



## Quality of public expenditure and educational budget management in Cajamarca, Perú

Calidad del gasto público y la gestión educativa del presupuesto en Cajamarca, Perú

Qualidade do gasto público e a gestão educacional do orçamento em Cajamarca, Perú

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### Abstract

**Introduction:** Evaluating budget execution is essential to ensure efficient management of public resources and improve educational quality in the Cajamarca region. **Objective:** To analyze the quality of public spending and educational budget management in Cajamarca, Peru. **Methodology:** A quantitative, descriptive approach was applied, with a non-experimental, cross-sectional design. The sample included 105 workers from the technical teams of the budget programs. A validated questionnaire was used as the data collection technique. The analysis was performed using SPSS v27 and Excel. **Results:** Sixty percent of workers are between 26 and 36 years old, and 87.62% are under the Contratación Administrativa de Servicios (CAS, Administrative Service Contract) regime. Only 31.3% consider the budget sufficient to carry out planned activities, and 34.9% perceive monitoring as almost adequate. **Discussion:** The findings reveal weaknesses in budget programming, allocation, and monitoring, coinciding with studies that show the limited efficiency of Results-Based Budgeting (RBB) in regions with low management capacity. **Conclusions:** Budget planning needs to be strengthened, monitoring mechanisms improved, and technical staff trained to achieve more efficient spending and higher quality education in Cajamarca.

**Key words:** public administration; education quality; program evaluation; budget management; public resources.

**JEL:** H52; H61; I22; H72; I28.

## Resumen

**Introducción:** La evaluación de la ejecución presupuestal es fundamental para garantizar una gestión eficiente de los recursos públicos y mejorar la calidad educativa en la región de Cajamarca. **Objetivo:** Analizar la calidad del gasto público y la gestión educativa del presupuesto en Cajamarca, Perú. **Metodología:** Se aplicó un enfoque cuantitativo, de tipo descriptivo, con diseño no experimental y de corte transversal. La muestra incluyó a 105 trabajadores de los equipos técnicos de los programas presupuestales. Se utilizó la encuesta como técnica de recolección mediante un cuestionario validado. El análisis se realizó con SPSS v27 y Excel. **Resultados:** El 60% de los trabajadores tiene entre 26 y 36 años, y el 87,62% se encuentra bajo el régimen de Contratación Administrativa de Servicios (CAS). Solo el 31,3% considera suficiente el presupuesto para ejecutar las actividades planificadas y el 34,9% percibe el monitoreo como casi siempre adecuado. **Discusión:** Los hallazgos revelan debilidades en la programación, asignación y seguimiento presupuestario, coincidiendo con estudios que evidencian la limitada eficiencia del Presupuesto por Resultados (PpR) en regiones con baja capacidad de gestión. **Conclusiones:** Se requiere fortalecer la planificación presupuestaria, mejorar los mecanismos de monitoreo y capacitar al personal técnico para lograr una ejecución más eficiente del gasto y una educación de mayor calidad en Cajamarca.

**Palabras clave:** administración pública; calidad educativa; evaluación de programas; gestión presupuestaria; recursos públicos.

**JEL:** H52; H61; I22; H72; I28.

## Resumo

**Introdução:** A avaliação da execução orçamental é fundamental para garantir uma gestão eficiente dos recursos públicos e melhorar a qualidade da educação na região de Cajamarca. **Objetivo:** Analisar a qualidade dos gastos públicos e a gestão orçamental da educação em Cajamarca, Peru. **Metodologia:** Foi aplicada uma abordagem quantitativa, descritiva, com desenho não experimental e transversal. A amostra incluiu 105 funcionários das equipas técnicas dos programas orçamentais. Utilizou-se a pesquisa como técnica de recolha de dados por meio de um questionário validado. A análise foi realizada com o SPSS v27 e o Excel. **Resultados:** 60% dos trabalhadores têm entre 26 e 36 anos, e 87,62% estão sob o regime de Contratação Administrativa de Serviços (CAS). Apenas 31,3% consideram o orçamento suficiente para executar as atividades planeadas e 34,9% consideram o monitoramento quase sempre adequado. **Discussão:** Os resultados revelam fraquezas na programação, alocação e acompanhamento orçamental, coincidindo com estudos que evidenciam a eficiência limitada do Orçamento por Resultados (PPR) em regiões com baixa capacidade de gestão. **Conclusões:** É necessário fortalecer o planeamento orçamental, melhorar os mecanismos de monitorização e capacitar o pessoal técnico para alcançar uma execução mais eficiente das despesas e uma educação de maior qualidade em Cajamarca.

**Palavras-chave:** administração pública; qualidade educacional; avaliação de programas; gestão orçamentária; recursos públicos.

**JEL:** H52; H61; I22; H72; I28.

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## Introduction

The quality of public spending in the education sector is one of the main challenges on the international agenda, linked to sustainable development goal 4, which aims to ensure inclusive, equitable and quality education (Donoso et al., 2021). Globally issues such as insufficient resource allocation, poor educational infrastructure, lack of materials, and low teacher salaries persist, limiting the ability of education systems to achieve adequate quality standards (Alcázar & Valdivia, 2011). This problem is most critical in low-and middle-income countries, where dependence on external financing and the absence of strategic planning exacerbate budgetary difficulties (Dutra, et al., 2022).

Even in contexts where resources are relatively sufficient, implementation faces structural constraints such as lack of transparency, corruption, and low technical capacity of public institutions, leading to under-execution, inefficient resource allocation, and limited prioritization of needs (Ibarra, 2021; Quispealaya et al., 2014). These deficiencies widen the educational gaps between rural and urban areas and between different socioeconomic groups.

Global crises have also highlighted these weaknesses. During the COVID-19 pandemic, many countries had to restructure their budgets, prioritizing the health sector and relegating education, which led to delays in infrastructure, suspension of educational programs, and higher school dropout rates (Alvarado & Muñoz, 2010; Idehpucp Anti-Corruption Team, 2021; Jara & Mesinas, 2023). This scenario demonstrates that budget execution in education not only affects school systems but also conditions the social and economic development of nations (Navarra et al., 2018; Ramírez & López, 2021).

Specialized literature highlights that budget execution is a critical process in public administration, because it enables the evaluation of efficiency and effectiveness in the use of resources to fulfill institutional objectives (Vargas & Zavaleta, 2020). In the education sector, this process is essential due to its direct impact on the quality of educational services and in the

implementation of social and economic development policies (Dávila & Sánchez, 2021).

Likewise, recent research had addressed the analysis of return of investment (ROI) in the financing of educational projects, highlighting the difficulty of measuring intangible and long-term impacts despite the positive relationship between funding and research output (Ahmad et al., 2024; Curcio & Valdebenito, 2023; Mendoza, 2023). Other studies have highlighted the importance of developing key competencies in the context of industry 4.0, such as critical thinking, creativity, and emotional intelligence, in close relation to higher education policies (Mohamad & Mohamad, 2024). Similarly, research in multicultural education has been growing, especially in the United States, and has identified the need for models based on culturally responsive models (Izquierdo, 2021; National Council of Education, 2022; Sumargono et al., 2024).

In Peru, the education budget has experienced a steady increase. In 2022, 53,801,770 million Peruvian soles were allocated across nine budget categories, reaching an execution rate of 98.3% by the end of the fiscal year. In 2021, 50,685,030 million Peruvian soles were allocated to ten categories, with an execution rate of 98.2% (Castañeda, 2017; Ministerio de Economía y Finanzas del Perú [MEF], 2023). However, the situation varies significantly across regions: while departments such as Apurímac (91%), Tacna (88%), and Loreto (87%) achieved high execution rates, others, such as Tumbes (48%), Áncash (45%), Cajamarca (41%), and Huánuco (32%) ranked the lowest (ProActivo, 2023).

The Cajamarca region shows a significant gap in budget management capabilities. The Regional Education Directorate (Dirección Regional de Educación de Cajamarca, DREC) and its 13 local education management units (UGELs) play a key role in resource management, but their limited capacity to implement reflects both institutional weaknesses and the difficulty of translating spending into improved learning outcomes. Unit 300-781, which reports to the Regional Government of Cajamarca (Gobierno regional de Cajamarca), is the only education authority in the region aiming to ensure quality services within a community management model framework, coordinating efforts with teachers, administrators, and local communities (Dirección Regional de Educación de Cajamarca, 2023).

In light of this situation, there is a need to examine how the implementation of budgetary programs impacts the quality of educational management in Cajamarca. Therefore,

the central question of this study is: What is the impact of budget implementation on the quality of educational management in the Cajamarca region during the period from 2019 to 2022?

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## Methodology

This research is classified as applied, given that it aims to apply scientific knowledge to address a specific problem related to the quality of public spending and educational management in the Cajamarca region. A quantitative approach was employed, as the data are presented in numerical terms enabling statistical analysis of the study variables. It is also classified as a descriptive study, as it aims to detail the characteristics and behavior of the variables, and a non-experimental design, as the variables were not deliberately manipulated but analyzed in their natural context. The time horizon was cross-sectional, as the information was collected at a single point in time (Hernández & Mendoza, 2018).

The population comprised a total of  $N = 105$  workers who form the technical teams of the budget programs of the Pedagogical Management Directorate of the Regional Education Directorate of Cajamarca (DREC). These are personnel with Administrative Service Contracts (CAS), trained in the use and management of the resources allocated annually to the institution. In this case, the sample was census-type, as it covered the entire population, i.e., the 105 workers who make up the sample universe, and was a random probability sample.

In terms of data collection techniques, a survey was employed, understood as a structured set of questions formulated based on the indicators of the study variables, with the purpose of obtaining information in a uniform and systematic manner (Ruíz & Valenzuela, 2022).

The instrument employed was a questionnaire, designed based on the dimensions and indicators of the investigated variables. According to Hernández and Mendoza (2018), a questionnaire is a tool composed of items that aim to objectively measure the constructs defined in the research. To ensure its content validity, the instrument was submitted for evaluation by three field experts, who reviewed the relevance, consistency, and clarity of each item. Subsequently, a pilot test was conducted to identify possible adjustments before its final application.

The reliability of the questionnaire was assessed using Cronbach's alpha coefficient, resulting in an acceptable value for the research. This procedure ensured that the items consistently measured the proposed dimensions. Informed consent was obtained from the participants as well as formal authorization from the institution under study, ensuring the ethical standards of the research and the confidentiality of the information, the use of which was restricted exclusively to academic purposes.

For data processing and analysis, a database was created using SPSS version 27 software and Microsoft Excel spreadsheets were employed. Descriptive statistical techniques, such as absolute and relative frequencies, and cross-tabulation to explore associations between variables, were applied. The results are presented in tables, facilitating their interpretation and enhancing the visualization of the information collected.

In summary, the methodology adopted was aimed at guaranteeing the scientific rigor of the study, combining clarity in design with the validity and reliability of the instruments employed, to obtain valid and consistent information regarding the relationship between the execution of budget programs and educational management in the Cajamarca region.

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## Results

The instruments were used by administrative workers at the Regional Education Directorate who are engaged in budget programs, providing data such as their general characteristics.

### Age of contributors

Table 1 shows the distribution of responses to a questionnaire according to age groups. It can be seen that the majority of respondents are between 26 and 36 years old, representing 60 % of the total (63 responses). They are followed by respondents aged 37 to 47 with 22.8% (24 responses) and those aged 48 to 58 with 9.5% (10 responses). Those under 25 represent only 4.8% (5 responses), while those over 59 constitute the smallest group with 2.9 (3 responses). In total, 105 responses were counted equivalent to 100% of the sample.

**Table 1**

*Age of workers at the Regional Education Directorate of Cajamarca, 2019-2022*

Items	Total respondents	Percentage
Under 25	5	4.8%
From 26 to 36	63	60%
From 37 to 47	24	22.9%
From 48 to 58	10	9.5%
Over 59	3	2.9%
	105	100%

*Source:* Questionnaire for staff at the Regional Education Directorate of Cajamarca.

### Employment regime

Table 2 shows the distribution of workers according to their employment regime. It can be seen that the majority of employees (92 people, equivalent to 87.62%) are covered by Legislative Decree 1057 (CAS). In contrast, only 13 workers (12.38%) belong to the administrative regime of Legislative Decree 276. In total, there are 105 workers, representing 100% of the sample. This indicates a significant predominance of the CAS regime in the population analyzed.

**Table 2**

*Employment regime for workers at the Cajamarca Regional Education, 2019-2022*

Items	Employment regime	
	N°	Percentage
CAS - D. Legislative 1057	92	87.62%
Administrative - D. Legislative 276	13	12.38%
Total	105	100%

*Source:* Questionnaire administered to staff at the Cajamarca Regional Education Directorate.

## Budget and implementation

Table 3 shows that the revenue collected during the study period by the Cajamarca Regional Revenue Directorate (DREC) in 2020 amounted to 605,054 Peruvian soles, while 2019 was the year with the lowest revenue, at 129,696 Peruvian soles.

**Table 3**

*Budget and revenue execution in the Regional Education Directorate of Cajamarca, 2019-2022.*

Year	Budget category		
	PIA (Initial Budget Opening)	PIM (Modified Initial Budget)	Collected
2019	4,414,353	199,979	129,696
2020	152,500	531,966	605,054
2021	63,646	215,489	386,677
2022	17,548	124,244	146,600
Total	4,648,047	1,071,678	1,268,027

*Source:* Obtained from the Friendly Consultation of the Ministry of Economy and Finance of Peru (2023).

Table 4 reflects perceptions of budgetary resource planning in a public entity. It shows that 24.8% of respondents believe that resource planning is always implemented, while 22.9% believe that it is almost always adequate. Twenty-one-point nine percent rate it as moderate (sometimes); in addition, 16.2% and 15.2% consider that it is never or almost never met, respectively. In particular, the highest approval rating is found in resource planning according to the nature of the objectives, with 34.3% indicating that this criterion is always respected. However, the management of budget programs by the public entity is perceived less favorably, as only 8.6% rate it as always efficient. These results suggest that, although there is a positive trend in resource planning, there are areas for improvement in its implementation and management.



**Table 4**

*Resource programming in budget management programs at the Regional Education Directorate of Cajamarca.*

Questions	Total respondents	Rating									
		Never		Almost never		Sometimes		Almost always		Always	
		n	%	n	%	n	%	n	%	n	%
The budgetary resource planning is oriented toward goods and services benefiting the targeted student population.	105	15	14.3%	17	16.2%	19	18.1%	22	21%	32	30.5%
The public entity manages the implementation of budgetary programs.	105	22	21%	18	17.1%	33	31.4%	23	21.9%	9	8.6%
The budgetary programs allocate their resources according to the nature of their objectives.	105	14	13.3%	12	11.4%	15	14.3%	28	26.7%	36	34.3%
Overall resource planning	105	17	16.2%	16	15.2%	23	21.9%	24	22.9%	26	24.8%

*Source:* Questionnaire administered to the staff of the Cajamarca Regional Education Directorate.

Table 5 shows perceptions regarding budget allocation in the execution of budgetary programs. It can be observed that 28.6% of respondents indicate that resources are almost always allocated adequately. However, 20% believe that it is almost never sufficient, and 14.3% say that adequate resources are never available. It is noteworthy that 34.3% of respondents mention that the budget allocation is not sufficient to execute activities of the program, while only 14.3% believe that the necessary funds are always available. In contrast, compliance with allocations according to multi-year programming is perceived more positively, with 40% stating that it is almost always or always respected. On the other hand, the supplement or addition of resources by the public entity receives mixed reviews, with 35.2% indicating that it sometimes occurs and 25.7% stating that it almost always occurs. These results reflect that, although efforts are being made in the allocation and management of resources, challenges remain in terms of their sufficiency and effective compliance.

**Table 5**

*Budget allocation in the budget management programs of the Regional Education Directorate of Cajamarca.*

Questions	Total respondents	Rating									
		Never		Almost never		Sometimes		Almost always		Always	
		n	%	n	%	n	%	n	%	n	%
The budget allocation is sufficient to execute the activities of the budgetary program.	105	18	17.1%	36	34.3%	20	19%	16	15.2%	15	14.3%
Budget allocations are fulfilled in accordance with the multi-year programming that is carried out.	105	16	15.2%	14	13.3%	33	31.4%	21	20%	21	20%
The public entity supplements or adds resources to the budgetary program for the execution of activities during the fiscal year.	105	11	10.5%	12	11.4%	37	35.2%	27	25.7%	18	17.1%
Budget allocation	105	15	14.3%	21	20%	30	28.6%	21	20%	18	17.1%

*Source:* Questionnaire for staff at the Regional Education Directorate of Cajamarca.

Table 6 reflects perceptions of various indicators of budget programs. Regarding resource planning, 24.8% of respondents believe that it is never done properly, while 22.9% believe that it is almost always effective and 23.8% believe that it is always done correctly. On the other hand, budget allocation shows that 41.9% of respondents believe that it is sometimes carried out properly, although 18.1% believe that it is never carried out effectively and only 13.3% believe that it is always adequate. Finally, the overall perception of budget programs is mixed, with 27.6% indicating that they are sometimes fulfilled, 20% that they are almost always implemented correctly, and 18.1% that they are always adequate. However, 21.9% believe that they are never effectively implemented. These results reflect that, although efforts

are being made in planning and resource allocation, challenges remain in their implementation and effectiveness.

**Table 6**

*Budget management programs in the Regional Education Directorate of Cajamarca.*

Indicators	Total respondents	Rating									
		Never		Almost never		Sometimes		Almost always		Always	
		n	%	n	%	n	%	n	%	n	%
Resource planning	105	26	24.8%	16	15.2%	14	13.3%	24	22.9%	25	23.8%
Budget allocation	105	19	18.1%	10	9.5%	44	41.9%	18	17.1%	14	13.3%
Budgetary programs	105	23	21.9%	13	12.4%	29	27.6%	21	20%	19	18.1%

*Source:* Questionnaire for staff at the Regional Education Directorate of Cajamarca.

Table 7 presents perceptions regarding the monitoring of the physical and financial execution of budget programs. It shows that 34.3% of respondent's state that such monitoring is almost always conducted, while 13.3% report that it is always carried out appropriately. However, 20% indicate that it is almost never conducted, and 14.3% say that it is never carried out correctly. In detail, the supervision of program execution is perceived as fair, since 32.4% mention that it is sometimes performed, but 24.8% indicate that it almost never occurs. As for monthly progress reports, 36.2% indicate that they are almost always prepared, and 21.9% believe that they are always submitted. On the other hand, the perception of the achievement of budget program objectives is positive, with 47.6% believing that they are almost always achieved. However, 14.3% believe that they are never achieved, which highlights the need to strengthen oversight and control mechanisms in budget management.

**Table 7**

*Monitoring the physical and financial execution of budget programs in the monitoring of budget management resources in the Regional Education Directorate of Cajamarca.*

Questions	Total responden ts	Rating									
		Never		Almost never		Sometimes		Almost always		Always	
		n	%	n	%	n	%	n	%	n	%
The entity monitors the physical and financial execution of budgetary programs.	105	17	16.2%	26	24.8%	34	32.4%	21	20%	7	6.7%
Monthly progress reports are prepared for the immediate supervisor, detailing the monitoring of financial and physical execution.	105	12	11.4%	23	21.9%	9	8.6%	38	36.2%	23	21.9%
The respondent considers that the budgetary program they are part of achieves its objectives.	105	15	14.3%	14	13.3%	13	12.4%	50	47.6%	13	12.4%
Monitoring of the physical and financial execution of budgetary programs	105	15	14.3%	21	20%	19	18.1%	36	34.3%	14	13.3%

*Source:* Questionnaire for staff at the Regional Education Directorate of Cajamarca.

Table 8 reflects perceptions of design evaluations in budgetary programs. It shows that 36.2% of respondents believe these evaluations are almost never carried out, while 15.2% believe they are never carried out. Only 13.3% think they are almost always performed, and 10.5% indicate that they are always carried out properly. In detail, the proposal of improvement alternatives has a low rating, as 49.5% state that it is almost never done and only 6.7% consider that improvements are always presented. On the other hand, the evaluation of program results has a more favorable perception, with 39% indicating that it is sometimes conducted and 18.1% believing that it is almost always carried out. Regarding the availability of budgetary resources to meet program needs, 41.9% mention that it is almost never sufficient, while only 11.4% believe that adequate funds are always available. These results indicate deficiencies in the evaluation and improvement of the design of budgetary programs, which could affect their implementation and effectiveness.

**Table 8**

*Design evaluations in the monitoring of budget management resources at the Cajamarca Regional Directorate of Education*

Questions	Total respondents	Rating									
		Never		Almost Never		Sometimes		Almost always		Always	
		n	%	n	%	n	%	n	%	n	%
The institution proposes improvement alternatives regarding the design, implementation, and performance of the budgetary program to which you belong.	105	20	19%	52	49.5%	15	14.3%	11	10.5%	7	6.7%
The public entity conducts evaluations of the results of budgetary programs in relation to the quality of intervention and the achievement of physical and financial goals.	105	12	11.4%	18	17.1%	41	39%	19	18.1%	15	14.3%
There is sufficient budgetary availability in each specific expenditure item to cover needs.	105	16	15.2%	44	41.9%	22	21%	11	10.5%	12	11.4%
Design evaluations	105	16	15.2%	38	36.2%	26	24.8%	14	13.3%	11	10.5%

*Source:* Questionnaire administered to personnel of the Cajamarca Regional Directorate of Education.

Table 9 presents perceptions of various indicators related to resource monitoring and the evaluation of budgetary programs. Regarding the monitoring of the physical and financial execution of budgetary programs, 33.3% of respondents believe that it is almost always carried

out adequately, while 16.2% believe that it is always conducted. However, 23.8% think it is almost never done effectively. Regarding design evaluations, 25.7% state that they are never conducted, whereas only 13.3% indicate that they are always carried out. This suggests a negative perception of the evaluation of budgetary programs. Finally, opinions are divided on the monitoring of resources: 25.7% believe that it is almost always performed correctly, but 20% and 21% consider that it is never or almost never conducted, respectively. These results highlight the need to strengthen monitoring and evaluation processes in the management of budgetary resources and programs to ensure their efficient and effective allocation.

**Table 9**

*Monitoring of Budget management resources at the Cajamarca Regional Directorate of Education*

Indicators	Total respondents	Rating									
		Never		Almost never		Sometimes		Almost always		Always	
		n	%	n	%	n	%	n	%	n	%
Monitoring of the physical and financial execution of budgetary programs.	105	15	14.3%	25	23.8%	13	12.4%	35	33.3%	17	16.2%
Design evaluations	105	27	25.7%	19	18.1%	26	24.8%	19	18.1%	14	13.3%
Monitoring of Resources	105	21	20%	22	21%	20	19%	27	25.7%	15	14.3%

*Source:* Questionnaire administered to the staff of the Cajamarca Regional Directorate of Education.

Table 10 presents perceptions of three key dimensions of budget management: budgetary programs, resource monitoring, and results-based budgeting (RBB). In the area of budgetary programs, 24.8% of respondents believe that they are sometimes managed properly, while 22.9% believe that they are almost always managed correctly. However, 17.1% believe that they are almost never carried out efficiently. Regarding resource monitoring, 31.4% of respondent's state that it is almost always carried out adequately, while 16.2% say that it is always performed correctly. However, 20% believe that it is almost never implemented. Finally, perceptions of RBB management are mixed: 26.7% of respondents think that it is almost always applied effectively, but 19% believe that it is almost never managed well. Overall, the results indicate that, although progress is being made in budget management, there

is still room for improvement in the monitoring and effective implementation of budgetary programs.

**Table 10**

*Management of Results-Based Budgeting (RBB) at the Cajamarca Regional Directorate of Education*

Dimensions	Total respondent s	Rating									
		Never		Almost never		Sometimes		Almost always		Always	
		n	%	n	%	n	%	n	%	n	%
Budgetary programs	105	16	15.2%	18	17.1%	26	24.8%	24	22.9%	21	20%
Resource Monitoring	105	15	14.3%	21	20%	19	18.1%	33	31.4%	17	16.2%
Results Based Budgeting (RBB) Management	105	16	15.2%	20	19%	23	21.9%	28	26.7%	19	18.1%

*Source:* Questionnaire administered to personnel of the Cajamarca Regional Directorate of Education.

## Discussion

The results obtained in the research on public budget management in the Cajamarca Regional Education Directorate can be compared with previous studies conducted in various contexts, such as those by Eslava et al. (2019), Guarniz (2020), Ibarra (2021), Moreno (2009), Timaná (2018) and Vélchez (2021).

Regarding resource planning, 24.8% of respondents consider it to be always adequate, while 22.9% indicate that it is almost always adequate. However, 16.2% and 15.2% believe that it is never or almost never carried out efficiently. These findings are consistent with the views of Ibarra (2021), who points out that, although Mexico was a pioneer in the use of public expenditure evaluation systems, their implementation has been limited in terms of efficiency. Similarly, the study by Guarniz (2020) shows that the application of RBB has improved resource allocation in the health sector, which is not observed in the same way in the Cajamarca Regional Directorate of Education.

In terms of budget allocation, 34.3% of respondents consider that it is insufficient to carry out the planned activities, while only 14.3% believe that adequate funds are always available. These results reflect a problem similar to that identified by Vílchez (2021), who concludes that the total execution of allocated resources does not necessarily guarantee high-quality intervention or improvement in public services. Similarly, Eslava et al. (2019) emphasize the need for continuous evaluation of budget execution to ensure efficiency in resource management.

Regarding the monitoring of the financial and physical execution of budget programs, the data show that 34.3% of respondents believe this is almost always carried out, while 20% indicate that it is almost never done effectively. Timaná (2018) notes that the efficiency of spending on primary education is only 50% due to the lack of monitoring of performance indicators, which coincides with the problem identified in the Cajamarca Regional Education Directorate.

On the other hand, the evaluation of budget program design shows that 36.2% of respondents believe these evaluations are rarely conducted, while only 10.5% consider that they are always carried out properly. This deficiency has also been highlighted in Moreno's (2009) research, which emphasizes the importance of involving user areas in the planning, monitoring, and evaluation of programs to ensure their effectiveness.

Finally, the management of the RBB presents mixed perceptions. About 26.7% of respondents believe that it is almost always applied effectively, whereas 19% think that it is almost never managed well. These results contrast with the finding of Guarniz (2020), who shows that in the health sector, the application of the RBB has been beneficial in improving services. However, they align with the conclusions of Vílchez (2021), who argues that the implementation of the RBB in the Provincial Municipality of Satipo has not guaranteed an improvement in the quality of public services.

In conclusion, the results of this research show that, although efforts have been made to improve budget management in the Cajamarca Regional Education Directorate, deficiencies persist in the programming, allocation, monitoring, and evaluation of public spending, which limits its impact on the quality of educational services. These findings are consistent with the reviewed literature, which highlights the need to strengthen monitoring and evaluation



mechanisms to enhance the efficiency and effectiveness of public budgeting.

This research makes a practical/empirical contribution by providing a detailed analysis of the current state of budget management in the Cajamarca Regional Education Directorate, offering valuable information for decision-making in the planning and execution of public resources. It also identifies areas for improvement aimed at optimizing spending efficiency.

From a theoretical perspective, this study contributes to the body of knowledge on public budget management and its relationship with the quality of educational services, thereby broadening the debate on the effectiveness of the RBB in specific regional contexts.

In terms of methodological contribution, the research employs a comparative approach with previous studies and uses quantitative and qualitative tools to assess the perception of the actors involved in budget management. This provides an analytical model that can be replicated in other public institutions with similar characteristics.

The findings of this research have significant implications for educational practice and policy. The lack of effective planning and evaluation in public budgeting highlights the need to establish more rigorous monitoring and control mechanisms to ensure the efficient allocation of resources. In addition, it is recommended to implement specialized training programs for budget managers so that financial allocations respond to the real needs of the education sector. In terms of educational policy, the results underscore the importance of designing budget allocation strategies aligned with educational development objectives, prioritizing interventions that directly enhance the quality of teaching and learning. It is also essential to promote transparency and accountability in the execution of spending, strengthening confidence in public administration and ensuring that resources contribute to the sustainable development of the education system.

## Conclusions

The study showed that the implementation of budgetary programs in the Cajamarca Regional Education Directorate faces structural limitations in the programming, distribution, and expenditure control. These deficiencies constrain the effectiveness of public resources aimed at improving the quality of educational services. Despite the institutional advances made in recent years, there are still difficulties in linking budget planning with the real demands of the regional education system.

Likewise, it was identified that the lack of permanent monitoring and evaluation mechanisms has resulted in inefficient implementation, affecting the availability of essential resources such as infrastructure, materials, and teaching equipment. This finding underscores the need to establish stricter control systems that ensure the rational and transparent use of the budget.

It is also concluded that strengthening planning and management processes under the RBB approach is a priority, with the objective of directing resources toward improving learning and reducing educational disparities. Continuous training of technical staff and the incorporation of monitoring tools are essential elements for ensuring more efficient management and a positive impact on the quality of education in the region.

The relevance of this research lies in its contribution to the critical analysis of budget management of the Cajamarca Regional Education Directorate, revealing weaknesses that directly affect the quality of educational services. It also provides theoretical and empirical foundations for future studies that examine the relationship between public spending, learning outcomes, and equity in access to education.

Finally, it was determined that there is a need to strengthen staff technical capacities and establish monitoring systems with clear and verifiable indicators. As areas for future study, it is recommended to analyze the correlation between public spending and educational achievements, compare budget efficiency among the UGELs in the region, and evaluate the influence of citizen participation in monitoring the education budget.

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## **Ethical considerations**

This study did not require approval from an Ethics or Bioethics Committee, as it was based exclusively on the documentary and statistical analysis of information obtained from official and public sources, such as the Ministry of Economy and Finance (MEF), the Regional Directorate of Education of Cajamarca (Dirección Regional de Educación de Cajamarca), and other government agencies. No individuals, biological samples, or personal data were involved that posed any risk to life, the environment or human rights. Likewise, compliance with the principles of honesty, integrity, and respect for intellectual property was ensured by properly citing the sources consulted in accordance with APA style guidelines (7th edition) and ensuring transparency in the handling and presentation of the results.

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## **Conflict of interest**

All authors made significant contributions to the document and declare that there is no conflict of interest related to this article.

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## **Author contribution statement**

Francia Marjorie Reyes Cabanillas: conceptualization, methodology, software, validation, formal analysis, research, resources, data curation, writing-original draft, writing-review and editing, visualization, supervision project management, funding acquisition.

Yoya Betzabé Flores Pérez: methodology, software, validation, formal analysis, writing: review and editing

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