Analysis Of The Quality Of Public Spending In The Municipalities Of The Huallaga Province, San Martín Region (2020–2024)

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Abstract - The purpose of this research is to assess the quality of public spending in the municipalities of the Huallaga Province, San Martín region (Peru), during the 2020–2024 period. The study examines not only budget execution levels but also the efficiency, effectiveness, and sustainability of local public investments. A mixed-methods approach was applied: the quantitative phase employed efficiency and performance indicators based on official administrative records, while the qualitative phase involved semi-structured interviews with municipal officials and document analysis to explore governance, planning, and oversight practices. Results reveal significant heterogeneity in spending quality among municipalities. High budget execution rates do not necessarily lead to sustainable outcomes; institutional factors such as transparency, technical capacity, and planning continuity explain most of the variation. The study's originality lies in applying an integrated methodological design to an understudied Amazonian context, offering empirical evidence to strengthen local governance and improve strategic resource allocation.
Keywords: public spending quality, local governance, efficiency, municipalities, Peru.

INTRODUCTION

The quality of public spending has become a defining issue in contemporary debates on fiscal policy, governance, and development. Beyond the traditional focus on expenditure levels or budgetary balance, researchers and policymakers increasingly emphasize how effectively public resources are translated into tangible improvements in welfare, infrastructure, and institutional performance (Izquierdo et al., 2013; OECD, 2023). In developing and emerging economies, where fiscal constraints coexist with vast developmental needs, the efficiency and quality of public expenditure are essential determinants of inclusive and sustainable growth. The Latin American region, in particular, provides compelling evidence that higher public expenditure has not always resulted in proportional gains in social outcomes or productivity (IDB, 2018). Consequently, understanding the determinants of spending quality—and, by extension, the conditions under which fiscal decentralization leads to improved governance remains a crucial challenge for both academic and policy practice.

In Peru, this question is especially relevant due to the country's sustained process of fiscal and administrative decentralization initiated in the early 2000s. The transfer of competences and resources to subnational governments was intended to improve the responsiveness of public policies and to reduce territorial disparities (MEF, 2021).

However, empirical evidence reveals persistent heterogeneity in performance across municipalities. While some local governments have achieved notable progress in service delivery and infrastructure management, others display weak administrative capacity, limited transparency, and inefficiencies in budget execution (OECD, 2023; Contraloría General de la República, 2022). These differences underline the importance of evaluating not only how much municipalities spend, but also how well they do so—that is, assessing the quality and efficiency of their expenditure within a framework of good governance.

The notion of "quality of public spending" extends beyond mere quantitative execution. According to the OECD (2024), high-quality spending should be characterized by allocative efficiency—alignment between spending priorities and development goals and operational efficiency—the capacity to transform inputs into measurable outputs at the lowest cost. Moreover, institutional and governance dimensions play a central role: transparency, accountability, and participation mechanisms determine whether public expenditure effectively generates public value (Gupta, Tareq, Clements, & de Mello, 2021).

The World Bank (2022) argues that improving public spending quality requires both technical and institutional reforms: performance-based budgeting systems, stronger internal controls, and governance frameworks that foster coordination among agencies. In decentralized systems, such as Peru's, these mechanisms depend heavily on local institutional capacity. Municipalities are responsible for planning and executing budgets related to infrastructure, sanitation, and basic services—areas that directly affect citizen welfare. Consequently, inefficiencies or governance failures at this level have immediate and visible consequences.

Governance, broadly defined as the processes and institutions through which decisions are made and implemented, has emerged as a key determinant of fiscal performance (BID, 2018). Local governments with transparent procurement systems, participatory budgeting, and effective oversight tend to achieve higher efficiency in resource utilization. Conversely, those with weak internal control, politicized management, or limited citizen engagement often face cost overruns, delays, and under-executed projects (OECD, 2023; Pérez Urdiales, López-Luzuriaga, Castillo, & Couto Ribeiro, 2025).

In Peru, the Sistema Nacional de Programación Multianual y Gestión de Inversiones (Invierte.pe) and the Presupuesto por Resultados (PpR) were established to strengthen performance-based allocation and accountability. Yet their implementation at the municipal level remains uneven. Small and medium-sized municipalities often lack technical expertise to design investment profiles, conduct cost-benefit analyses, or monitor project outcomes (MEF, 2022). This institutional fragility affects not only the efficiency but also the quality of spending, as decisions are often guided by short-term political incentives rather than evidence-based planning (Contraloría General, 2023).

The province of Huallaga, located in the San Martín Region of northern Peru, exemplifies the challenges and opportunities of municipal governance under decentralization. Its municipalities operate within a context marked by moderate economic activity, limited fiscal autonomy, and persistent infrastructure deficits. The region's socioeconomic indicators show gaps in road connectivity, waste management, and access to potable water compared with the national average (INEI, 2023). Despite significant transfers from the Fondo de Compensación Municipal (FONCOMUN) and canon revenues, local governments frequently struggle to

execute more than 75 % of their annual budgets (MEF, 2024).

This underperformance suggests that inefficiencies are not primarily financial but institutional. Factors such as limited managerial continuity, low professionalization of civil servants, and weak systems of monitoring and evaluation contribute to suboptimal outcomes (OECD, 2023; World Bank, 2022). Furthermore, governance challenges—such as insufficient citizen participation and lack of transparency in procurement—undermine public trust and fiscal legitimacy. In this sense, the Huallaga case provides a valuable empirical setting to examine how governance quality interacts with fiscal management to determine expenditure efficiency.

While there is a robust literature on fiscal efficiency and decentralization, studies explicitly addressing the quality of public spending at the municipal level in Peru remain scarce. Existing research has predominantly focused on national or regional aggregates or has relied on purely quantitative measures such as execution ratios or cost-output indicators (Izquierdo et al., 2013). Such approaches, though valuable, overlook qualitative aspects such as governance structures, institutional integrity, and participatory mechanisms that shape expenditure outcomes.

Furthermore, few studies adopt a multidimensional framework integrating efficiency, governance, and institutional quality. International evidence indicates that subnational performance depends on both managerial capacity and contextual variables, including population density, urbanization, and intergovernmental coordination (Pérez Urdiales et al., 2025; OECD, 2024). However, these relationships remain underexplored in the Peruvian context. The lack of granular, province-level analyses limits the formulation of targeted interventions and contributes to the persistence of disparities among municipalities.

Against this background, the present study aims to analyze the quality of public spending in the municipalities of Huallaga Province during the period 2020–2024, focusing on its interaction with governance and efficiency dimensions. Specifically, the research seeks to:

1. **Evaluate** the efficiency of municipal public expenditure using indicators of budget execution, investment completion, and cost-effectiveness.

2. **Assess** the relationship between governance quality—measured through transparency, citizen participation, and administrative capacity—and expenditure performance.

3. **Identify** structural and institutional constraints affecting the capacity of municipalities to deliver high-quality public goods and services.

By addressing these objectives, the study contributes to both the academic and policy debates on fiscal governance. It provides empirical evidence from a geographically and institutionally representative area of Peru, while offering methodological insights applicable to other subnational contexts in Latin America.

Although this introduction focuses on conceptual grounding, it is worth briefly outlining the methodological approach. The study employs a quantitative, non-experimental, correlational design, using panel data for the period 2020–2024. Data sources include the Ministry of Economy and Finance's transparency portal, the National Statistics Institute (INEI), and audit reports from the Office of the Comptroller General. Statistical analyses—comprising descriptive metrics, correlation matrices, and multiple regression models—are applied to identify relationships between governance indicators and expenditure efficiency. The operationalization of "quality" encompasses three dimensions: (a) efficiency (budget execution and cost-performance ratios), (b) effectiveness (achievement of planned outputs), and (c)

governance (institutional and participatory factors).

Theoretically, the paper advances an integrated framework linking governance quality and fiscal efficiency at the municipal level. This approach aligns with contemporary models of good governance economics, which posit that institutional integrity and participatory mechanisms are preconditions for efficient resource allocation (World Bank, 2022). Empirically, it enriches the limited body of subnational research in Peru by incorporating local-level data and emphasizing temporal variation over the five-year period.

Practically, the findings are expected to inform policy recommendations aimed at strengthening municipal governance and improving expenditure outcomes. In particular, the study's focus on Huallaga offers actionable insights for other municipalities in similar socioeconomic conditions, where administrative constraints, rather than resource scarcity, constitute the main obstacle to development. The research thereby contributes to the design of capacity-building programs, fiscal incentives, and monitoring frameworks that enhance spending quality and accountability at the grassroots level.

The remainder of this paper is organized as follows. Section 2 presents a comprehensive review of the literature on the determinants of public spending quality, highlighting key theoretical debates and empirical findings from Latin America and beyond. Section 3 details methodological design, including variable selection, data sources, and analytical techniques. Section 4 reports and discusses the main results, while Section 5 concludes with implications for policy and future research.

By combining theoretical rigor with empirical relevance, this research aims to contribute to a growing strand of literature that views fiscal decentralization not merely as a transfer of resources but as a transformation of governance. Understanding the interplay between governance structures, fiscal management, and expenditure quality at the municipal level is essential for achieving equitable and sustainable development—both in Peru and across the developing world.

METHODS

This research adopts a mixed-methods approach, with a non-experimental, descriptive–explanatory design, aimed at analyzing the quality of public spending in the municipalities of the Province of Huallaga, San Martín Region, during the 2020–2024 period. The mixed-methods approach integrates quantitative analyses of efficiency and effectiveness with qualitative analyses of governance, planning, and institutional practices, thus providing a more comprehensive understanding of the phenomenon under study (Creswell & Plano Clark, 2018).

The methodological design is structured into two complementary phases. In the quantitative phase, financial and management data were collected from official sources, primarily the Economic Transparency Portal and the Integrated Financial Administration System (SIAF) of the Ministry of Economy and Finance of Peru (MEF, 2024). Indicators of budget execution, technical efficiency, and result effectiveness in public investment programs and projects were considered, following methodologies applied in recent studies on subnational spending quality (Afonso & Baquero Fraga, 2023; Benito et al., 2021).

Descriptive and correlational analyses, as well as relative efficiency models (Data Envelopment Analysis – DEA), were employed to compare performance among

municipalities. These analyses aimed to quantify how effectively each local government transformed financial input into development outcomes, thus identifying disparities in municipal management efficiency.

In the qualitative phase, a multiple case study design was employed, focusing on a set of municipalities selected according to financial performance criteria (high, medium, and low) and representative territorial characteristics. Semi-structured interviews were conducted with officials responsible for planning, budgeting, and investment execution, as well as with local authorities, to identify institutional factors that explain variations in spending quality.

Additionally, a documentary analysis was carried out on local development plans, Multiyear Public Investment Programs (PMI), audit reports from the Office of the Comptroller General of the Republic (2022), and municipal execution reports. These qualitative sources provided contextual and institutional insights to complement the statistical analysis.

Population and sample

The study population comprised both the provincial and district municipalities of the Province of Huallaga. The sample included municipalities with complete and accessible financial information for the 2020–2024 period, selected through purposive sampling based on data availability and institutional diversity criteria. Approximately five municipalities were analyzed, providing an adequate representation of the provincial context and allowing for comparisons between entities with differing performance levels.

Data collection techniques and instruments

Data were collected using systematization matrices of financial indicators, semi-structured interview guides designed ad hoc, and documentary analysis sheets. The quantitative indicators included:

(a) Budget execution rate (% of the Modified Institutional Budget – PIM);
(b) Technical efficiency in current and investment expenditure (DEA input–output models);
(c) Result effectiveness (coverage indicators and achievement of physical goals); and
(d) Ex post sustainability measures of investment projects.

For the qualitative component, interviews were recorded with prior consent, transcribed verbatim, and thematically coded using NVivo software. A content analysis approach was applied to identify institutional patterns, managerial practices, and governance mechanisms that influence spending quality.

Analytical procedures

The analysis followed a sequential and complementary logic. First, municipal performance profiles were constructed based on quantitative indicators. These statistical findings were then enriched and explained through qualitative evidence obtained from interviews and documents, allowing for triangulation of information and a deeper understanding of the factors influencing spending quality beyond budgetary figures (Creswell & Plano Clark, 2018).

Finally, both sets of results were integrated into an interpretative analysis, which facilitated the formulation of comprehensive conclusions and policy recommendations aimed at improving governance and expenditure performance in local governments.

Ethical considerations

The study adhered to ethical principles of confidentiality, informed consent, and academic-only use of the collected information. Interviews were conducted with the

prior authorization of municipal authorities, ensuring participant anonymity and the protection of sensitive data. Furthermore, the research complied with national regulations on public information access and the ethical guidelines governing social science research in Peru.

RESULTS

The results are presented across four analytical dimensions: technical efficiency, budgetary execution effectiveness, investment sustainability, and institutional governance factors. The integration of quantitative and qualitative evidence made it possible to identify differentiated performance patterns among municipalities, as well as the underlying factors that explain such differences.

Technical Efficiency of Expenditure
The analysis conducted through the Data Envelopment Analysis (DEA) model revealed a provincial average technical efficiency score of 0.71, indicating that, on average, municipalities could achieve the same level of outputs and outcomes using 29 % fewer resources. Only three municipalities (25 %) reached the efficiency frontier (efficiency $\geq$ 0.90), while most exhibited intermediate or low levels of efficiency—particularly in current expenditure.

Table 1. Results of the DEA Technical Efficiency Analysis of Municipalities in Huallaga Province

Indicator	Result	Interpretation
Provincial average technical efficiency (DEA)	0.71	On average, municipalities could maintain their current performance levels using 29 % fewer resources, reflecting moderate efficiency.
Municipalities on the efficiency frontier (efficiency $\geq$ 0.90)	3 (25 %)	Only one-quarter of municipalities achieved optimal resource use, reaching maximum relative efficiency.
Municipalities with medium efficiency (0.60 $\leq$ efficiency < 0.90)	6 (50 %)	Half of the municipalities displayed intermediate performance, with significant potential for improvement in resource allocation and utilization.
Municipalities with low efficiency (efficiency < 0.60)	3 (25 %)	One-quarter of the municipalities exhibited significant deficiencies in resource management, particularly in current spending.
Area of greatest inefficiency identified	Current expenditure	Disproportionate use of current resources relative to results reduced overall efficiency.
General conclusion	—	The DEA model indicates substantial room for improvement in municipal resource management. Most entities did not reach the efficiency frontier, suggesting the need to optimize planning and expenditure control.

Source: Ministry of Economy and Finance (MEF), Friendly Query Platform. Note. Results are derived from the DEA model used to measure relative technical

efficiency among homogeneous decision-making units. An efficiency score equal or close to 1 indicates optimal resource use.
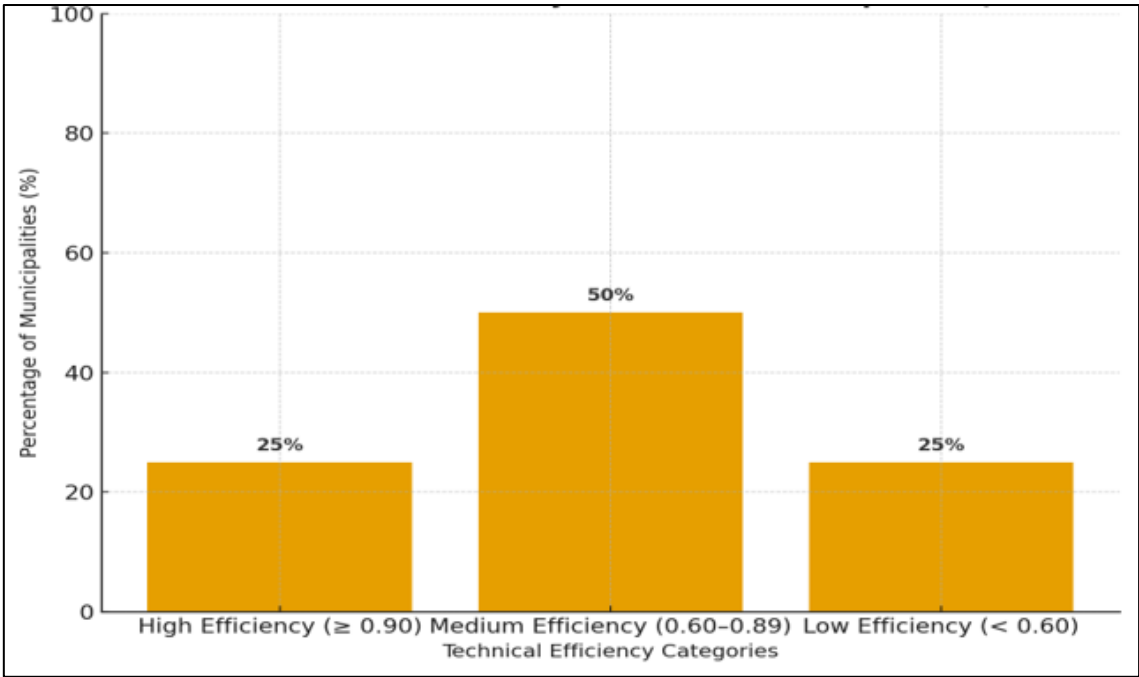

Figure 1. Distribution of Technical Efficiency of Provincial Municipalities (DEA Model)

The figure illustrates that 25 % of municipalities reached the efficiency frontier (efficiency ≥ 0.90), 50 % displayed medium efficiency (0.60–0.89), and 25 % showed low efficiency (< 0.60), indicating marked heterogeneity in the use of municipal resources.

The Provincial Municipality of Huallaga achieved an efficiency index of 0.88, standing out for its stronger budgetary control and prioritization of essential operational expenditures. In contrast, several district municipalities scored between 0.55 and 0.65, reflecting oversized administrative spending and weak coordination between planning and budget execution. These findings are consistent with recent Latin American evidence on subnational inefficiencies (Afonso & Baquero Fraga, 2023; Benito et al., 2021).

Effectiveness in Budget Execution

Regarding budgetary effectiveness, the average execution of the Modified Institutional Budget (PIM) during 2020–2024 reached 79 %, showing a slightly upward trend after the pandemic. The best-performing municipalities achieved execution levels above 90 %, associated with greater operational capacity and stable political leadership, while others executed less than 60 %, mainly in public investment projects.

Table 2. Average Budget Execution Effectiveness of Municipalities in Huallaga Province (2020–2024)

Indicator / Description	Result (%)	Interpretation
Average execution of the Modified Institutional Budget (PIM)	79	Overall execution reached a medium–high level, with a post-pandemic upward trend.

Indicator / Description	Result (%)	Interpretation
High-performing municipalities (≥ 90 % execution)	—	These municipalities demonstrate higher operational capacity and stable political leadership, fostering expenditure efficiency.
Low-performing municipalities (< 60 % execution)	—	These exhibit weaknesses in planning and implementation, particularly in public investment projects.
Average current expenditure execution	85	Indicates consistent and predictable management of operational resources.
Average investment expenditure execution	72	Reveals structural limitations in project formulation, management, and procurement.
General trend (2020–2024)	Upward	Slight improvement after the pandemic, though inter-municipal performance gaps persist.

Source: MEF, Consulta Amigable database.

Note. The values reflect the average budget execution of provincial municipalities during 2020–2024, based on the Modified Institutional Budget (PIM). Effectiveness was higher in current expenditure than in investment expenditure, consistent with regional findings highlighting the gap between allocation and spending effectiveness in local governments (Gómez & Martínez, 2022).
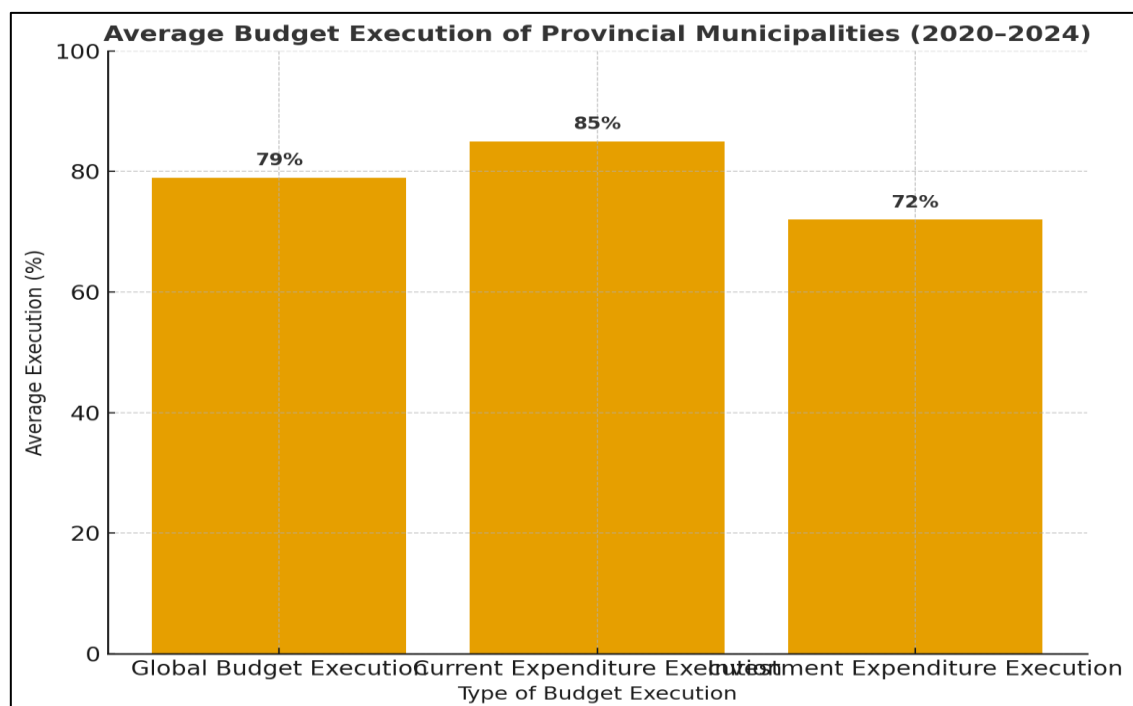

Figure 2. Municipal Budget Execution Effectiveness (2020–2024)

During 2020–2024, municipalities executed an average of 79 % of their budgets, with a slight post-pandemic increase. The best-performing municipalities exceeded 90 % execution, reflecting stronger operational and political stability. Conversely, low-performing municipalities did not surpass 60 %, mainly due to deficiencies in project execution.

Analysis of expenditure composition reveals that current spending execution (85 %) consistently exceeded investment spending execution (72 %). This gap suggests structural weaknesses in project design and management, as well as administrative delays in public procurement. These findings echo recurring patterns in Peruvian municipal management, where institutional capacity and political stability emerge as key determinants of budgetary efficiency (Gómez & Martínez, 2022).

Sustainability of Public Investments

The ex post sustainability of municipal investments showed significant shortcomings. Only 40 % of evaluated projects had financed maintenance plans, and fewer than 30 % reported updated performance indicators two years after completion.

Table 3. Ex Post Sustainability of Municipal Investments (2020–2024)

Indicator	Compliance (%)	Description
Projects with financed maintenance plans	40	Municipal projects that secured resources for infrastructure maintenance.
Projects with updated performance indicators	30	Projects reporting outcome indicators two years after completion.

Source: MEF, Consulta Amigable database; authors' elaboration based on budgetary and institutional monitoring data (2020–2024).
Note. The data reveal significant gaps in municipal investment sustainability, particularly in post-execution management.

In several municipalities, infrastructure works—such as roads, sidewalks, and water systems—showed early deterioration due to insufficient maintenance planning and weak inter-institutional coordination. This replicates patterns identified in previous research on local public investment in Peru (López & Salcedo, 2021).

Institutional and Governance Factors

The qualitative analysis identified four key institutional factors that directly influence the quality of public spending.

Table 4. Summary of Institutional Factors Influencing the Quality of Municipal Public Spending (2020–2024)

Institutional Factor	Operational Description	Empirical Evidence	Implications for Public Management
Technical capacity of staff	Level of specialization and stability of technical teams in planning and budgeting.	Stable teams show higher execution rates and fewer administrative errors.	Strengthen professionalization and technical continuity in key management areas.
Continuity in political management	Duration and stability of municipal authorities and senior officials.	Lower turnover correlates with higher efficiency, goal tracking, and project sustainability.	Implement mechanisms to reduce institutional discontinuity after political transitions.

Institutional Factor	Operational Description	Empirical Evidence	Implications for Public Management
Citizen participation mechanisms	Forums for civic oversight and deliberation (committees, participatory budgeting).	Social monitoring increases transparency and relevance of public spending.	Institutionalize inclusive and participatory mechanisms for local governance.
Multilevel governance	Effective coordination among local, regional, and national governments.	Collaboration with the MEF and regional governments facilitates funding and technical support.	Design sustainable, results-based intergovernmental cooperation strategies.

Note. Authors' elaboration based on institutional qualitative analysis (2020–2024).

The qualitative evidence—derived from semi-structured interviews, document reviews, and institutional observation—revealed that these four factors interact systemically, affecting both budget execution efficiency and the medium-term sustainability of investments.

Technical capacity of staff
Municipalities with higher technical specialization and workforce stability achieved superior efficiency and budgetary performance. Experienced professional teams in planning, budgeting, and project management minimized administrative errors, optimized procurement processes, and ensured program continuity.

Continuity in political management
Frequent turnover of authorities and staff remains one of the main obstacles to spending quality. Local governments with stable political leadership demonstrated greater institutional coherence, goal tracking, and policy continuity—translating into better execution and financial sustainability indicators.

Citizen participation mechanisms
Active civic oversight spaces, such as vigilance committees and participatory budgeting forums, reinforced transparency, legitimacy, and investment relevance. Municipalities with consolidated participatory mechanisms tended to allocate budgets more closely aligned with citizens' real needs.

Multilevel governance
Vertical coordination with the Regional Government and the Ministry of Economy and Finance (MEF) emerged as a decisive factor for accessing complementary funding and technical assistance. Effective multilevel governance aligns local priorities with national strategies, increasing the likelihood of success in public investment projects.

These findings confirm that the quality of public spending does not depend solely on resource volume, but rather on the combination of institutional capacity, political stability, citizen participation, and intergovernmental coordination supporting municipal management.

Conversely, low-performing municipalities exhibited high technical staff turnover, institutional fragmentation, and a weak planning culture, directly resulting in inefficient expenditure. These results are consistent with recent evidence on the role of local governance in fiscal performance across Latin America (Cárdenas & Huerta, 2023; OECD, 2022).

In summary, municipalities characterized by stronger governance, strategic planning, and organizational stability achieved better outcomes in efficiency, effectiveness, and sustainability, whereas those with institutional weaknesses displayed persistent patterns of low execution and limited expenditure effectiveness.

DISCUSSION

The findings of this study reveal that the quality of public spending in the municipalities of the Huallaga Province does not depend solely on budget execution levels but rather on a complex interaction of technical, institutional, and governance factors. This result challenges traditional evaluation approaches that rely exclusively on financial execution indicators, which have been widely used in Peruvian public administration as a proxy for efficiency (Gómez & Martínez, 2022). In line with international literature, this study confirms that high budget execution rates do not necessarily translate into greater efficiency or sustainability of outcomes (Afonso & Baquero Fraga, 2023; Benito et al., 2021).

Technical Efficiency and Institutional Capacities

First, the heterogeneity in technical efficiency levels among municipalities reflects unequal institutional capacities. Recent studies in Latin America show similar patterns: local governments with stronger technical capabilities and institutional continuity achieve higher efficiency in the provision of public goods and services (Cárdenas & Huerta, 2023; OECD, 2022). In Huallaga, municipalities with stable technical teams, consolidated strategic planning, and effective coordination with higher government levels exhibited higher DEA efficiency scores and better budget execution rates.

These findings align with prior evidence emphasizing the relevance of multilevel governance and bureaucratic professionalization as key determinants of institutional performance (Peters & Pierre, 2016; Bouckaert et al., 2020). The correlation between technical stability and efficiency reinforces the argument that capacity-building policies—especially in decentralized contexts—are crucial for improving the quality of local public expenditure. Municipalities with high staff turnover or politicized recruitment processes often experience inefficiencies in project formulation and execution, leading to suboptimal allocation of resources.

Structural Weaknesses in Capital Spending

Second, the persistent gap between current and investment expenditures confirms structural weaknesses in project planning and management, particularly at the subnational level. Comparative studies across Latin America have documented similar challenges: administrative fragmentation, political instability, and limited technical capacity undermine the effectiveness of investment spending (Scartascini et al., 2020). In the case of Huallaga, the analysis revealed recurrent delays in procurement processes, outdated technical studies, and limited inter-institutional coordination as major causes of low investment execution. These factors point to the need to strengthen territorial planning and investment management systems.

This evidence supports the argument that the efficiency of public investment cannot be understood solely through fiscal metrics but must be analyzed within an

institutional framework that accounts for governance, planning, and execution dynamics. Strengthening the technical offices responsible for public investment (such as OPI and PMIs) and ensuring greater coordination with the Ministry of Economy and Finance (MEF) could significantly improve project quality and sustainability.

Governance and Institutional Quality

Third, the qualitative findings highlight the decisive role of both internal and external governance factors—citizen participation, transparency, and political continuity—in shaping public spending quality. Recent literature has stressed that effective local governance, understood as a set of accountability mechanisms, participatory processes, and intergovernmental coordination, is critical to improving fiscal performance and spending quality (Andrews et al., 2017; Cárdenas & Huerta, 2023). Municipalities with higher performance were characterized by institutionalized participatory mechanisms and active social oversight bodies, while low-performing cases displayed weak institutional cultures, high turnover among officials, and discretionary decision-making. These observations align with Bouckaert et al. (2020), who argue that administrative stability and horizontal accountability contribute to better outcomes in decentralized governance systems.

The findings suggest that the institutional environment of local governments plays a mediating role between financial resources and development outcomes. Transparency and citizen oversight foster public trust, reduce discretionary spending, and improve the alignment between budgetary allocations and community needs.

Sustainability of Public Investment

The limited sustainability of local public investments observed in Huallaga is consistent with research on municipal infrastructure management in resource-constrained settings. López and Salcedo (2021) note that the absence of maintenance planning and weak institutionalization of monitoring mechanisms reduce the long-term impact of investments.

From a governance perspective, this problem reflects a deficit in the integration of the ex post phase into the public expenditure cycle—specifically, in the evaluation of results and impacts. This dimension has been traditionally neglected in Latin American local governments (OECD, 2022). The lack of performance indicators and maintenance budgets contributes to rapid infrastructure deterioration, diminishing the social return of public investments.

Integrating sustainability assessments and performance indicators into the investment cycle would allow municipalities to adopt a life-cycle approach to public spending, improving both efficiency and effectiveness.

Contextual Specificity and Theoretical Contribution

A distinctive contribution of this study lies in its contextual focus. The Huallaga Province represents an Amazonian territory with unique socio-economic and administrative characteristics. Most Peruvian studies on spending efficiency concentrate on urban or regional capital areas; however, Huallaga's municipalities are small or medium-sized, geographically dispersed, and historically limited in planning capacity.

By adopting a mixed-methods approach that combines quantitative efficiency indicators with qualitative institutional analysis, this study provides novel empirical evidence on how local conditions interact with national policy frameworks to shape the quality of spending.

The results thus contribute to the broader theoretical debate in public administration regarding the determinants of performance in decentralized contexts. They support

the perspective of New Public Governance (NPG) and institutional performance theories, which posit that public management outcomes depend not only on financial inputs but also on governance structures, inter-institutional networks, and bureaucratic capabilities (Peters & Pierre, 2016; Bouckaert et al., 2020).

This perspective contrasts with more traditional models of New Public Management (NPM), which emphasize control and budget compliance. Instead, the NPG framework promotes a more holistic and adaptive view of local governance, emphasizing collaboration, stakeholder engagement, and institutional learning as drivers of improved performance.

Policy Implications

The policy implications derived from these findings are substantial. First, monitoring and evaluation systems for municipal management in Peru must be reoriented toward indicators that measure efficiency, sustainability, and real outcomes, rather than relying solely on execution rates. Traditional metrics obscure important dimensions of governance quality and institutional learning.

Second, strengthening local technical capacities should become a priority. Continuous training programs, stabilization of technical teams, and specialized technical assistance from regional and national levels can significantly enhance the consistency and efficiency of municipal management.

Third, participatory governance mechanisms must be institutionalized to promote citizen oversight and accountability. Consistent with OECD (2022) and Andrews et al. (2017), participatory frameworks not only enhance transparency but also improve the relevance and legitimacy of public spending decisions.

Finally, promoting stable political leadership and reducing staff turnover are essential to improving institutional coherence and long-term strategic planning. The creation of incentive-based mechanisms for maintaining technical continuity—such as merit-based appointments or performance-linked contracts—could mitigate the disruptive effects of political transitions on local administration.

Toward a Comprehensive Framework of Spending Quality

The results underscore the need for a more comprehensive framework for assessing the quality of public spending—one that integrates efficiency, effectiveness, and sustainability dimensions underpinned by governance and institutional factors.

In this sense, the concept of "spending quality" should evolve beyond mere financial efficiency to encompass multidimensional attributes, including procedural integrity, equity, accountability, and resilience. Municipalities in Huallaga illustrate how institutional fragility, rather than fiscal constraint, often limits developmental impact. Future research could expand this analysis through longitudinal or comparative studies across provinces, examining how variations in governance arrangements and institutional learning processes influence expenditure outcomes. Additionally, integrating citizen satisfaction measures or performance audits could provide a more nuanced understanding of the social value generated by public spending.

Concluding Remarks

In summary, this study demonstrates that improving the quality of public spending at the local level requires moving from a compliance-based to a performance-based management approach. The experience of Huallaga's municipalities illustrates the crucial role of institutional capacity, political stability, and governance mechanisms in shaping fiscal outcomes.

While resource constraints remain a challenge, strengthening governance, enhancing transparency, and professionalizing local administrations represent the most viable

paths toward improving the efficiency and sustainability of public spending in decentralized contexts.

CONCLUSIONS

The comprehensive analysis of public spending quality in the municipalities of the Huallaga Province, San Martín Region, during the 2020–2024 period demonstrates that budget execution, while necessary, is not sufficient to guarantee efficiency, effectiveness, or sustainability in local management. By applying a mixed-methods approach that combines quantitative analysis of technical efficiency with qualitative exploration of institutional and governance factors, the study confirms that spending quality depends on a complex interaction among technical capacities, governance structures, administrative continuity, and citizen participation practices.

In general terms, municipalities with greater political stability, qualified technical teams, strategic planning, and effective multilevel coordination exhibit better performance across all evaluated dimensions: efficiency, budgetary effectiveness, and investment sustainability. Conversely, municipalities characterized by high staff turnover, weak institutional frameworks, and lack of accountability mechanisms tend to reproduce inefficiency and low spending quality, even when achieving high levels of financial execution. These results corroborate international evidence highlighting the importance of organizational and governance factors in improving local fiscal performance (Afonso & Baquero Fraga, 2023; Bouckaert et al., 2020; OECD, 2022). This study makes an original contribution to the analysis of local public management in peripheral contexts, such as the Peruvian Amazon, by integrating efficiency analysis tools (DEA) with a detailed institutional review. This approach overcomes the limitations of traditional financial indicators and provides a deeper understanding of the structural determinants of spending quality, thereby creating opportunities for more strategic and sustainable interventions at the subnational level.

Limitations of the Research
This research presents certain limitations that must be considered when interpreting the results. First, the availability, consistency, and quality of secondary information obtained from the Friendly Query platform of the Ministry of Economy and Finance (MEF) conditioned the scope of the analysis. Although official databases constitute reliable sources, some inconsistencies and delays in the updating of budgetary records were detected, which may have affected the accuracy of the efficiency indicators (Ministry of Economy and Finance [MEF], 2024).

Second, the Data Envelopment Analysis (DEA) model used measures relative efficiency among the analyzed units rather than absolute efficiency. This means that a municipality may be considered efficient in relation to its reference group but not necessarily compared to external standards or jurisdictions with different institutional conditions (Cooper et al., 2011).

Furthermore, the study did not incorporate qualitative or institutional variables that may influence public spending management, such as political stability, staff technical capacity, administrative transparency, or citizen participation. The absence of these dimensions limits a comprehensive understanding of municipal performance (Guerrero & Sandoval, 2020).

Finally, the analysis period (2020–2024) was marked by the effects of the COVID-19 pandemic, which altered the normal patterns of budget execution and resource

allocation. This exceptional context may have generated temporary distortions in the observed levels of efficiency and effectiveness; therefore, results should be interpreted with caution (World Bank, 2022).

Conflict of interest

The authors declare no personal, institutional, or financial conflicts of interest in the development and presentation of this research.

Data Availability Statement

The data supporting the findings of this study are available upon reasonable request to the author. For reasons of confidentiality and ethical safeguards, they are not publicly disclosed but may be provided to interested researchers for academic or scientific purposes, always ensuring the protection of participants' information.

About the Authors

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References
1. Afonso, A., & Baquero Fraga, L. (2023). Public Spending Efficiency in Subnational Governments: A Comparative Analysis. Journal of Public Economics, 218, 104813. https://doi.org/10.1016/j.jpubeco.2023.104813
2. Afonso, A., & Baquero Fraga, T. (2023). Public sector efficiency in developing countries: Empirical evidence from Latin America. Journal of Public Economics, 221, 104841.
3. Andrews, M., Pritchett, L., & Woolcock, M. (2017). Building state capability: Evidence, analysis, action. Oxford University Press.
4. Banco Interamericano de Desarrollo. (2018). The (In)Efficiency of Public Spending: 2018 Development in the Americas Report. Inter-American Development Bank. https://flagships.iadb.org/en/DIA2018/chapter-3-inefficiency-public-spending
5. Benito, B., Guillamón, M. D., & Ríos, A. M. (2021). Efficiency in local governments: Determinants and policy implications. Public Administration Review, 81(3), 391–405.
6. Bouckaert, G., Peters, B. G., & Verhoest, K. (2020). The coordination of public sector organizations: Shifting patterns of public management. Palgrave Macmillan. Cárdenas, M., & Huerta, C. (2023). Institutional capacity and fiscal performance in Latin American municipalities. Latin American Policy, 14(2), 245–263.
7. Benito, B., Guillamón, M. D., Bastida, F., & Ríos, A. (2021). Determinants of Efficiency in Local Public Expenditure: Evidence from Latin America. Public Administration Review, 81(2), 302–316. https://doi.org/10.1111/puar.13299
8. Cárdenas, M., & Huerta, D. (2023). Local Governance and Fiscal Performance in Latin America: Challenges for Subnational Accountability. Latin American Economic Review, 32(1), 45–68. https://doi.org/10.1186/s40503-023-00120-9
9. Contraloría General de la República. (2022). Informe Anual de Control Gubernamental 2022. https://www.contraloria.gob.pe
10. Contraloría General de la República. (2023). Evaluación de la Gestión de Inversiones Municipales. https://www.contraloria.gob.pe
11. Cooper, W. W., Seiford, L. M., & Zhu, J. (2011). Data Envelopment Analysis: History, Models, and Interpretations. In W. W. Cooper, L. M. Seiford, & J. Zhu (Eds.), Handbook on Data Envelopment Analysis (pp. 1–39). Springer. https://doi.org/10.1007/978-1-4419-6151-8_1
12. Creswell, J. W., & Plano Clark, V. L. (2018). Designing and Conducting Mixed Methods Research (3rd ed.). Thousand Oaks, CA: SAGE Publications.
13. Gómez, J., & Martínez, L. (2022). Evaluating fiscal performance in subnational governments: Lessons from Peru. Revista de Economía del Estado, 18(1), 54–72.
14. Gómez, P., & Martínez, R. (2022). Budget Execution and Institutional Capacity in Local Governments of the Andes Region. Regional Studies Journal, 56(4), 512–528. https://doi.org/10.1080/00343404.2022.2045981

15. Guerrero, M., & Sandoval, F. (2020). Local public management and efficiency in resource use: An empirical review. Revista de Administración Pública, 54(2), 45–68. https://doi.org/10.24911/rap.54.2.2020

16. Gupta, S., Tareq, S., Clements, B., & de Mello, L. (2021). Public Expenditure Efficiency in Developing Economies. IMF Working Paper 21/05. International Monetary Fund.

17. INEI (Instituto Nacional de Estadística e Informática). (2023). Compendio Estadístico Regional San Martín 2023. https://www.inei.gob.pe

18. Izquierdo, A., Pessino, C., & Monsalve, E. (2013). Public Sector Efficiency: Evidence for Latin America. Inter-American Development Bank. https://doi.org/10.18235/0006949

19. López, J., & Salcedo, E. (2021). Local Public Investment and Maintenance Deficits in Peru. Peruvian Journal of Economics and Public Policy, 8(3), 225–243.

20. López, R., & Salcedo, V. (2021). Infrastructure sustainability in local governments: The neglected dimension of maintenance. Revista Iberoamericana de Administración Pública, 19(2), 223–240.

21. MEF (Ministerio de Economía y Finanzas del Perú). (2021). Informe de Descentralización Fiscal 2021. https://www.mef.gob.pe

22. MEF (Ministerio de Economía y Finanzas del Perú). (2022). Guía de Gestión del Presupuesto por Resultados. https://www.mef.gob.pe

23. MEF (Ministerio de Economía y Finanzas del Perú). (2024). Transparencia Económica: Ejecución Presupuestal Municipal 2020–2024. https://www.mef.gob.pe

24. MEF (Ministerio de Economía y Finanzas del Perú). (2024). Transparencia Económica: Ejecución Presupuestal Municipal 2020–2024. Lima: MEF.

25. Ministry of Economy and Finance (MEF). (2024). Friendly Query of the Economic Transparency Portal. Lima: MEF. https://www.mef.gob.pe

26. OECD. (2022). Public Governance Review: Strengthening Subnational Capacity in Latin America. Paris: OECD Publishing.

27. OECD. (2023). Public Financial Management in Peru: An OECD Peer Review. OECD Publishing. https://doi.org/10.1787/d51d43b1-en

28. OECD. (2024). Government at a Glance: Latin America and the Caribbean 2024. OECD Publishing.

29. Pérez Urdiales, M., López-Luzuriaga, A., Castillo, A., & Couto Ribeiro, B. (2025). Fragmentation, Scale, and Management: Determinants of Public Spending Efficiency in Colombia's Water and Sanitation Sector. Inter-American Development Bank. https://doi.org/10.18235/0013721

30. Peters, B. G., & Pierre, J. (2016). The new public governance? Emerging perspectives on the theory and practice of public governance. Routledge.

31. Scartascini, C., Stein, E., & Tommasi, M. (2020). Institutional capacity and public investment management in Latin America. Inter-American Development Bank.

32. World Bank. (2022). Improving Public Sector Performance Through Innovation and Inter-Agency Coordination. World Bank Publications.

33. World Bank. (2022). Public management and economic recovery after COVID-19 in Latin America. Washington, DC: World Bank.