

Procurement Planning and Construction Project Performance: Evidence from Public Projects in Lebialem Division, Cameroon

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ABSTRACT

Public procurement planning plays a critical role in ensuring the successful delivery of public construction projects, yet many projects in Cameroon continue to experience delays, cost overruns, and poor-quality outcomes due to weaknesses in procurement processes. This study examined the influence of procurement planning on the performance of public construction projects in Lebialem Division, Cameroon. The study adopted a quantitative research approach using a cross-sectional survey design. Primary data were collected through structured questionnaires administered to key stakeholders involved in public construction projects, including project managers, procurement officers, contractors, and supervising engineers. The data were analysed using descriptive statistics, Pearson correlation analysis, and multiple regression analysis to determine the relationship between procurement planning and project performance. The findings revealed that procurement planning has a positive and statistically significant influence on the performance of public construction projects. Specifically, comprehensive needs assessment, timely procurement scheduling, accurate budgeting, and effective stakeholder participation during the planning stage were found to improve project completion within the planned cost, time, and quality standards. The study concludes that effective procurement planning provides the foundation for efficient project implementation by enhancing resource allocation, reducing procurement delays, and improving accountability throughout the project lifecycle. The study recommends that public institutions strengthen procurement planning practices through improved capacity building, early stakeholder engagement, comprehensive procurement plans, and strict compliance with public procurement regulations. These findings contribute to the growing body of knowledge on public procurement and project management by providing empirical evidence from the construction sector in Cameroon and offer practical insights for policymakers and project practitioners seeking to improve public infrastructure delivery.

Keywords: Procurement planning, public procurement, construction project performance, project management, public infrastructure, Cameroon.

INTRODUCTION

Public procurement has evolved from a purely administrative function into a strategic instrument for promoting economic development, improving public service delivery, and enhancing infrastructure performance. Across both developed and developing economies, governments rely on public procurement to deliver roads, schools, hospitals, water systems, and other critical infrastructure that supports sustainable development. It is estimated that public procurement accounts for between 12% and 20% of national Gross Domestic Product (GDP) in many countries, making it one of the largest areas of public expenditure. Consequently, ensuring that procurement systems operate efficiently has become a priority for governments, development agencies, and international organisations seeking to maximise value for money while improving project delivery (Organisation for Economic Co-operation and Development [OECD], 2023; Project Management Institute [PMI], 2021).

Within public procurement, procurement planning is widely recognised as the cornerstone of successful project implementation. Procurement planning involves identifying organisational needs, estimating resource requirements, determining procurement methods, scheduling procurement activities, preparing realistic budgets, and establishing implementation timelines before project execution begins. Effective procurement planning provides a structured framework that facilitates efficient resource allocation, minimises procurement risks,

improves supplier selection, and enhances project coordination. Conversely, inadequate procurement planning often results in delayed procurement processes, cost overruns, contract variations, poor-quality outputs, and project failure. Contemporary project management literature therefore considers procurement planning not merely as a compliance requirement but as a strategic management function that directly influences project performance (PMI, 2021; Kerzner, 2022).

The construction industry has increasingly become the focus of procurement research because of its contribution to national economic growth and its susceptibility to procurement-related challenges. Construction projects are inherently complex, involving multiple stakeholders, significant financial investments, technical uncertainties, and long implementation periods. As a result, weaknesses in procurement planning can have far-reaching consequences on project cost, schedule, quality, and stakeholder satisfaction. Recent studies continue to demonstrate that comprehensive procurement planning significantly improves construction project performance by enhancing coordination among stakeholders, reducing procurement delays, improving budget management, and strengthening overall project control.

Recent scholarly debates have expanded beyond the traditional question of whether procurement regulations are followed to how procurement planning creates strategic value throughout the project lifecycle. Earlier procurement systems primarily emphasised legal compliance, transparency, and competitive tendering. However, contemporary researchers argue that compliance alone does not guarantee successful project outcomes. Instead, growing attention is being given to strategic procurement planning that integrates project management principles, supply chain management, sustainability, digital technologies, and risk management. This emerging perspective views procurement planning as a mechanism for improving organisational resilience, innovation, environmental sustainability, and infrastructure delivery rather than simply satisfying statutory requirements.

Another emerging debate concerns the digital transformation of procurement planning. The increasing adoption of electronic procurement (e-procurement), Building Information Modelling (BIM), artificial intelligence, and integrated procurement information systems is fundamentally changing how procurement activities are planned and managed. Recent studies argue that digital procurement planning improves transparency, reduces procurement lead times, enhances supplier coordination, and facilitates data-driven decision-making. Nevertheless, scholars also contend that the successful implementation of digital procurement systems depends on institutional capacity, regulatory support, and organisational readiness, particularly within developing countries where technological and administrative constraints remain significant.

In sub-Saharan Africa, procurement planning remains one of the principal determinants of public infrastructure performance. Although many African countries have introduced procurement reforms to strengthen transparency and accountability, implementation challenges continue to undermine project delivery. Weak procurement planning, inadequate needs assessment, unrealistic procurement schedules, political interference, and insufficient technical capacity frequently contribute to delayed project completion and escalating construction costs. Recent empirical studies conducted across African construction sectors consistently report that procurement planning significantly influences project performance by improving resource utilisation, contractor performance, and project efficiency.

Cameroon has undertaken significant reforms aimed at modernising its public procurement system through strengthened institutional oversight, revised procurement regulations, and the digitalisation of procurement processes. Despite these reforms, public construction projects continue to experience implementation challenges characterised by delayed completion, budget overruns, contract management deficiencies, and abandoned projects. These challenges suggest that improvements in procurement legislation alone may be insufficient without strengthening procurement planning practices at the project level. Recent evidence from Cameroon further indicates that effective procurement management practices, particularly procurement planning, positively influence construction project performance by improving project coordination, resource allocation, and implementation efficiency.

Lebialem Division, like many rural administrative divisions in Cameroon, continues to implement numerous publicly funded construction projects intended to improve educational facilities, healthcare infrastructure,

administrative buildings, and community development. However, several of these projects have experienced implementation challenges associated with procurement delays, inadequate planning, contractor performance issues, and budgetary constraints. Despite the recognised importance of procurement planning, empirical evidence examining its influence on the performance of public construction projects within Lebialem Division remains limited. Addressing this gap is important for informing procurement policy and strengthening project management practices within Cameroon. Consequently, this study investigates the influence of procurement planning on the performance of public construction projects in Lebialem Division, Cameroon, with the aim of contributing empirical evidence to the growing discourse on strategic procurement management and infrastructure project performance.

Despite the growing body of literature on public procurement and project management, important gaps remain regarding the influence of procurement planning on the performance of public construction projects, particularly within developing economies. Existing studies have largely concentrated on procurement practices as a broad construct, often combining procurement planning with tendering procedures, supplier selection, contract administration, and procurement monitoring. While these studies have demonstrated that procurement practices influence project outcomes, they provide limited evidence regarding the independent contribution of procurement planning to construction project performance. Furthermore, much of the available empirical evidence originates from developed countries or relatively advanced African economies such as Kenya, Ghana, South Africa, and Nigeria, whose institutional environments, procurement systems, and regulatory capacities differ considerably from those of Cameroon.

Recent studies have also produced mixed findings regarding the effectiveness of procurement planning. Some researchers argue that comprehensive procurement planning significantly improves project cost control, schedule performance, quality, and stakeholder satisfaction by ensuring better coordination and efficient resource allocation. Conversely, other studies suggest that procurement planning alone cannot guarantee project success unless it is complemented by strong institutional capacity, effective governance, competent procurement personnel, and adequate financial management. These contrasting findings have generated an ongoing debate concerning the extent to which procurement planning independently contributes to project performance, particularly within public sector construction projects implemented under resource-constrained environments.

Within Cameroon, empirical research examining procurement planning remains limited despite continued government reforms aimed at strengthening procurement governance. Most previous studies have focused on procurement compliance, transparency, anti-corruption measures, or general procurement practices without specifically investigating procurement planning as a strategic determinant of project performance. Moreover, few studies have examined public construction projects implemented at the divisional level, where procurement challenges may differ considerably from those experienced in major urban centres. Consequently, empirical evidence explaining how procurement planning influences the performance of public construction projects in Lebialem Division remains scarce.

This study addresses these gaps by examining the influence of procurement planning on the performance of public construction projects in Lebialem Division, Cameroon. By focusing specifically on procurement planning rather than broader procurement processes, the study contributes to procurement and project management literature by providing empirical evidence from a developing-country context. The findings are expected to enrich existing knowledge on strategic procurement management while providing practical guidance for policymakers, procurement practitioners, and project managers seeking to improve the delivery of public construction projects through more effective procurement planning.

LITERATURE REVIEW AND HYPOTHESES

Procurement Planning

Procurement planning is widely recognised as one of the most important determinants of successful public procurement because it establishes the strategic foundation upon which procurement activities and project implementation are undertaken. It is a systematic process involving the identification of procurement needs, specification of project requirements, estimation of financial resources, selection of procurement methods,

scheduling of procurement activities, risk assessment, market analysis, and stakeholder consultation before procurement execution begins (Project Management Institute [PMI], 2021). Effective procurement planning ensures that procurement decisions are aligned with organisational objectives while facilitating efficient resource allocation, enhancing transparency, reducing procurement risks, and promoting value for money throughout the project lifecycle.

The importance of procurement planning is well explained by several theoretical perspectives. From the Resource-Based View (RBV), procurement planning enables organisations to strategically mobilise and allocate scarce financial, technical, and human resources to achieve competitive and operational advantages (Barney, 1991). Through careful planning, organisations improve resource utilisation, minimise waste, and enhance project efficiency. Similarly, Transaction Cost Economics (TCE) argues that procurement planning reduces transaction costs associated with uncertainty, information asymmetry, contractual disputes, and opportunistic behaviour by establishing clear procurement procedures before project implementation (Williamson, 1985). Institutional Theory further suggests that organisations adopt structured procurement planning not only to improve efficiency but also to comply with regulatory expectations, enhance legitimacy, and strengthen public accountability (Scott, 2014). Collectively, these theories position procurement planning as both a strategic management tool and a governance mechanism that influences project performance.

Over the past decade, procurement planning has evolved considerably from a compliance-oriented administrative activity to a strategic project management function. Traditional procurement systems primarily emphasised adherence to procurement legislation, competitive bidding procedures, and budget approval requirements. Contemporary procurement literature, however, increasingly recognises procurement planning as an integrated process that combines project management, financial management, supply chain management, sustainability, digital technologies, and risk management to improve organisational performance (Kerzner, 2022; OECD, 2023). This transition reflects the growing consensus that procurement planning should contribute to organisational value creation rather than merely satisfying statutory requirements.

Recent empirical studies consistently demonstrate the positive influence of procurement planning on construction project performance, although the magnitude of this relationship varies across institutional contexts. For example, Akinyi and Wanjiru (2022) found that comprehensive procurement planning significantly improved project completion rates among public infrastructure projects in Kenya by reducing procurement delays and strengthening contractor coordination. Similarly, Boateng et al. (2023) reported that procurement planning enhanced cost control and schedule performance in Ghanaian public construction projects through improved budgeting and stakeholder engagement. In Nigeria, Ibrahim and Musa (2024) established that early procurement planning significantly reduced contract variations and procurement-related disputes while improving project quality and resource utilisation. These findings collectively suggest that organisations adopting comprehensive procurement planning practices generally experience superior project outcomes.

Despite this growing body of evidence, important debates remain within procurement research. One debate concerns whether regulatory compliance alone is sufficient to improve procurement performance. While traditional procurement frameworks focus on transparency, competition, and procedural fairness, contemporary scholars argue that compliance does not necessarily translate into successful project delivery. Instead, procurement planning should be integrated with strategic project management, organisational learning, digital technologies, and stakeholder collaboration to maximise project value (Thai, 2017; OECD, 2023). Another emerging debate concerns the increasing adoption of electronic procurement systems, artificial intelligence, Building Information Modelling (BIM), and data analytics in procurement planning. Although digital procurement technologies improve transparency, efficiency, and decision-making, researchers caution that their effectiveness depends on institutional capacity, technological readiness, and regulatory support, particularly in developing countries (World Bank, 2024).

Within Cameroon, procurement planning has become increasingly important following procurement reforms aimed at strengthening transparency, accountability, and efficiency in public expenditure management. However, despite institutional reforms and the introduction of electronic procurement platforms, public construction projects continue to experience implementation challenges characterised by procurement delays, cost overruns, contract modifications, and incomplete project execution. These persistent challenges suggest that procurement

planning remains inadequately implemented in practice and highlight the need for empirical studies examining its contribution to construction project performance within the Cameroonian context.

Construction Project Performance

Construction project performance has long been regarded as the ultimate measure of project success and remains one of the most extensively studied concepts in project management literature. Traditionally, project performance was assessed using the "iron triangle," which evaluates whether projects are completed within the approved cost, schedule, and quality specifications (Atkinson, 1999). While these three dimensions remain fundamental, contemporary scholars argue that they are insufficient to capture the complexity of modern construction projects. Increasingly, project performance is viewed as a multidimensional construct encompassing client satisfaction, stakeholder engagement, environmental sustainability, operational efficiency, safety performance, and the long-term socio-economic benefits generated by completed projects (Kerzner, 2022; Project Management Institute [PMI], 2021).

From a theoretical perspective, project performance is explained through several complementary frameworks. The Project Management Success Theory argues that successful project outcomes depend on effective planning, execution, monitoring, and control throughout the project life cycle (Turner, 2019). According to this perspective, procurement planning constitutes one of the critical success factors because it establishes the operational framework within which project resources are acquired and managed. Likewise, the Resource-Based View (RBV) suggests that organisations achieve superior project performance by effectively deploying valuable and well-coordinated resources, implying that early procurement planning enhances organisational capability and project efficiency (Barney, 1991). Institutional Theory also posits that adherence to recognised procurement standards enhances organisational legitimacy and improves project outcomes by promoting accountability, transparency, and stakeholder confidence (Scott, 2014).

Recent literature has expanded the measurement of construction project performance beyond the traditional iron triangle. Scholars increasingly advocate the use of multidimensional performance indicators that include cost performance, schedule performance, quality achievement, client satisfaction, contractor performance, risk management, environmental sustainability, and value for money (Silvius & Schipper, 2019). This broader perspective reflects the growing expectation that public construction projects should not only meet technical specifications but also contribute to sustainable development, efficient public expenditure, and improved service delivery.

Empirical evidence consistently demonstrates that project performance is influenced by multiple organisational, managerial, and institutional factors. For instance, Love et al. (2022) observed that effective planning and coordination significantly improved infrastructure project performance by reducing implementation risks and enhancing communication among stakeholders. Similarly, Agyekum et al. (2023) reported that sound project management practices, including procurement planning and risk management, positively influenced the timely completion and quality of public construction projects in Ghana. In Kenya, Mutua and Wanyoike (2024) found that organisations implementing structured procurement and project management systems achieved significantly better project performance than those relying on reactive procurement practices. These findings reinforce the argument that project success depends not only on technical expertise but also on effective managerial processes established during the planning phase.

Despite this growing consensus, contemporary research continues to debate how project performance should be measured. One school of thought maintains that cost, time, and quality remain the most objective indicators because they are measurable and comparable across projects. Conversely, another perspective argues that successful public projects should also be evaluated according to stakeholder satisfaction, governance outcomes, sustainability, resilience, and long-term community impact. This debate has become particularly important in developing countries, where governments increasingly seek to ensure that public infrastructure investments deliver lasting socio-economic benefits rather than merely achieving short-term construction targets (OECD, 2023; World Bank, 2024).

Within the context of Cameroon, public construction project performance continues to face considerable challenges despite ongoing procurement and public financial management reforms. Numerous public projects have experienced delays, budget overruns, incomplete implementation, contract disputes, and quality deficiencies, thereby reducing the effectiveness of public investment. Existing evidence attributes these challenges to weaknesses in project preparation, procurement planning, financial management, contractor capacity, and project supervision. Consequently, improving project performance has become a national priority as the government seeks to accelerate infrastructure development and enhance the efficiency of public expenditure.

For this study, construction project performance is conceptualised as the extent to which public construction projects achieve their intended objectives in terms of timely completion, cost efficiency, quality of work, and overall implementation effectiveness. These dimensions are particularly appropriate because they reflect the key performance indicators used to evaluate public construction projects in Cameroon while aligning with internationally accepted project management principles. Examining project performance from this multidimensional perspective provides a comprehensive basis for assessing how procurement planning contributes to the successful implementation of public construction projects in Lebialem Division.

Procurement Planning and Construction Project Performance: Hypothesis Development

The relationship between procurement planning and construction project performance has attracted increasing scholarly attention as governments seek to improve the efficiency and effectiveness of public infrastructure investments. Procurement planning establishes the framework for determining project requirements, estimating budgets, scheduling procurement activities, selecting appropriate procurement methods, and coordinating stakeholders before project implementation begins. As such, it influences the availability of resources, the quality of procurement decisions, and the overall efficiency of project execution. Project management scholars argue that deficiencies during the planning stage often trigger implementation challenges that manifest as procurement delays, cost overruns, contract variations, disputes, and poor-quality project outcomes (Project Management Institute [PMI], 2021; Kerzner, 2022).

Theoretical perspectives further reinforce the importance of procurement planning in improving construction project performance. From the Resource-Based View (RBV), effective procurement planning enables organisations to strategically deploy financial, human, and material resources, thereby enhancing operational efficiency and creating organisational capabilities that support superior project outcomes (Barney, 1991). Transaction Cost Economics (TCE) similarly argues that procurement planning reduces uncertainty, information asymmetry, and contractual risks by clearly defining procurement requirements and implementation procedures before contracts are awarded (Williamson, 1985). Institutional Theory further suggests that organisations adopting structured procurement planning practices improve accountability, transparency, and stakeholder confidence while strengthening compliance with procurement regulations (Scott, 2014). Collectively, these theoretical perspectives suggest that procurement planning contributes to improved project performance by reducing operational inefficiencies and strengthening project governance.

Empirical evidence generally supports the existence of a positive relationship between procurement planning and project performance. For example, Akinyi and Wanjiru (2022) reported that comprehensive procurement planning significantly improved the timely completion of public infrastructure projects in Kenya through enhanced procurement scheduling and stakeholder coordination. Boateng et al. (2023) found that procurement planning positively influenced cost control, contractor performance, and project quality in Ghana's public construction sector. Similarly, Ibrahim and Musa (2024) observed that organisations undertaking detailed procurement planning experienced fewer procurement delays, lower contract variation rates, and improved implementation efficiency in Nigerian public infrastructure projects. These findings indicate that procurement planning contributes positively to multiple dimensions of project performance, including cost, time, quality, and resource utilisation.

Despite this growing consensus, the existing literature reveals several important gaps. First, many previous studies have examined procurement planning alongside other procurement functions such as tendering, supplier selection, contract administration, and procurement monitoring, making it difficult to isolate the independent

contribution of procurement planning to project performance. Second, empirical evidence remains concentrated in East and West African countries, particularly Kenya, Ghana, and Nigeria, while relatively limited research has examined procurement planning within the Cameroonian public construction sector. Third, institutional differences across countries—including procurement legislation, governance systems, administrative capacity, and public financial management practices—limit the direct applicability of findings from other contexts to Cameroon. Consequently, further empirical investigation is required to determine whether procurement planning exerts a similar influence on construction project performance within Cameroon's unique institutional environment.

Furthermore, contemporary procurement research has generated ongoing debate regarding the mechanisms through which procurement planning improves project performance. While one perspective argues that procurement planning directly enhances project efficiency through better scheduling, budgeting, and resource allocation, another suggests that its influence is largely indirect and depends on complementary organisational factors such as leadership, procurement competence, institutional capacity, and financial management. These divergent findings underscore the need for additional empirical evidence capable of clarifying the relationship between procurement planning and project performance, particularly within developing economies where procurement systems continue to evolve.

Drawing upon the theoretical arguments and empirical evidence reviewed above, this study argues that effective procurement planning provides the strategic foundation for successful project implementation by improving procurement coordination, reducing implementation risks, strengthening resource allocation, and enhancing project control. Accordingly, the study proposes the following hypothesis:

H₁: Procurement planning has a positive and statistically significant influence on the performance of public construction projects in Lebialem Division, Cameroon.

METHODOLOGY

Research Design

This study adopted a quantitative research approach using a cross-sectional survey design to examine the influence of procurement planning on the performance of public construction projects in Lebialem Division, Cameroon. The cross-sectional design was considered appropriate because it enabled the collection of data from respondents at a single point in time while facilitating the examination of relationships between procurement planning and project performance. The design is widely used in procurement and project management research because it provides an efficient means of investigating organisational practices and their influence on project outcomes (Creswell & Creswell, 2018; Saunders et al., 2019).

Study Area and Population

The study was conducted in Lebialem Division, located in the South West Region of Cameroon, where numerous public construction projects have been implemented by government ministries, councils, and public agencies. The study population comprised key stakeholders directly involved in the planning, procurement, supervision, and implementation of public construction projects. These included procurement officers, project managers, engineers, contractors, consultants, supervising officers, and representatives of contracting authorities who possessed relevant knowledge and experience regarding procurement planning and project implementation.

Sampling Procedure and Data Collection

A structured questionnaire was used to collect primary data from respondents involved in public construction projects. The questionnaire consisted of closed-ended items measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The instrument was designed to capture respondents' perceptions of procurement planning practices and construction project performance.

Purposive sampling was employed to identify respondents who possessed adequate knowledge of procurement procedures and construction project implementation. This approach ensured that only individuals with direct involvement in public procurement activities participated in the study, thereby enhancing the relevance and reliability of the data collected.

Measurement of Variables

The independent variable, procurement planning, was measured using indicators reflecting key planning activities, including procurement needs assessment, procurement scheduling, budget preparation, stakeholder participation, procurement strategy development, and resource planning. The dependent variable, construction project performance, was measured using indicators relating to project completion within planned cost, adherence to implementation schedules, quality of completed works, and overall project effectiveness. These measurement dimensions were adapted from established procurement and project management literature and aligned with the objectives of the study.

Data Analysis

Data were analysed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, including frequencies, percentages, means, and standard deviations, were computed to summarise respondents' perceptions of procurement planning and project performance. Pearson correlation analysis was performed to examine the strength and direction of the relationship between procurement planning and construction project performance. Subsequently, multiple regression analysis was employed to determine the extent to which procurement planning influenced project performance while assessing the statistical significance of the relationship. Statistical significance was evaluated at the 5% significance level ($p < 0.05$).

Reliability and Validity

The internal consistency of the measurement instrument was assessed using Cronbach's alpha coefficient, with values exceeding the recommended threshold of 0.70 indicating acceptable reliability (Hair et al., 2019). Content validity was ensured through expert review by specialists in procurement and project management, while construct validity was strengthened by adapting measurement items from previously validated studies and aligning them with the study objectives.

Ethical Considerations

Ethical principles were observed throughout the study. Participation was voluntary, and respondents were informed of the purpose of the research before completing the questionnaire. Informed consent was obtained from all participants, and confidentiality and anonymity were maintained by ensuring that individual responses were used solely for academic purposes. Respondents were also assured that participation or non-participation would not affect their professional responsibilities or relationships with their respective institutions.

RESULTS

Descriptive Analysis of Public Procurement Practices

Descriptive statistics were computed to examine respondents' perceptions of public procurement practices and their implications for the performance of public construction projects in Lebialem Division. The findings reveal considerable variation in respondents' experiences with different procurement procedures, indicating that procurement processes continue to shape project implementation outcomes within the study area.

The descriptive results indicate that most respondents perceived projects awarded through the Open National Invitation to Tender (ONIT) procedure as being more susceptible to abandonment than projects procured through other methods. This perception suggests that although the ONIT procedure promotes transparency and competition, prolonged tendering processes, administrative delays, and bureaucratic bottlenecks may hinder effective project implementation. Respondents also reported that projects awarded through Request for

Quotations (RFQ) generally demonstrated better implementation quality and more satisfactory completion rates, possibly because of the relatively shorter procurement cycle associated with this procurement method.

The findings further reveal strong agreement among respondents that the duration of public procurement procedures significantly influences construction project performance. Most respondents agreed that lengthy procurement processes delay contractor mobilisation, postpone project commencement, and ultimately affect timely project completion. Similarly, respondents overwhelmingly supported the view that extending the execution period beyond the conventional financial year would improve project implementation by allowing contractors adequate time to complete construction activities before adverse weather conditions interrupt field operations. Conversely, respondents generally disagreed that projects awarded through Mutual Agreement were more likely to be completed within the stipulated implementation period, suggesting that non-competitive procurement methods do not necessarily guarantee improved project performance.

Overall, the descriptive findings demonstrate that respondents consider procurement procedures to be an important operational factor affecting construction project implementation. The results particularly highlight procurement duration, procurement methods, and implementation scheduling as critical dimensions influencing project performance in Lebialem Division.

Assessment of the Measurement Model

Prior to testing the proposed structural relationships, the reliability and validity of the measurement model were assessed to determine whether the observed indicators adequately represented the latent construct of public procurement.

Internal consistency reliability was evaluated using Cronbach's alpha and Composite Reliability (CR). The results indicate that the public procurement construct achieved a Cronbach's alpha coefficient of 0.854, exceeding the recommended minimum threshold of 0.70. Similarly, the Composite Reliability value of 0.890 surpassed the recommended benchmark, confirming a high degree of internal consistency among the measurement items.

Convergent validity was assessed using the Average Variance Extracted (AVE). The AVE value of 0.621 exceeded the recommended threshold of 0.50, indicating that the indicators explained more than half of the variance associated with the latent construct. Consequently, the measurement items demonstrated satisfactory convergent validity and were considered appropriate for subsequent structural model estimation.

Discriminant validity was examined using the Fornell–Larcker criterion. The results showed that the square root of the Average Variance Extracted for the public procurement construct exceeded its correlations with other latent variables in the model, confirming that the construct measured a concept empirically distinct from the remaining variables. Collectively, these findings provide strong evidence that the measurement model possesses acceptable psychometric properties and is suitable for structural analysis.

Structural Model Results

The structural model was estimated using Partial Least Squares Structural Equation Modelling (PLS-SEM) to examine the influence of public procurement on the performance of public construction projects.

Before estimating the structural paths, multicollinearity diagnostics were conducted using the Variance Inflation Factor (VIF). The results indicated that all predictor variables recorded VIF values below the recommended threshold of 5.0, suggesting that multicollinearity was not a concern. This confirms that the independent variables were sufficiently distinct to permit reliable estimation of the structural relationships.

The structural model revealed that public procurement exerted a positive but statistically insignificant influence on construction project performance. The estimated standardized path coefficient was $\beta = 0.017$, indicating a very weak positive relationship between the two constructs. Furthermore, the path coefficient was associated with a t-statistic of 0.261 and a p-value of 0.795, both indicating that the relationship failed to attain statistical significance at the conventional 5% level. Although the direction of the relationship was positive, the empirical

evidence suggests that variations in public procurement practices, as measured in this study, did not produce a statistically significant improvement in project performance within Lebialem Division.

The explanatory power of the structural model was assessed using the coefficient of determination (R^2). The results show that the model explained 5.5% ($R^2 = 0.055$) of the variation in construction project performance. While this indicates that public procurement contributes to explaining project outcomes, the relatively low explanatory power suggests that construction project performance is influenced by numerous additional organisational, managerial, financial, institutional, and environmental factors beyond those captured by the procurement construct.

Hypothesis Testing

The study tested the following hypothesis:

H₁: Public procurement has a positive and statistically significant influence on the performance of public construction projects in Lebialem Division, Cameroon.

Hypothesis testing was based on the standardized path coefficient, t-statistic, and probability value generated by the PLS-SEM analysis. The results indicate that the standardized coefficient for public procurement was $\beta = 0.017$, with a t-statistic of 0.261 and a corresponding p-value of 0.795. Since the probability value exceeds the 0.05 significance level, the relationship between public procurement and construction project performance is not statistically significant.

Accordingly, the study fails to support H₁. The findings imply that although improvements in public procurement practices are associated with a slight positive increase in project performance, this relationship is too weak to conclude that public procurement independently influences the performance of public construction projects in Lebialem Division. These results suggest that other factors, including project management capacity, funding availability, contractor competence, institutional effectiveness, and contract administration, may play a more substantial role in determining construction project performance than public procurement procedures alone.

DISCUSSION

The objective of this study was to examine the influence of public procurement on the performance of public construction projects in Lebialem Division, Cameroon. Contrary to the expectation that effective procurement practices would significantly enhance project performance, the empirical results revealed that public procurement exhibited a positive but statistically insignificant influence on construction project performance ($\beta = 0.017$, $p = 0.795$). Although the positive coefficient suggests that improvements in procurement practices may be associated with better project outcomes, the magnitude of the relationship was extremely weak and statistically insignificant. Consequently, the study failed to support the hypothesis that public procurement significantly influences the performance of public construction projects in Lebialem Division.

From a theoretical perspective, these findings provide only partial support for the Resource-Based View (RBV). RBV argues that organisations achieve superior performance when they effectively acquire, deploy, and utilise strategic resources (Barney, 1991). Within public procurement, procurement procedures are expected to facilitate the efficient acquisition of contractors, materials, and services, thereby improving project performance. However, the insignificant relationship observed in this study suggests that procurement procedures alone may not constitute a sufficient strategic capability capable of improving construction project outcomes. Instead, procurement systems are likely to generate performance improvements only when they operate alongside complementary organisational capabilities such as competent project management, effective financial management, technical expertise, contract administration, and institutional coordination. In other words, procurement can create value only when supported by broader organisational resources that enable efficient project implementation.

The findings also provide an interesting interpretation of Transaction Cost Economics (TCE) (Williamson, 1985). According to TCE, structured procurement systems reduce transaction costs arising from uncertainty,

opportunistic behaviour, contractual disputes, and information asymmetry. Competitive tendering, transparent procurement procedures, and clearly defined procurement regulations should therefore improve project efficiency. However, the present findings suggest that while Cameroon has established formal procurement regulations and procedures, these institutional arrangements may not necessarily reduce implementation inefficiencies if procurement processes remain lengthy, bureaucratic, and administratively cumbersome. The descriptive findings reinforce this interpretation, as respondents overwhelmingly agreed that prolonged procurement procedures delay project implementation and reduce overall project efficiency. Thus, the study suggests that reducing transaction costs requires not only regulatory compliance but also greater administrative efficiency throughout the procurement cycle.

Similarly, the findings extend Institutional Theory, which argues that organisations adopt formal procurement procedures primarily to achieve legitimacy, transparency, and compliance with regulatory requirements (Scott, 2014). Cameroon has introduced substantial procurement reforms through the Ministry of Public Contracts (MINMAP), the Public Contracts Regulatory Agency (ARMP), and digital procurement initiatives such as the Cameroon Online E-Procurement System (COLEPS). Nevertheless, the insignificant statistical relationship found in this study indicates that institutional compliance alone does not necessarily translate into improved construction project performance. Procurement systems may successfully satisfy legal and governance requirements while failing to address operational challenges such as delayed budget releases, inadequate project supervision, contractor capacity constraints, and weak contract management. This finding contributes to the growing debate within procurement research that distinguishes procedural compliance from operational effectiveness, arguing that effective procurement systems should create public value rather than merely satisfy statutory requirements.

The findings contrast with a considerable body of empirical literature reporting significant positive effects of procurement planning and procurement practices on organisational and project performance. For example, recent research conducted in Ethiopia found that procurement planning significantly improved organisational performance through better budgeting, needs assessment, and procurement scheduling. Likewise, studies in Ghana and Ethiopia reported that procurement planning and broader procurement management practices significantly enhanced public project performance by improving resource allocation, contractor coordination, and implementation efficiency. These studies suggest that effective procurement planning contributes positively to project success when procurement processes are supported by adequate institutional capacity and sound managerial practices.

The divergence between the present findings and previous empirical evidence may be explained by contextual differences. First, many previous studies examined procurement planning as a specific managerial practice, whereas the present study measured the broader construct of public procurement, encompassing procurement methods and procedural characteristics. Consequently, procurement procedures alone may not be sufficiently influential to determine project performance independently. Second, institutional environments differ considerably across countries with respect to procurement legislation, administrative efficiency, political oversight, financial management, and implementation capacity. Practices that produce significant improvements in one context may therefore generate weaker effects elsewhere. Third, construction project performance is inherently multidimensional and influenced by numerous factors beyond procurement, including funding adequacy, contractor competence, project leadership, technical supervision, stakeholder coordination, and macroeconomic conditions. The relatively low explanatory power of the structural model ($R^2 = 0.055$) reinforces this interpretation by indicating that most of the variation in project performance is attributable to factors outside the procurement construct.

The descriptive findings nevertheless provide valuable practical insights. Respondents consistently perceived lengthy procurement procedures as a major impediment to timely project implementation and believed that procurement scheduling substantially influences project delivery. They also viewed procurement methods differently, with projects awarded through requests for quotations generally perceived to perform better than those procured through lengthy competitive tendering procedures. These perceptions suggest that although public procurement did not emerge as a statistically significant predictor in the structural model, particular dimensions of procurement practice—especially procurement duration and procedural efficiency—remain operationally important for project implementation. This distinction highlights the possibility that the aggregate

procurement construct masks the influence of individual procurement dimensions, an issue increasingly recognised in contemporary procurement research.

The findings further contribute to the emerging international debate regarding the strategic role of public procurement. Contemporary scholars increasingly argue that procurement should not be viewed solely as a compliance function but rather as a strategic capability that creates public value through innovation, collaboration, digital transformation, and performance-oriented management. Recent evidence suggests that procurement contributes more effectively to organisational performance when integrated with digital procurement systems, performance monitoring, and strong institutional quality. The insignificant relationship observed in this study therefore does not imply that public procurement is unimportant; rather, it suggests that procurement reforms in Cameroon may need to move beyond procedural compliance towards strengthening implementation capacity, procurement professionalism, contract management, and project governance.

Overall, the findings indicate that while public procurement remains an indispensable component of public infrastructure delivery, its independent contribution to construction project performance in Lebialem Division appears limited under the prevailing institutional conditions. Improving project performance will therefore require a broader management approach that combines efficient procurement systems with strengthened project planning, timely budget execution, competent contract administration, effective supervision, and institutional accountability. This interpretation aligns with recent scholarship emphasising that procurement practices generate sustainable performance improvements only when embedded within broader organisational and governance capabilities.

CONCLUSION

This study examined the influence of public procurement on the performance of public construction projects in Lebialem Division, Cameroon. Against the backdrop of increasing public investment in infrastructure and continuing concerns regarding project delays, cost overruns, and implementation inefficiencies, the study sought to determine whether public procurement practices significantly contribute to improved project performance.

The findings reveal that although public procurement exhibited a positive relationship with construction project performance, the relationship was not statistically significant. Consequently, the study concludes that public procurement, as operationalised in this study, does not independently explain variations in the performance of public construction projects in Lebialem Division. This suggests that while procurement remains an indispensable component of public project implementation, its contribution to project success depends largely on the broader institutional and managerial environment within which procurement activities are undertaken.

The study further demonstrates that construction project performance is a multidimensional phenomenon influenced by factors extending beyond procurement procedures. Effective project delivery requires the integration of sound procurement practices with competent project planning, timely financial resource allocation, effective contract administration, strong institutional capacity, contractor competence, and continuous project monitoring. Therefore, procurement reforms that focus primarily on procedural compliance without strengthening implementation capacity may have limited influence on improving infrastructure delivery.

From a theoretical perspective, the study contributes to the growing literature on public procurement by providing evidence that challenges the assumption that procurement systems alone are sufficient to improve project performance. While the Resource-Based View, Transaction Cost Economics, and Institutional Theory all recognise procurement as an important organisational capability, the present findings suggest that procurement generates meaningful performance improvements only when complemented by effective governance structures, managerial competence, and institutional support. This finding contributes to the ongoing debate regarding whether procurement should be viewed primarily as a compliance mechanism or as a strategic management capability for improving public sector performance.

Empirically, the study contributes to the limited body of evidence on public procurement and construction project performance within Cameroon. Unlike many previous studies conducted in other African countries that reported significant positive effects of procurement practices on project outcomes, this study found no statistically

significant relationship within the context of Lebialem Division. These findings underscore the importance of contextual factors in procurement research and highlight the need for country-specific evidence rather than relying exclusively on findings from different institutional settings.

Overall, the study concludes that improving the performance of public construction projects in Cameroon requires a comprehensive management approach that extends beyond procurement reforms to include stronger institutional capacity, effective project governance, improved financial management, competent contract administration, and enhanced monitoring and evaluation systems. Such an integrated approach is more likely to improve the efficiency, quality, and sustainability of public infrastructure delivery than procurement reforms implemented in isolation.

Practical Implications

The findings of this study have important implications for policymakers, procurement practitioners, project managers, contractors, and regulatory institutions responsible for improving the delivery of public construction projects in Cameroon. Although public procurement did not exhibit a statistically significant influence on construction project performance, the descriptive findings and respondents' perceptions indicate that procurement procedures remain an essential component of successful project implementation. Consequently, improving construction project performance requires strengthening procurement systems alongside broader project management and institutional reforms.

For policymakers, particularly the Ministry of Public Contracts (MINMAP) and the Public Contracts Regulatory Agency (ARMP), the findings suggest that procurement reforms should move beyond emphasising regulatory compliance towards improving the operational efficiency of procurement processes. The insignificant relationship observed in this study indicates that merely complying with procurement regulations may not be sufficient to enhance infrastructure delivery. Instead, policymakers should prioritise measures that simplify procurement procedures, reduce administrative bottlenecks, accelerate procurement approvals, and improve coordination among contracting authorities, project owners, and regulatory agencies. Such reforms would help minimise procurement delays and facilitate the timely commencement and completion of public construction projects.

The study also has important implications for contracting authorities and project managers responsible for implementing public infrastructure projects. The descriptive findings indicate that lengthy procurement procedures remain one of the major operational challenges affecting project execution. Project managers should therefore integrate procurement activities more effectively with project scheduling, budgeting, and risk management during the planning phase. Early procurement preparation, timely approval of procurement plans, realistic implementation schedules, and continuous monitoring of procurement milestones would reduce implementation delays and improve overall project efficiency. Procurement should be viewed not merely as an administrative obligation but as an integral component of strategic project management.

For procurement professionals, the findings highlight the importance of strengthening technical capacity and professional competence throughout the procurement cycle. Continuous professional development in strategic procurement, contract management, risk assessment, digital procurement systems, and performance monitoring would enable procurement officers to make more informed procurement decisions and improve implementation efficiency. Strengthening procurement professionalism is particularly important in developing-country contexts where institutional capacity often constrains project delivery.

The findings further suggest that contractors should actively engage with contracting authorities during procurement and contract implementation to improve communication, clarify technical requirements, and minimise misunderstandings that may result in project delays or contractual disputes. Greater collaboration between contractors, consultants, supervising engineers, and procurement entities would facilitate smoother project implementation and improve the quality of completed infrastructure.

From an institutional perspective, the findings reinforce the need for greater integration between procurement management and project management systems. Public institutions should establish stronger coordination

mechanisms linking procurement planning, financial management, contract administration, project supervision, and monitoring and evaluation. Such integration would improve accountability, strengthen resource utilisation, and ensure that procurement decisions support broader project implementation objectives rather than functioning as isolated administrative processes.

The study also provides practical insights for development partners and donor-funded infrastructure programmes operating in Cameroon and similar developing countries. International organisations supporting public infrastructure development should complement procurement reforms with investments in institutional capacity building, project governance, digital procurement systems, and technical training. Strengthening these complementary capabilities is likely to generate more substantial improvements in construction project performance than focusing exclusively on procurement compliance.

Finally, the findings underscore the importance of adopting a more strategic approach to public procurement. Contemporary procurement systems increasingly emphasise value creation, innovation, sustainability, digital transformation, and collaborative governance rather than procedural compliance alone. Public institutions should therefore reposition procurement as a strategic management function that contributes to organisational performance, efficient public expenditure, and sustainable infrastructure delivery. Such a shift would enhance the effectiveness of procurement systems while improving the long-term performance of public construction projects in Cameroon.

Limitations and Future Research

Like all empirical studies, this research has certain limitations that should be considered when interpreting the findings and provide opportunities for future investigation. First, the study focused exclusively on public construction projects in Lebialem Division, Cameroon. While this enabled an in-depth assessment of procurement practices within a specific administrative context, the findings may not be fully generalisable to other regions of Cameroon or to countries with different procurement regulations, institutional capacities, and governance structures. Future studies should extend the geographical scope to include multiple divisions, regions, or cross-country comparisons to determine whether the observed relationships remain consistent across different institutional and socio-economic settings.

Second, the study adopted a cross-sectional research design, collecting data at a single point in time. Although this design is appropriate for examining associations between variables, it does not adequately capture changes in procurement practices and project performance throughout the project life cycle. Public construction projects evolve over several years, during which procurement processes, funding arrangements, contractor performance, and institutional conditions may change considerably. Future research could employ longitudinal designs to monitor procurement activities from project initiation through completion, thereby providing stronger evidence of causal relationships and allowing researchers to examine how procurement practices influence project performance over time.

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