



# BUDGET EXECUTION IN PUBLIC PROCUREMENT PROCESSES OF GOODS AND SERVICES OF A HIGHER POLYTECHNICAL SCHOOL. CHIMBORAZO, 2023

<sup>1</sup>MSC. RAQUEL VIRGINIA COLCHA ORTIZ, <sup>2</sup>MGS. EDWIN FERNANDO MEJÍA PEÑAFIEL, <sup>3</sup>MSC. HENRY DAVID VÁSCONEZ VÁSCONEZ, <sup>5</sup>MSC. KATHERIN ALEJANDRA CARRERA SILVA, <sup>6</sup>DRA. CECILIA TERESITA DE JESÚS CARBAJAL LLAUCE

<sup>1</sup>Facultad de Administración de Empresas, Docente-Investigador de la Escuela Superior Politécnica de Chimborazo (ESPOCH), Riobamba 060103, Ecuador. <https://orcid.org/0000-0002-3252-9158>  
raquel.colcha@epoch.edu.ec

<sup>2</sup>Facultad de Ciencias, Docente-Investigador de la Escuela Superior Politécnica de Chimborazo (ESPOCH), Riobamba 060103, Ecuador. <https://orcid.org/0000-0001-6888-4621>  
efmejia@epoch.edu.ec

<sup>3</sup>Facultad de Administración de Empresas, Docente-Investigador de la "Escuela Superior Politécnica de Chimborazo (ESPOCH)" Riobamba 060103, Ecuador. <https://orcid.org/0000-0002-5312-693X>  
henryd.vasconez@epoch.edu.ec

<sup>5</sup>Facultad de Administración de Empresas, Docente-Investigador de la Escuela Superior Politécnica de Chimborazo (ESPOCH), Riobamba 060103, Ecuador. <https://orcid.org/0000-0001-6220-3063>  
katherin.carrera@epoch.edu.ec

<sup>6</sup>Docente Tiempo Completo de la Universidad Cesar Vallejo. Piura-Perú.  
<https://orcid.org/0000-0002-1162-8755>  
ceciliacarbal7@gmail.com

**Abstract:** *The development of the research focused on the design of a proposed plan for budget execution with a predictive impact that allows improving the processes of public procurement of goods and services in a Higher Polytechnic School of Chimborazo for the year 2023. Type of basic study and projective with a cross-sectional, non-experimental design, predictive and prospective scope, attending levels of knowledge of less descriptive and explanatory complexity, population of 80 surveyed employees. Budget Execution, Budget Certification and Applicable Regulations with scope at High level, while Obligations and Establishment of commitments with Medium or low levels. The risk factors for the Precontractual phase are the Budget item, Responsibility for execution and the Commitments for payments and, for the Contractual phase, the Budget Directive, Responsibility for execution and the Budget Reform. Global, are risk s of public procurement processes, Responsibility for execution and Budget reform. In this regard, a guide plan for the correct management of internal technical procedures at the Polytechnic School of Chimborazo was presented to ensure public procurement associated with goods and services.*

**Keywords:** *Cost-efficiency analysis, Educational budget, Economic balance, Cost accounting, Education financing.*

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### Introduction

The present research work in product of a doctoral degree thesis, is supported through several previous works, considering different databases; Scopus, Scielo, Redalyc, Dialnet, Ebsco and Latindex 2.0, considering the study variables that allow establishing clear theories, which support their discussion and analysis, in a general and particular way demonstrating that the antecedents serve as a reference for the establishment of new categories related to the field of study, with the purpose of improving each of the pertinent actions for these procedures.

Jiménez et al. (2019) in their research carried out in Spain, mentions that they seek to gradually modernize their public procurement systems, in this research the authors point out that the purpose is to go hand in hand with technological evolution, in order to achieve effectiveness and efficiency in the use of public money and even achieve considerable savings. This research presents several restrictions but also research opportunities for the future, such as acquisitions, since there is not much information; Second the problems that public sector procurement has, since the law that



regulates them must be verified, a practical conclusion of this research is that it determines that there is no solid base that serves as support for acquisitions and requirements in economic terms combining a social value without affecting economic efficiency.

Santos et al. (2020) in their research carried out in Latin American countries, but especially in Central America such as Panama and Costa Rica defines that the administration of the budgets of a state, have an impact with citizen security and efficiency in the administration of public budgets, also point out that in Honduras and Guatemala together with Nicaragua and El Salvador manage public resources in a better way, However, they present problems in their economy, poverty, unemployment and also in security considering that the issue of the allocation and distribution of these public funds should be directed to all sectors with the greatest social impact.

Reyna-Palacios & Benítez-Astudillo (2019) mention that currently, there are several regulations in Ecuador related to public procurement, which determines transparency in transactions, having development tools, which also influence the savings mechanism of a country, according to the link with state planning, allows evidence that planning needs several components; Flexibility, discretion, in order to solve the requirements effectively with availability of resources, related to the Annual Contracting Plan.

Galarza (2019) studied public procurement to determine the principle of equality, which stipulates that equal treatment must be given to all suppliers that apply in a pre-contractual procedure, so article 63 of the LOSNCP, details the specific requirements to participate in this process, the principle of technological validity and public procurement, refers mainly to the public procurement computer portal, where the LOSNCP establishes that all pre-contractual procedures must be in accordance with technological progress, so that the national market must always be considered as the first instance and its capacity to face any type of requirements (Venegas, 2020).

Another research, the one carried out by (Paz, Ayala and Padilla, 2019) analyzed the importance of public procurement from the Covid-19 pandemic are part of the special execution regime, significantly modifying several aspects due to its nature of national emergency, In Ecuador, the management in public procurement is regulated by the Constitution of the Republic, according to resolution number SECOB-DG- 2018-0012, so the analysis can be made that in 2019, the state made several contracts and is managing its resources with the regulations stipulated by law (Presidency, 2019).

Olivo (2020) proposed to recognize that the principle of transparency establishes that all Ecuadorians must know the procedures carried out with contracting entities, thus allowing society to exercise control of this activity continuously, so that the information is visible throughout the process in the public procurement portal, ensuring transparency and impartiality in the processes, in the province of Chimborazo these contracting phases are in accordance with the regulations of the LOSNCP, a transparency mechanism that can be audited by citizens in order that entities can apply and access competitions, under equal conditions (López E. , 2020).

McDermot et al. (2022) of the studied the relationship of the improvement of institutional structures depends on sustainable development, since to reach this goal there are some challenges, financial and specifically the countries in development vis-à-vis development, this research shows what are the key factors for efficiency in institutional structures, identifying actions for future projects, in research, risks and management of funds for the fulfillment of the objectives of a state, corruption is linked to governance in several Latin American countries, failed actions in processes aimed at warning corruption in the concession in public purchases of the state have failed in reference to the execution and expenditure of state funds (Gilbert, 2019).

Medranda-Morales et al. (2020) set themselves the objective of showing different political and social conditions, and at the same time both seek to improve management in the democratic field on issues of citizen participation and public information, technological progress in recent times allows improving the transfer of information and efficiency in communication between citizens and those in charge of managing projects and public funds, applying the Infoparticipa method, the management of state funds are associated with the state's public debt at the time of financing, considering the structure of the state and its financial development (Gálvez Gamero, 2021).

Vaicilla-González et al. (2020b) point out that in their study carried out to the Sectional Governments of Ecuador the budget is identified as a management tool or instrument, determining the application with budgetary certifications that guarantee the existence and economic availability, the objective is to analyze the variables of choice in public procurement and execution when choosing the best bidder (Bermudez Ibargüen et al., 2018) the current situation of universities is seen from various contexts; legal, economic, and management, which when applying an analysis of its content shows us structural problems that affect the budget and its execution related to the economy and financing (Sierra-Sánchez et al., 2020).

Guerrero Alcoser (2021) conducted an investigation to identify that the Municipal GAD of Riobamba has chosen to implement indicators in public procurement according to the reverse auction and electronic catalog, in order to carry out a continuous evaluation of compliance, within a period which will allow much more effective decision-making, in the Municipal GAD of Riobamba you can not talk about an efficient and effective management by results if it is not It has a public procurement system, which guarantees a correct provision of goods, services and the creation of works that must be delivered to the people of Rio de Janeiro, as a response to correct management, and an adequate allocation of resources available to the city (Jaramillo, 2021).



Escobar Bermeo (2019) developed his study on the procedures to be complied with according to the types of public procurement describe the obligations of those involved in each contracting process, as well as the sanctions for not complying with the institutional goals of budget execution, the use of the social accounting model allows the incorporation of purchases made by a state, as a management tool.

Aguirre Ribadeneira (2019) in this study the authors point out that, if analyzed from the perspective of International Trade and the revitalization of the market economy, a negotiation of the threshold that will be used in the process is required, since a low threshold generates greater possibilities to import goods and services, which may require quality and efficiency standards that can not be found in a national and international production allowing development of global trade, the implementation of a reliable state tool will allow to specify a control in the management of public capital, applying a state accounting procedure with principles and methods, to define risks and threats related to political and economic processes (Gostev et al., 2018).

To conclude with the theoretical referential framework, it is important to mention that the execution of the budget is related to public procurement associated with goods and services carried out by a State for this reason Sancho-Gil, (2021) mentions that today there are many questions about several issues related to the management of procurement, constituting as the main basis the mission and vision, as well as the ambition of this institution, the analysis of public procurement results in a growing participation in the economies of the world, in the countries that make up the (OECD) Latin America have an average of 8% contracts, according to this study, so it is relevant to analyze the importance of public procurement as a lever to include economic development (INGP - Inter-American Network of Government Procurement, n.d.) today there are many questions about several issues related to the management of hiring, constituting as the main basis the mission and vision, as well as the ambition of that institution (Sancho-Gil, 2021).

Ulloa Llacza (2022) in his research carried out in San Antonio de Huarochirí Peru, on budget compliance and effectiveness in public management, shows that it is regulating what makes comprehensive budget compliance impossible, considering then that the implementation of a reliable state tool that allows precise control would improve budget execution (Gostev et al., 2018) with an efficient execution in the activities and functions, in order to maximize the living conditions of the population, that is why the importance and level of relationship of compliance with the budget for results is determined (Baca Molina & Ovalle Pfuyo, 2022).

Viscarra (2021) concludes that in Ecuador administrative law, and the public procurement process has presented a constant evolution manifesting really significant changes that have gone from the traditional part, to modernization and updating, it can be determined that one of the axes in public administration, of Ecuador is public procurement at an economic and social level being a tool, in the face of a crisis, as well as the generation of sustainable economy of new ventures (Hernández, 2019)

The theory of Deming or PDCA mentions that it is important to consider the transformation, considering that by fulfilling the budget execution solves the public procurement associated with goods and services taking into account the current panorama followed by the actions that must be taken, the present theory seeks to establish continuous improvement in processes with quality, using statistics as a management indicator, in order to establish the degree of compliance, by using this transformative model having as an impact the fulfillment of the planned and the execution of the planned resources (Zapata et al. 2015), the Deming Cycle proposes Plan, develop, Control and Act, on the actions carried out by a State, in public procurement, when applied, continuous improvement of the compliance of the budget related to public procurement, with several management tools, which are useful for the optimization and effectiveness of resources (Deming Cycle, n.d., p.39; Chóez & Basantes, 2021).

While according to the theory of dependency budget execution has an impact on the underdeveloped countries of Latin America or neoliberal countries since it marks important changes in the world economic crisis, it arises in the 1960s in order to develop projects with theoretical and political needs, to lead an economic development, With social inclusion, this theory of dependency allows us to assess the strengths, weaknesses and limitations of a State's resources for the execution of state resources based on the world economy. (Treacy, 2022) a projection on economic development proposes to reduce dependence on international prices since this depends on the theory of dependency Ecuador embarked on this theory seeking a better positioning in the world economy, based on its state budget, for the expenditure of the most basic needs of the country (Alarcón, 2022).

One of the theories with greater relevance in our research is the economic theory, because it has an impact on public procurement since it stands out for its dominance in the direction of state funds, based on constitutional rigidity with a focus on economic theory, with respect to contracts, process management and negotiation, facing the unforeseen consequences, with not excessive procedural rigidity (Rampa, 2021) the knowledge in this theory allows economic, practical and tactical growth, and progressively explicit theoretical, since it allows founding institutions with knowledge of the economic activity they develop considering, the usury debate; monetary theory; and banking development (Schefold, 2020).

These contemporary political and democratic theories intertwine both the independent variable budget execution with the dependent processes of public procurement, because democracy and its theorization affect aspects such as; (a) political liberalism and mentions the importance of the notions of society, politics, culture and civic friendship; b) the



conception of solidarity and c) post-structuralist pluralism of society, which relates that public policies are based on several theories for their creation, based on the fact that the execution and contracting of goods of a state must be legally and theoretically supported for its application (Kritsch & da Silva, 2022b) within the framework of public policies it is essential to technify and modernize several processes in matters of contracting and execution by the state in a reliable way (Barragán, 2018).

In the same way, the realistic theory refers to the fact that budget execution and public procurement are related to the management carried out by governments, since they resist giving information about the social conditions they are going through, and are related to inequality discrimination accompanied by exploitation, referring to the decision of International Organizations in the direction of the public capital of a state, Based on these theories, governments respond negatively by demanding that they be held accountable for the actions they carry out in the management of public budgets, taking into account that the fulfillment of these activities of a government is not promoted (Koliev & Lebovic, 2022b).

Public procurement means a positive strategic activity, made up of social, technological, environmental, and commercial means which allows the general integration of the needs of the people, most of the efforts that have been made to improve the effects of public procurement become a savings mechanism for companies and suppliers in the country. Public procurement is the backbone to materialize the needs of public institutions, in accordance with current legal regulations, in order to transparent processes, efficiently (Reyna & Benítez, 2019).

The actions and strategies that could be used according to Aréstegui (2019) proposes some strategies or actions of improvement in the procedures of the management of the budget, (a) Appropriate preparation of the Strategic Plan, correct structuring of the annual operating plan, (b) timely formulation of the Institutional Budget considering investment projects in a primary way, (c) train the personnel involved in a continuous and updated way regarding the Budgetary procedures, (d) formulate actions and proposals to achieve their own income since these are reduced in public universities.

There are new methodological tools according to Crespo, Zurita, Palacios & Álvarez (2020) propose to establish methodologies, considering the development of a special examination of the budgetary phases of the universities, thus establishing a tool to evaluate the management in each of its components, since it will be the basis for the construction of improvement actions, that are related to the control and evaluation of the budget cycle, characterized as a management tool in the optimization of financial resources.

In this sense, budget control is the fundamental part in the development and growth in higher education, being a fundamental tool to safeguard the public funds allocated Escobar (2019) in his research concludes that the purpose of this study is to publicize the steps of each procedure to be fulfilled according to the types of public procurement which describe the obligations of those involved in each process of Contracting as well as sanctions for not meeting institutional goals.

In the same way, González & Cruz (2020) according to their theory evaluate the financial and administrative methodology of public procurement in state institutions, they point out that accounting information is the fundamental basis for financially verifying the progress and control of planning, considering these essential processes for workers and officials as controllers, to examine that the public policies of the government, are complied with, that in any of the forms of selection of contracting processes, they must contemplate administrative and financial aspects which are subject to be evaluated or examined applying an audit where accounting and administrative information is of vital importance.

It is important to emphasize that the public procurement process is an indispensable condition in the public administration, because it requires the adoption of a system that proposes an analysis and creation of a program of income, expenses and investments, facilitating permanent control, which in reality should be part of a basic and routine task of any state action. Under this guideline, all purchases of goods and services must be procedures of a careful but agile approach, which is carried out only once by the bidders, with a modality that is compatible with the estimation of the real value of what is desired to acquire (Rizzo, 2019).

In relation to the contracting phases, these are in accordance with the regulations of the LOSNCP, seeking to establish a transparency mechanism that can be audited by citizens, by constantly uploading all the information related to said process, so that entities can apply and access the contests, under equal conditions, complying with all the requirements mandated by law, for this reason until 2020, there have been no lawsuits in the new administration, but it should be noted that the prefecture submitted to the special execution regime, thus changing the procedures that must be followed for contracting, avoiding falling into embezzlement (López E. , 2020).

In order to provide the state with quality goods and services, according to their needs, they are previously planned for the year of management, in order to develop them gradually, which is necessary to prioritize the needs, always seeking the benefit of the community that is under their charge. (Morán, 2020) during the execution of the budget, it may be required to make certain modifications of current expenditure, either by increase, decrease or reprogramming, which require the authorization of the general planning coordination, in addition if these modifications have to do with the increase or decrease to the budget ceiling (Marx, 2020).

As the budget execution is carried out, the financial management must evaluate the application of the control model





within the budget cycle, with the aim of corroborating compliance with the proposal developed for the executing units and at the level of the financial administration unit, (Burbano, 2021) the execution of the budget, depends on the resources to be directed to execute the previously planned projects, giving priority to current expenditure (Maggi, 2019), which is why they must review an Annual Operating Plan, which includes the budget they require, the periodicity and the activities in which they will be invested, since they will be assigned economic, material and human talent resources that must be used in the best way, obtaining quality results (Estrella, 2021).

According to the budget execution, management could be improved and meet the needs of citizens, as long as a good delegation of functions is given to human talent, so that they know how to function effectively in their job and meet quality requirements. (Nosquera, 2020) As the budget execution is carried out, the Financial Directorate must evaluate the application of the control model within the budget cycle, with the aim of corroborating compliance with the proposal developed for the executing units and at the level of the Financial Administration Unit, so that it can determine if an increase in the percentage of budget execution is generated (Burbano, 2021).

The periodicity in the activities to be invested, must be ordered permanently considering the degree of enforceability of these, to obtain quality results (Estrella, 2021) it can be analyzed as an inefficiency in the management of resources by not considering compliance in the established time using these resources efficiently being the responsibility of the highest authority, which is responsible for budget execution (Merino, 2021).

### 1. Methodology

The research is basic, this type of research has an impact on the theoretical framework the same that will determine the practical aspects without contrasting them, it is determined according to the purpose, resulting in basic research, where it is called that it has the following characteristics a) pure, b) theoretical, c) dogmatic (Muntané, 2010).

Projective research since it is related to the elaboration of a plan, model or proposal, in order to solve complications identified by the researcher, this type of research stands out because it determines how things are, how they could be, or how they should be according to the needs of which it is going to be investigated referring to the creation of policies, methods, processes or programs (Mousalli, 2015). According to its approach, quantitative making use of descriptive and inferential statistical techniques (García-González et al., 2020).

In relation to the research design, non-experimental cross-sectional with predictive and prospective scope when analyzing the situation of events to the year 2022 in relation to the study variables, thus achieving the knowledge of estimators of explanatory causal regressor parameters (Hernández, Baptista, & Fernández, 2014). Since, by maintaining budget execution at valuation levels located is high risk of maintaining at that same average level, the processes of public procurement of goods and services for the year 2023.

In this sense, descriptive designs were addressed (Arandes & Antonio, 2013), the scope of compliance with budget execution was diagnosed, as well as the public procurement processes in a critical manner, considering the most representative and fundamental for the formulation of the proposal.

Population: it is a series of data with its own characteristics, as well as specifications of the object of study whether these are a set of people or companies, with equal similarity, which can be measurable. (Carhuancho & Nolasco, 2020) the population includes all those directors and departmental workers, for which a population of 80 people was taken.

Inclusion criteria: Directors and departmental workers belonging to the planning, finance and public procurement departments were taken into account.

Exclusion criteria: directors and departmental workers not belonging to the areas of planning, finance and public procurement.

### 2. Results

The results obtained are presented below.

**Table 1**Diagnosis of the scope of budget implementation

Valuation (%)			
Dimension / Indicator	Low	Middle	High
Applicable regulations	6.25	23.75	70.00
Budgetary Directive	6.25	23.75	70.00
Budget Certification	3.75	22.5	73.75
Budget line	3.75	22.50	73.75
Establishment of Commitments	3.8	37.5	58.75
	3.75	37.50	58.75
Responsibility for execution			
Obligations	1.3	35.0	63.8
Commitments for payments	2.5	33.8	63.8
Receiving purchased goods or services	1.3	42.5	56.3

Modification of the Budget	5.00	31.25	63.75
Budget reform	5.00	31.25	63.75
Budget implementation	2.5	27.5	70.0

Source: Budget Implementation Data Recording Matrix

As shown in Table 1, budget execution for collaborators belonging to the planning, financial and public procurement directorates is at a high level (70%); Meanwhile, 30% place it at medium or low level. Similar description, the dimensions referring to budgetary certification and applicable regulations, approximately 74% and 70% placed it at high levels respectively. On the other hand, obligations (63.8%) and commitment establishments (58.75%) are the least attended processes, when they place it at medium or low levels.

In the opinion of the collaborators are weaknesses, the receipt of goods or services when the personnel in this indicator marked response options, Strongly disagree - disagree or indifferent in statements, such as: The state allows to generate commitments and make budgetary allocations, and There is a control of the follow-up of the commitments established according to the planned schedule for the payments of acquisition or contracting of Goods and / or Services of third parties.

With respect to the commitment for payments indicator, the collaborators emphasized that they strongly disagreed-disagreed or indifferent to the statement: The results of the budget execution of the Annual Investment Plan are monitored and evaluated.

And on responsibility for execution, respondents confirmed that they strongly disagreed-disagreed or indifferent to the statement: The established budget line is fully met for its execution (See table 2).

**Table 2**  
Characteristics of budget implementation at a polytechnic college in Chimborazo

Characteristics	Response options (%)				
	TD	D	I	A	HE
1. The budget proforma is drawn up on the basis of to the activities and projects, defined in the institutional mission.	5.0	3.8	13.8	37.5	40.0
2. The dissemination of institutional budgets was established in accordance with the period determined for enabling access to the Budgets.	3.8	5.0	20.0	41.3	30.0
3. There is verification of adjustments to budget proformas.	2.5	2.5	20.0	37.5	37.5
4. There are regulations for the state budget.	3.8	0.0	18.8	32.5	45.0
5. It is important and necessary to validate the resolution of the approval of the budget.	3.8	0.0	12.5	31.3	52.5
6. Needs are listed through the Budget classifier of revenues and expenditures of the public sector duly validated.	2.5	1.3	21.3	32.5	42.5
7. There is a budget item approved during the annual period.	1.3	1.3	21.3	31.3	45.0
8. Budget lines promote community development	1.3	1.3	23.8	27.5	46.3
9. The entity complies with the execution of expenses established with or without consideration.	1.3	6.3	22.5	40.0	30.0
10. Compared to the established budget line, it is fully fulfilled for its execution.	3.8	3.8	25.0	32.5	35.0
11. The funds that are already fixed in the budget line are fulfilled	1.3	2.5	26.3	27.5	42.5
12. The budgetary funds are committed from the moment the competent authority decides to comply with the expenditure.	1.3	2.5	23.8	26.3	46.3
13. The results of the budget execution of the Annual Plan of investment.	2.5	2.5	21.3	28.8	45.0

14. Payment schedules are organized with Determined periods of time for processes to flow in the requesting units.	0.0	3.8	17.5	43.8	35.0
15. Reporting is complied with implementation budgets.	1.3	3.8	17.5	35.0	42.5
16. Guidelines and resolutions are built for the measurement of physical results and Financial.	1.3	0.0	23.8	42.5	32.5
17. There is a control of the follow-up of the commitments established according to the planned schedule for the payments of acquisition or contracting of Goods and / or Services of third parties.	1.3	2.5	23.8	36.3	36.3
18. The follow-up to the execution is verified third-party budgetary time.	1.3	2.5	23.8	33.8	38.8
19. The verification of the departure under the responsibility of the highest competent authority.	1.3	3.8	25.0	27.5	42.5
20. The state allows to generate commitments and Make budget allocations.	3.8	2.5	27.5	33.8	32.5
21. The budgets executed can be modified being accrued.	6.3	2.5	21.3	33.8	36.3
22. The actual value executed at the end of the financial year is determined in the procurement of goods and services.	2.5	3.8	22.5	33.8	37.5
23. Budgetary reform is possible.	3.8	3.8	16.3	33.8	42.5
24. Es posible hacer reajustes para el cumplimiento de un bien o servicio.	2.5	2.5	16.3	40.0	38.8

**Note:** TA Strongly disagree; D Disagree; I Indifferent; D In agreement; TA Totally Agree

**Source:** Budget Implementation Data Recording Matrix

**Table 3**

Diagnosis of the scope of public procurement processes of goods and services in a polytechnic college of Chimborazo

Dimension / Indicator / Variable	Valuation (%)		
	Low	Middle	High
Public procurement processes for goods and services	2.50	21.25	76.25
Preparatory Phase:	2.50	21.25	76.25
Market Research:	2.5	25.0	72.5
Budget Certifications:	3.75	28.75	67.50
Precontractual phase:	3.75	31.25	65.00
Procurement of Goods and Services:	3.75	31.25	65.00
Contractual Phase:	2.5	32.5	65.0
Execution of contract:	2.5	32.5	65.0

**Source:** Data Recording Matrix on Government Procurement Processes for Goods and Services

Table 3 shows the predominance of the high level, when 76.25% of respondents placed the hiring processes at that level; Meanwhile, about three out of ten categorized it as medium or low. Similar was the location by dimension, however, in an order of highest to lowest priority of attention are considered the pre-contractual phase, followed by the contractual. Best position, but not yet optimal, the preparatory phase.

More than 60% of respondents place the procurement of goods and services in the pre-contractual phase at a high level, but four out of ten placed it between the medium or low levels. Situation observed when three out of ten employees confirm their total disagreement-disagreement or indifference to questions, the contracting processes for goods and



services are clear and transparent on the website, and technological tools fulfill their mission in publicizing the budget items.

Analogous location of the contract execution indicator, when the criteria of seven out of ten workers emphasized being in close agreement-agreement with the proposal: There are delays for the execution of a good or service, or when, three out of ten, responded, totally disagree-disagree or indifferent towards the statement: The action of consideration is executed within the parameters established by the state without delays (see table 4).

**Table 4**

Characterization of the processes of public procurement of goods and services in a polytechnic high school of Chimborazo

Characteristics	Response Options (%)				
	TD	D	I	A	HE
1. A market study is carried out before Request a process of contracting goods and services.	2.5	0.0	18.8	33.8	45.0
2. Research processes are carried out field	2.5	3.8	16.3	40.0	37.5
3. Technical analyses shall be carried out for the Preparation of contracting processes.	1.3	0.0	21.3	42.5	35.0
4. The environment is analyzed in its different areas to establish a real diagnosis of the needs.	3.8	2.5	12.5	40.0	41.3
5. Before the performance of a good and service, It has a starting certification.	1.3	1.3	17.5	35.0	45.0
6. Budgets are budgeted for execution	3.8	3.8	26.3	33.8	32.5
7. The budget lines are duly certified	2.5	1.3	18.8	35.0	42.5
8. Budget certifications are Endorsed by the State.	1.3	1.3	22.5	35.0	40.0
9. Contracting processes or items Budgets are published on the state's website for dissemination.	2.5	1.3	13.8	43.8	38.8
10. The state has technological tools to disseminate contracting Public.	1.3	0.0	22.5	31.3	45.0
11. Technological tools fulfill their Task in publicizing the budget items	2.5	5.0	16.3	36.3	40.0
12. Procurement processes for goods and Services are clear and transparent on the state's website.	2.5	1.3	26.3	31.3	38.8
13. The action for consideration is executed within the parameters established by the Lag-free status.	1.3	5.0	23.8	32.5	37.5
14. The processes of execution of a good or service respect the established times.	1.3	3.8	21.3	36.3	37.5
15. There are delays in the execution of a good or service.	6.3	1.3	22.5	31.3	38.8
16. There are clearly established deadlines for Completion of a good or service.	2.5	1.3	10.0	36.3	50.0

**Source:** Data Recording Matrix on Government Procurement Processes for Goods and Services (Annex 9)

**Note:** TA Strongly disagree; D Disagree; I Indifferent; D In agreement; TA Fully Of Agreement

### 3. Analysis linked to hypotheses

From the analysis of the distribution of direct scores on budget execution and contracting processes (dimensions and indicators) with the Kolmogorov-Smirnov test there is statistical evidence with p values < .05 to confirm that the data of both variables and their respective dimensions and indicators do not follow a Normal distribution (see annex 8), which is why the hypotheses were contrasted with tests related to the Ordinal Logistic regression, in such a way to obtain the estimation of useful parameters for the configuration of the proposal of a budget execution plan to achieve the contracting processes of goods and services for the university under study in Chimborazo, Ecuador for 2023.

### 4. General hypothesis

Hi: The proposal of a theoretical functional model that includes elements of budget execution would explain the



configuration of a proposal to improve the processes of public procurement of goods and services by 2023 in a polytechnic school in Chimborazo.

**Table 5**  
Goodness-of-fit test of the global model

Model	-2 Log Likelihood	Who-Square	df	Itself.
Intercept Only	88,724			
Final	,000	88,724	12	,000

Link function: Logit.

Table 5 shows the analysis of the goodness of fit test of the global model, which has a valuation  $\chi^2 = 88.724 - .000 = 88.724$  with  $p < .05$ , verifying the existence of a global prediction model with the entry of regressor variables that improve the fit significantly than with the constant alone. This confirms the dependence of public procurement processes on goods and services, depending on budget execution.

**Table 6**  
Model Data Adequacy Goodness Fit Test

	Chi-Square	df	Itself.
Pearson	16,134	60	1,000
Deviance	18,666	60	1,000

Link function: Logit.

In Table 6, the values  $\chi^2 = 16,134$  with  $p = 1,000 > .05$  and  $\chi^2 = 18,666$  with  $p = 1,000 > .05$  evidence that characteristic data of budget execution entered to explain the configuration of a functional predictive model response to improve the contracting process associated with goods and services.

**Table 7**  
P Pseudo-R squared of the model

Cox and Snell	,670
Nagelkerke	,937
McFadden	,883

Link function: Logit.

The value of the Nagelkerke coefficient observed in Table 7 confirms the predictive capacity of characteristics of budget execution in 93.7% of the proportion of total variance of the processes related to contracting associated with goods and services. The characteristics identified are:

Responsibility for implementation and budget reform (see table 8).

**Table 8**  
Estimation of parameters of the budget execution model for the contracting processes of goods and services.

95%  
Confidence  
Interval

Estimate

Threshold	[N_TOTALPRO = 2]	-5.149	1.331	14.975	1	0.000	-7.757	-2.541
Location	[N_IND1_CO=2]	-2.389	1.202	3.950	1	0.047	-4.745	-0.033
	[N_IND1_M=2]	-1.808	0.897	4.061	1	0.044	-3.567	-0.050

Link function: Logit.

[N\_TOTALPRO = 2, Medium] Procurement processes for goods and services [= 2, Medium]; [N\_IND1\_CO=2, Medium] Responsibility for implementation [= 2, Medium]; [N\_IND1\_M=2, Medium] Budget reform [= 2, Medium] Std. ErrorWaldSig. Lower Bound Upper Bound



In the results of Table 8, the coefficients of the ordinal logistic regression with respect to the budget execution variable were identified to improve the contracting process associated with goods and services at the Medium level. It was identified as risk factors, responsibility for execution and budget reform. That is, if Responsibility for Implementation and Budget Reform remain at a medium level, it is likely that the variable procurement processes associated with goods and services will present a medium level. Situation statistically verified by the value Wald = 3.950 and  $p = .047 < .05$  and Wald = 4.061 and  $p = .044 < .05$  the null hypothesis is rejected, and it is accepted that Responsibility for Execution and Budget Reform significantly influence the procurement processes of goods and services.

Being the functional predictive model response:

Procurement processes for goods and services [=2, Medium] = - 5,149 - 2,389 Responsibility for implementation [=2, Medium] -1,808 Budget reform [=2, Medium]

Specific hypotheses:

H1: The proposal of a theoretical functional model that includes elements of budget execution would explain the configuration of a proposal to improve the preparatory phase in the processes of public procurement of goods and services by 2023 in a Polytechnic School of Chimborazo.

**Table 9**  
Goodness-of-fit test of the global model.

Model	-2 Log Likelihood	Who-Square	df	Itself.
Intercept Only	96,101			
Final	,000	96,101	12	,000

Link function: Logit.

The goodness-of-fit test of the global model seen in Table 9 the valuation  $\chi^2 = 96.101 - 0.000 = 96.101$  with  $p = .000 < .05$ , verifying with it, the existence of a global prediction model with the entry of regressor variables that improve the fit significantly than only with the constant, which confirms the dependence of the preparatory phase, depending on budget execution.

**Table 10**  
Goodness of fit test of data adequacy to the model

	Chi-Square	df	Itself.
Pearson	8,996	60	1,000
Deviance	11,011	60	1,000

Link function: Logit.

In Table 10, the values  $\chi^2 = 8.996$  with  $p = 1,000 > .05$  and  $\chi^2 = 11,011$  with  $p = 1,000 > .05$  gave statistical evidence that characteristics of budget execution enter to explain the design of a functional predictive model response to improve the preparatory phase in the contracting processes associated with goods and services.

**Table 11**  
P Pseudo-R squared of the model

Cox and Snell	,699
Nagelkerke	,978
McFadden	,956

Link function: Logit.

The value of the Nagelkerke coefficient observed in Table 11, confirms the predictive capacity of characteristics inherent to budget execution in 97.8% of the proportion of total variance of the preparatory phase of the contracting processes by the regression. However, it was not possible to exclusively identify the parameters by ordinal logistic regression due to the exposure of Wald values with  $p > .05$ .



H2: The proposal of a theoretical functional model that includes elements of budget execution would explain the configuration of a proposal to improve the pre-contractual phase in the processes of public procurement of goods and services by 2023 in a Polytechnic School of Chimborazo.

**Table 12**  
Goodness-of-fit test of the global model

Model	-2 Log Likelihood	Chi-Square	df	Itself.
Intercept Only	106,925			
Final	40,026	66,899	12	,000

Link function: Logit.

The analysis of the goodness of fit test of the global model shown in Table 12, the values  $\chi^2 = 106.925 - 40.026 = 66.899$  with  $p = .000 < .05$  verifying with it, the existence of a global prediction model with the entry of regressor variables that improve the fit significantly than with the constant alone, This confirms the dependence of the pre-contractual phase, depending on the budget execution.

**Table 13**  
Goodness of fit test of data adequacy to the model

Chi-Square		df	Itself.
Pearson	30,628	60	,999
Deviance	34,473	60	,997

Link function: Logit.

In Table 13, the goodness-of-fit test of data adequacy to the model shows values  $\chi^2 = 30.628$  with  $p = .999 > .05$  and  $\chi^2 = 34.473$  with  $p = 0.997 >$

,05 gave statistical evidence of the entry of characteristics of budget execution to explain the configuration of a functional predictive model response to improve the pre-contractual phase in the contracting process associated with goods and services.

**Table 14**  
P Pseudo-R squared of the model

Cox and Snell	,567
Nagelkerke	,723
McFadden	,545

Link function: Logit.

The value of the Nagelkerke coefficient observed in Table 14 confirms the predictive capacity of characteristics of budget execution in 72.3% of the proportion of total variance of the pre-contractual phase. The characteristics identified: Budget item, Responsibility for implementation and Commitments for payments.

**Table 15**  
Estimates of parameters of the model consisting of indicators to improve the pre-contractual phase

95% Confidence Interval		Estimate	Std. Error	Forest	df	Itself.	Lower Bound	Upper Bound
Threshold	[N_D2_FPC = 2]	-3.510	0.778	20.361	1	0.000	-5.035	-1.985
Location	[N_IND1_CER=2]	-1.817	0.851	4.560	1	0.033	-3.484	-0.149
	[N_IND1_CO=2]	-1.644	0.802	4.200	1	0.040	-3.216	-0.072
	[N_IND1_P=2]	-1.871	0.778	5.774	1	0.016	-3.396	-0.345

Link function: Logit.

[N\_D2\_FPC = 2, Medium] Pre-contractual phase [= 2, Medium]; [N\_IND1\_CER=2, Medium] Budget line [= 2, Medium]; [N\_IND1\_CO=2, Medium] Responsibility for implementation [= 2, Medium]; [N\_IND1\_P=2, Medium] Commitments for



payments

[= 2, Medium]

In the results of Table 15, the coefficients of ordinal logistic regression with respect to budget execution were identified to improve the pre-contractual phase at the medium level. Risk factors include the budget line, implementation responsibility and payment commitments, indicating that when the three indicators (budget line, implementation responsibility and payment commitments) remain at an average level, the pre-contractual phase is likely to be average, where a budget line with an average level corresponds to a Wald score = 4,560 and  $p = .033 < .05$ ; for execution responsibility with a medium level corresponds to a score of Wald = 4,200 and  $p = .040$ ; and for payment commitments with an average level corresponds to a score of Wald = 5.774 and  $p = .016$ . This would indicate that all three factors significantly influence the pre-contractual phase.

Being the functional predictive model response:

Pre-contractual phase [=2, Medium] = -3,510 - 1,817 Budget item [=2, Medium] -  
1,644 Responsibility for implementation [=2, Medium] -1,871 Payment commitments [=2, Medium]

H3: The proposal of a theoretical functional model that includes elements of budget execution would explain the configuration of a proposal to improve the contractual phase in the processes of public procurement of goods and services by 2023 in a Polytechnic School of Chimborazo.

Table 16  
Goodness-of-fit test of the global model

Model	-2 Log Likelihood	Chi-Square	df	Itself.
Intercept Only	95,465			
Final	38,563	56,902	12	,000

Link function: Logit.

The analysis of the goodness of fit test of the global model shown in Table 16, the valuation  $\chi^2 = 95.465 - 38.563 = 56.902$  with  $p = .000 < .05$ , verifies the existence of a global prediction model with the entry of regressor variables that improve the fit significantly than only with the constant, This confirms the dependence on the contractual phase, depending on the budgetary execution.

Table 17  
Goodness of fit test of data adequacy to the model

	Chi-Square	df	Itself.
Pearson	23,749	60	1,000
Deviance	28,216	60	1,000

Link function: Logit.

In Table 17, the values  $\chi^2 = 23.749$  with  $p = 1.000 > .05$  and  $\chi^2 = 28.216$  with  $p = 1,000 > .05$  gave statistical evidence that characteristic data of budget execution entered to explain the configuration of a functional predictive model response to improve the contractual phase in the contracting process associated with goods and services.

Table 18  
P Pseudo-R squared of the model

Cox and Snell	,509
Nagelkerke	,660
McFadden	,482

Link function: Logit.

The value of the Nagelkerke coefficient observed in Table 18 confirms the predictive capacity of characteristics of budget execution in 66% of the proportion of total variance of the contractual phase. The characteristics identified: Budgetary Directive, Responsibility for Implementation and Budgetary Reform



Table 19

Estimates of parameters of the model formed by indicators to improve the contractual phase

95% Confidence

Interval

		Estimated eStd.				Lower		Upper
		Error	Forest	df	Itself.	Bound	Bound	d
Threshold	[N_D3_FC = 1]	-8.688	1.620	28.754	1	0.000	-11.863	-5.512
	[N_D3_FC = 2]	-3.133	0.689	20.709	1	0.000	-4.483	-1.784
Location	[N_IND1_NOR=1]	-3.569	1.654	4.656	1	0.031	-6.812	-0.327
	[N_IND1_CO=2]	-2.896	0.859	11.369	1	0.001	-4.579	-1.213
	[N_IND1_M=2]	-1.940	0.766	6.418	1	0.011	-3.440	-0.439

Link function: Logit.

[N\_D3\_FC = 1, Low] Contractual phase [= 1, Low]; [N\_D3\_FC = 2, Medium] contractual phase [= 2, medium]; [N\_IND1\_NOR=1, Low] Budgetary Directive [= 1, low]; [N\_IND1\_CO=2, Medium] Responsibility for implementation [= 2, Medium]; [N\_IND1\_M=2, Medium] Budget reform [= 2, Medium]

In the results of Table 19, the coefficients of ordinal logistic regression with respect to budget execution were identified to improve the contractual phase at low or medium level. It is a risk factor, the Budgetary Directive, this indicates that when this indicator remains at a low level of attention, it is likely that the contractual phase presents a low level, in which for Budgetary directive with a low level corresponds to a score of Wald = 4.656 and  $p = .031 < .05$ . Likewise, they are risk factors, Responsibility for execution and Budget reform, this indicates that when these indicators remain at a medium level, it is likely that the contractual phase presents a medium level, in which for Responsibility of execution with an average level corresponds to a score Wald = 11,369 and  $p = .001$ ; and for Budget reform with a medium level corresponds to a score of Wald = 6.418 and  $p = .011$ . This would indicate that all three factors significantly influence the contractual phase.

Being the two functional predictive models response:

Contractual phase [=1, low] = - 8.688 - 3.569 Budgetary Directive [= 1, low]

Contractual Phase [=2, Medium] = - 3.133 - 2.896 Responsibility for execution [=2, Medium] --1,940 Budget reform [=2, Medium]

## 5. DISCUSSION

The independent variable as shown in Table 1, the budget execution for collaborators belonging to the planning, financial and public procurement directorates is at a high level (70%); Meanwhile, 30% place it at medium or low level. Similar description, the dimensions referring to budgetary certification and applicable regulations, approximately 74% and 70% placed it at high levels respectively. On the other hand, obligations (63.8%) and commitment establishments (58.75%) are the least attended processes, when they place it at medium or low levels.

In the opinion of the collaborators are weaknesses, the receipt of goods or services when the personnel in this indicator marked response options, Strongly disagree - disagree or indifferent in statements, such as: The state allows to generate commitments and make budgetary allocations, and There is a control of the follow-up of the commitments established according to the planned schedule for the payments of acquisition or contracting of Goods and / or Services of third parties.

With respect to the commitment for payments indicator, the collaborators emphasized that they strongly disagreed-disagreed or indifferent to the statement: The results of the budget execution of the Annual Investment Plan are monitored and evaluated.

And on responsibility for execution, respondents confirmed that they strongly disagreed-disagreed or indifferent to the statement: The established budget line is fully met for its execution (See table 2).

On the other hand, the dimension of the Obligations and its indicator of commitments for payments and receiving goods or services purchased shows that according to its characteristics the execution of the budget requires an evaluation of its effectiveness, security, cost - benefit, feasibility and the impact of the budget, an economic valuation tries to contribute to sustainability and liquidity, at the time of knowing the financing of public resources, The soundness and power of the analysis of an economic evaluation must be considered. (Valcárcel Nazco et al., 2021) this occurs in times of a reduction in public funds, in relation to financial models considering innovating financial mechanisms in order to be able to comply with the expenditure of established and planned public funds. (Watts, 2018)

In reference to the dependent variable, Table 3 shows the predominance of the high level, when 76.25% of respondents placed the contracting processes at that level; Meanwhile, about three out of ten categorized it as medium or low. Similar





was the location by dimension, however, in an order of highest to lowest priority of attention are considered the pre-contractual phase, followed by the contractual. Best position, but not yet optimal, the preparatory phase.

More than 60% of respondents place the procurement of goods and services in the pre-contractual phase at a high level, but four out of ten placed it between the medium or low levels. Situation observed when three out of ten employees confirm their total disagreement-disagreement or indifference to questions, the contracting processes for goods and services are clear and transparent on the website, and technological tools fulfill their mission in publicizing the budget items.

Analogous location of the contract execution indicator, when the criteria of seven out of ten workers accentuated being in close agreement-agreement with the proposal: There are delays for the execution of a good or service, or when, three out of ten, responded, totally disagree-disagree or indifferent towards the statement: The action of consideration is executed within the parameters established by the state without delays (see table 4).

From the analysis of the distribution of direct scores on budget execution and contracting processes (dimensions and indicators) with the Kolmogorov-Smirnov test there is statistical evidence with  $p$  values  $< .05$  to confirm that the data of both variables and their respective dimensions and indicators do not follow a Normal distribution (see annex 8), which is why the hypotheses were contrasted with tests related to the Ordinal Logistic regression, in such a way to obtain the estimation of useful parameters for the configuration of the proposal of a budget execution plan to achieve the contracting processes of goods and services for the university under study in Chimborazo, Ecuador for 2023.

In the same way, the results obtained in the independent and dependent variables were analyzed using ordinal logistic regression, with this tool it was possible to predict the design of the proposal for a Polytechnic High School, Chimborazo. These consequences also agree with the study carried out by (Reinoso & Pincay, 2020) who analyzed the fulfillment of budget execution in public institutions, mentioning that it is important to achieve goals aimed at efficient and effective budget management, based on the legal framework of the National Public Finance System, as well as the rules established in the COOTAD, considering strengthening budget planning and programming. González et al., (2020) designed a plan to improve public procurement processes to improve transparency and effectiveness in budget execution and control.

Supply and service contracts represent a very important milestone, in the European contractual part in terms of consumption of goods, that is why an analysis must be carried out for the application of legal instruments for the fulfillment of these contractual phases. (Carvalho, 2020) as well as the lack of conformity in the contracts of sale, contained in the legal framework, I examine the deadlines determined for this purpose, in case there are some defects that are only observed after the delivery of these goods, the purpose of this study is to evaluate a legal approach applicable to said compliance deadlines. (Gsell & Araldi, 2020).

Regarding the budget execution to improve the contractual phase at a low or medium level. The Budgetary Directive is a risk factor, indicating that when this indicator remains at a low level of attention, the contractual phase is likely to present a low level, at which for directive.

Budget with a low level corresponds to a score of Wald = 4.656 and  $p = .031 < .05$ . Likewise, they are risk factors, Responsibility for execution and Budget reform, this indicates that when these indicators remain at a medium level, it is likely that the contractual phase presents a medium level, in which for Responsibility of execution with an average level corresponds to a score Wald = 11,369 and  $p = .001$ ; and for Budget reform with a medium level corresponds to a score of Wald = 6.418 and  $p = .011$ . This would indicate that all three factors significantly influence the contractual phase.

Being the two functional predictive models response:

Contractual phase [=1, low] = - 8.688 - 3.569 Budgetary Directive [= 1, low]

Contractual Phase [=2, Medium] = - 3.133 - 2.896 Responsibility for execution [=2, Medium] --1,940 Budget reform [=2, Medium]

Public institutions such as decentralized autonomous governments perform administrative functions for management, where they clearly state that for the performance of the budget evaluation they use indicators to know whether or not the execution and expenditure of the budget is fully complied with, using as a main tool the citizen's perception of these processes. (Anchundia & Vaca, 2019) In addition, with respect to internal control over the execution of the budget (Saavedra & Bardales, 2020) they point out that it is an essential tool that demands responsibility and competences with the components of a State, as well as they talk about the integration of competences in financial administration, an integrated system for the disposition and use of public resources with efficiency and effectiveness, of the resource assigned by the state (Saavedra & Bardales, 2020).

The present theory evaluates the financial and administrative methodology of public procurement in state institutions in Venezuela. They point out that accounting information is the fundamental basis for financially verifying the progress and control of planning, issuance of budget items; responsibility for execution; Along with the payment commitments considered these essential processes for workers and officials as controllers, to examine that the public policies of the government, are fulfilled, that in any of the forms of selection of contracting processes, they must contemplate administrative and financial aspects which are subject to be evaluated or examined. (González & Cruz, 2020).



This problem is supported by the studies of the following author (Chávez, 2019) in which he refers to the execution of the budget is seen as a management tool, mentioning that budgetary resources do not materialize their execution, in this sense it arises to propose a new budget model such as the budget for results, articulating product and result with significant changes in the budget. For example, to make a change in budget management (Azuaje Pirela, 2020) highlights that as a fundamental element is the planning and analysis of the funds or resources available, since these are the domain of a state.

In the administrative theory or evaluation of risks in Ecuador they mention that budget execution is related to contracting processes, systematically the identification of risks will optimize resources, considering the responsibility of execution taking into account the modification of the budget, purchases or acquisitions that are made with these procedures are exposed to several risks, By not being channeled correctly there will be problems in compliance with contracting regulations affecting the terms of contracting in the term, cost and quality of the goods and services requested for this reason the occurrence of these risks is something unpredictable by both parties, being of vital importance the management and identification of the risks where it should be present from the planning, termination and settlement of contracts until the fulfillment of the guarantees. (Hernández & Montes, 2019).

As can be seen in the evolution of the decade, the values allocated to public procurement have been progressive considering the representation it has had on the General State Budget, distinguishing the year 2020 as atypical; and a downward trend in hiring amounts. On the other hand, it is interesting to analyze the number of processes, amount awarded and percentage of participation for each of the procedures of both the common and special regime of Ecuador. In the case of the common regime, the electronic reverse auction and the electronic catalog are those that accumulate a greater number instead, the main processes are and social communication (Gudiño, 2022).

In reference to the applicable regulations (Mejías Alonzo, 2018) it specifies that compliance with policies, and legal norms in reference to public spending is important considering general principles mandated by the Political Constitution of the Republic linked to the legal norms of a State, while for (García, 2021) indicates that there is "opacity in the management of the public budget and its consequences in the worsening of the economic and humanitarian crisis that it is currently going through" a country creating uncertainty about the economic figures that the national government manages considering the values of a country's GDP for spending and public resources.

Likewise, for Garrido et al., (2018) the legal aspects are not deterministic of the development of participatory budgeting, if the political will of the mayor and the active role of civil society through its organizations predominate. The budget is under the responsibility of its application and execution, noting that there is a direct relationship in the process and the people in charge (Ruiz Almendral, 2018).

In the same way, the results of Table 8 identified the coefficients of the ordinal logistic regression with respect to the variable budget execution to improve the contracting process associated with goods and services at the Medium level. It was identified as risk factors, responsibility for execution and budget reform. That is, if Responsibility for Implementation and Budget Reform remain at a medium level, it is likely that the variable procurement processes associated with goods and services will present a medium level. Situation statistically verified by the value Wald = 3.950 and  $p = .047 < .05$  and Wald = 4.061 and  $p = .044 < .05$  the null hypothesis is rejected, and it is accepted that Responsibility for implementation and budget reform significantly influence the procurement processes for goods and services.

Being the functional predictive model response: Procurement processes of goods and services [=2, Medium] = - 5.149 - 2.389 Responsibility for execution [=2, Medium] -1.808 Budget reform [=2, Medium]

On the other hand, Sierra Gómez & Villegas Ríos, (2022) indicate that, due to the high demand for public procurement and contracts with the state, compliance in these processes is hindered, so the budgets that configure them and support contracting must be known. One of the reasons for having an established budget is to ensure according to (Ramírez Muñoz, 2019) the funds destined for purchases according to the fiscal year of the public function, reflecting a due and necessary motivation in the decisions, with respect to the budget, obeying factual and legal circumstances in the fulfillment of the same.

In the establishment of commitments on the budget (Peñaloza-Vassallo et al., 2017) it seeks to provide reliable information about the consistency in the planning and design of the plan for the expenditure of public resources and the advances in the implementation of public processes, in order to improve its management and make budgetary decisions, establishing as a final part a matrix of commitments that must be fulfilled according to the planned for the execution and expenditure of the budget, which constitutes the means by which improvements are materialized and incorporated, with a view to optimizing their results.

With respect to the obligations established in the budget (Anibal Santana, 2021) emphasizes the analysis of the transcendence of the public budget as an instrument for coherent decision-making in planning, because they are input for the budgetary management of public entities, this reduces the continuous budgetary modifications, monitoring and controlling their management making use of performance indicators. Agurto et al., (2021) also conclude that citizen participation in the budget defines a degree of responsibility in the transparency and management of public funds by State officials.

In the modification of the budget (Moreno, 2022) indicates that it is important to consider what is the importance that is



modified taking into account that this is based on the initial planning, analyzing to provision these modifications, which is a fundamental aspect that when making these modifications are a problem in the timely compliance with the budget. Therefore, it points out (Andara Suárez et al., 2022) that compliance with these procedures is related to the financial dynamics of States, which submit their government action to the planning and availability of resources, analyzing the importance of the public budget referring to the fulfillment of social rights such as housing, health and education, guaranteeing decent living conditions based on the role of public administration.

## 6. Conclusion

What has been shown in this research allows us to establish the following conclusions:

The scope of budget execution is based on the different theoretical notions, in this way the dimensions established as, Applicable regulations, Budget certification, Establishment of commitments, Obligations, Budget modification are related to assess the strengths, weaknesses and limitations of resources, the results obtained show that the execution of the budget for collaborators belonging to the planning directions, financial and public procurement is at a high level (70%); Meanwhile, 30% place it at medium or low level. Similar description, the dimensions referring to budgetary certification and applicable regulations, approximately 74% and 70% placed it at high levels respectively.

On the other hand, obligations (63.8%) and commitment establishments (58.75%) were valued with medium or low levels, which indicates that it is important to diagnose the scope of budget execution, to know deficiencies to be addressed in the configuration of the proposal.

The processes related to public procurement associated with goods and services show several questions, which is why it is important to note that the dimensions established as the preparatory phase, pre-contractual phase and contractual phase show the predominance of the high level, when 76.25% of respondents placed the procurement processes at that level; Meanwhile, about three out of ten categorized it as medium or low. Similar was the location by dimension, however, in an order of highest to lowest priority of attention are considered the pre-contractual phase, followed by the contractual. Better position, but not yet optimal, the preparatory phase, which makes it necessary to verify what is the scope of compliance in the processes of public procurement of goods and services that allows to know deficiencies to be addressed in the configuration of the proposal, this has a lot of relevance according to the economic theoretical, because it has an impact, due to its influence on the management of state resources, Based on constitutional rigidity with a theory approach

economic, with respect to contracts, that is why according to the characteristics that this variable presented, the pre-contractual and contractual phases, have problems to be able to comply 100% with what was planned for the fiscal year. After verifying the influence of the analysis of the distribution of direct scores on budget execution and contracting processes (dimensions and indicators) with the Kolmogorov-Smirnov test, there is statistical evidence with p values < .05 to confirm that the data of both variables and their respective dimensions and indicators do not follow a Normal distribution, which is why the hypotheses were contrasted with tests related to the Ordinal Logistic regression, in such a way to obtain the estimation of useful parameters for the configuration of the proposal of a budget execution plan to achieve the processes related to contracting associated with goods and services for the university under study in Chimborazo, Ecuador for 2023.

With regard to the need to propose a theoretical functional model that fits the needs, the Nagelkerke pseudo R-squared coefficient (0.937) confirms that Responsibility for execution and Budget reform are regressor variables of the model and predict the value of the variance explained by 93.7%.

The theoretical functional model expressed by the ordinal Logistics Regression was: Procurement processes for goods and services [=2, Medium] = - 5,149 - 2,389 Responsibility for implementation [=2, Medium] -1,808 Budget reform [=2, Medium] with respect to Pre-contractual phase [=2, Medium] = -3,510 - 1,817 Budget item [=2, Medium] -1,644 Responsibility for implementation [=2, Medium] -1,871 Payment commitments [=2, Medium] + Contractual phase [=1, Low] = - 8,688 - 3,569 Budget Directive [= 1, Low] Contractual phase [=2, Medium] = - 3,133 - 2,896 Responsibility for implementation [=2, Medium] --1,940 Budget reform [=2, Medium] So the design of the plan for budget execution focused on criteria of Responsibility for execution and Budget reform, pre-contractual phase, contractual phase.

The development of the proposal confirms the need to outline a plan for budget execution with predictive impact to improve the processes related to public procurement associated with goods and services, therefore the degree of compliance and effectiveness of public resources, considering that it contains strategies on the, Responsibility for execution, Budget reform, Obligations and establishments of commitments in the same way the pre-contractual phase and contractual phase since these are less attended, these being structural procedures for the institution in the academy, research, linkage and management.

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