An initial analysis of the observations on the Organizational Models Scale revealed a higher mean frequency of the Political (35.16%) and Social (29.84%) Models, and a lower mean frequency of the Anarchic (22.03%) and Rational Models (12.97%).

In the comparative tests between the construct scales, it was observed that the dimension of "Generalized Apathy" was more associated, on average, with the definitions of Political and Anarchic Models, according to the participants' perception. These effects were significant in relation to the institutional orientation (χ^2 (3) = 14.495; p < 0.001), the institutional action (χ^2 (3) = 20.736; p < 0.001) and the institutional vision (χ^2 (3) = 12.194; p = 0.007). However, no significant differences were found between the models in the individual analysis of each variable in the "Budgetary Appropriation Protection" dimension.

The ordinal variables that evaluated clarity, coherence, regulation and influence on spending decision-making showed a positive correlation with the "Budgetary Appropriation Protection" factor and a negative correlation with the "Generalized Apathy" factor. In addition, the "Generalized Apathy" factor showed a positive correlation with the variable that measured the dispersed participation (according to Table 4).

The latent factors related to the mechanisms and processes of budgetary execution (GA and BCP) did not have a significant effect on the function performed by the civil servant and on the time spent in the position.

Table 4

Non-parametric correlation matrix of collected data

Item	r[1] / *p*	Coherence	Regulation	Participation	Influence	BAP[2]	GA[2]
Clarity	r	0.663	0.341	-0.0503	0.172	0.285	-0.184
	p	0.0000002	0.0000881	0.572	0.0519	0.00114	0.0374
Coherence	r		0.385	-0.122	0.177	0.397	-0.256
	p		0.00000854	0.171	0.0454	0.00000415	0.00365
Regulation	r			0.0434	0.0611	0.195	-0.359
	p			0.626	0.493	0.0275	0.0000349
Dispersed participation	r				0.0133	0.0396	0.374
	p				0.882	0.657	0.0000158
Influence	r					0.356	-0.0327
	p					0.0000422	0.714
PCO[2]	r						-0.119
	p						0.181

(1) r = Spearman correlation coefficient. (2) BAP Dimensions – Budgetary Appropriation Protection, and GA – Generalized Apathy, which consider the factor scores obtained through the exploratory factor analysis.

5 CONCLUSIONS

The case studied revealed dysfunctionalities in spending at the end of the years, especially regarding permanent materials, with concentrations above 90% of the annual spending, and a frequent tendency to make execution more flexible beyond the annual period. These practices are aligned with privileges and waste of public resources, harming the collective interest.

Deviations from principles beyond reasonableness point to contractual failures in budgetary governance and to an asymmetry of information between managers and those managed. The dysfunctionalities of the FI's budget are influenced by the management model and go beyond

opportunistic behaviors, the tendency to procrastination or the simple socially accepted behavior, as indicated in the literature.

The perceived organizational model is characterized by strategic and operational uncertainties based on restrictive incremental planning, which reproduces previous plans and leaves aside the improvement of actions with scarce resources.

In the case studied, discretionary spending budgetary decisions are established through power arrangements, ranging from this to a collegiate decision-making platform. When the means to achieve the goals are diffuse, the model becomes social, seeking consensus. However, the lack of clear goals in decision-making showed a greater political influence on the educational management model.

The main characteristics of the political management model, highlighted in the literature, were found in the FI. Secondary data analysis revealed a diversity of interests and demands, the lack of consistency and shared goals, a top-down budgeting, negotiation and mutual agreement in conflict resolution, and individual and subgroup interactions through the use of mobilized resources. These aspects resulted in the accumulation of commitments at the end of the year. The results also indicate a low institutionalization of budgetary planning, implementation rules and lack of perception of the risks involved in rushed spending.

The FI's management model influenced the emergence of two uncorrelated dimensions in budgetary execution, explaining the variables that impact on the dysfunctionality of expenses. On the one hand, the Budgetary Appropriation Protection dimension explains the variables related to privileged information, receipt of unrestricted appropriations, budgetary transport mechanisms, preparation of proposals and rendering of accounts legitimized by the school community that, in practice, are not confirmed. On the other hand, the Generalized Apathy dimension explains the incompleteness of the planning due to the lack of trust, interest and well-established criteria, associated with the lack of consensus in the allocation of resources and the low criteria in the last months of the year. This duality reveals opposing ideas and perceptions, converging in relation to the defective characteristics of the decision-making model with technology and processes.

Both dimensions, inserted in the decision-making process of the budgetary cycle in the analyzed case, help to explain the contractual imbalances in the application of decentralized public resources to the autonomous entity, and suggest the lack of planning that results in incomplete decisions from the principal-agent point of view, since the goals are ambiguous and sometimes contradictory. These aspects make the process more susceptible to the frustration of plans due to the lack of dialogue concerning the intentionality of expenses.

The results also indicate that centralized spending decisions have weaknesses in their transparency. During the research, no clear rules or procedures were identified to contain rushed spending, which, along with statistical evidence, indicates a culturally accepted practice.

Due to the character of self-management and the predominant organizational culture in spending decision-making, it is necessary to review the more flexible layers of the budgetary institutions of federal agencies. This measure can help to reduce informality and ensure that autonomy is based on clear rules in defining goals and means to achieve them. For future studies, it is suggested that additional research be carried out on the relationship between internally institutionalized rules and the organizational model of entities with autonomy in their budgetary decision-making processes.

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