SSR Journal of Economics, Business and Management (SSRJEBM)

Homepage: https://ssrpublisher.com/ssrjebm/

Volume 3, Issue 3, 2026 ISSN: 3049-0405

Public Procurement Practices and Architectural Design Outcomes in Public Buildings: Evidence from Auchi Polytechnic, Auchi, Edo State, Nigeria

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Received: 25.02.2026 | **Accepted:** 24.03.2026 | **Published:** 26.03.2026

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DOI: *10.5281/zenodo.19238452*

Abstract **Original Research Article**

Public procurement systems constitute a critical institutional mechanism through which governments translate development priorities into physical infrastructure. In Nigeria, the enactment of the Public Procurement Act (PPA) 2007 introduced regulatory reforms intended to strengthen transparency, competition, and value-for-money in public contracting. While these reforms have improved accountability in government expenditure, persistent concerns remain regarding the functional performance and architectural quality of many publicly funded buildings, particularly within tertiary educational institutions. This study examines how procurement practices shape architectural design outcomes in public buildings within the Nigerian institutional context. Drawing conceptual insights from infrastructure development in Auchi Polytechnic, Edo State, the study adopts a theoretical and literature review methodology to synthesise recent scholarship on procurement governance, construction management, and architectural performance. The analysis reveals that procurement structures particularly cost-dominated tender evaluation systems, fragmented decision-making processes, and limited professional integration during procurement planning significantly influence how architectural designs are translated into built outcomes. Evidence from Nigerian institutional projects indicates that procurement systems focused predominantly on financial compliance frequently produce buildings that satisfy contractual specifications but fall short in terms of spatial functionality, durability, and architectural coherence. The paper argues that improving public infrastructure outcomes requires procurement governance frameworks that recognise architectural design quality as a strategic dimension of public investment. The study concludes by recommending institutional reforms that strengthen professional participation in procurement processes and integrate architectural performance indicators into procurement evaluation frameworks.

Keywords: public procurement, architectural design quality, infrastructure governance, tertiary institutions, public buildings, Nigeria.

Introduction

Public infrastructure development remains a central instrument through which governments translate policy objectives into tangible social and economic outcomes. Within this broader framework, public buildings such as educational institutions, hospitals, and administrative complexes represent critical components of national development strategies. The architectural quality and functional efficiency of these structures are particularly important because they shape the environment within which institutional activities occur. In the context of tertiary education, well-designed academic buildings facilitate effective teaching, research collaboration, and administrative coordination, while poorly conceived structures may undermine institutional productivity and increase long-term maintenance costs. Consequently, the processes through which public buildings are conceived, designed, and constructed have significant implications for institutional performance and public value creation.

In Nigeria, the delivery of public buildings is largely mediated through formal procurement systems that regulate how government agencies engage architects, engineers, contractors, and other professionals involved in infrastructure development. Public procurement procedures determine how construction projects are planned, tendered, evaluated, and executed within the public sector. While procurement frameworks are primarily designed to ensure transparency and accountability in the utilisation of public funds, they also indirectly shape the technical and architectural characteristics of completed infrastructure projects. Procurement decisions influence contractor selection, material specifications, design implementation strategies, and project supervision mechanisms. As a result, the institutional structure of procurement governance can significantly affect how architectural concepts developed during the design stage are ultimately translated into built form.

Nigeria's public procurement landscape underwent a major institutional transformation with the enactment of the Public Procurement Act (PPA) 2007, which established a regulatory framework aimed at addressing longstanding challenges of corruption, inefficiency, and lack of transparency in government contracting. The Act introduced competitive bidding procedures, standardised procurement documentation, and oversight mechanisms through the Bureau of Public Procurement (BPP). These reforms were widely regarded as a critical step toward strengthening financial accountability in the management of public resources. Recent studies suggest that the implementation of the procurement reform has improved procedural compliance and increased transparency in contract allocation within the Nigerian public sector (Oladiran & Oche, 2024). However, the emphasis on financial governance has also generated new debates regarding whether existing procurement structures sufficiently support the delivery of high-quality infrastructure.

Within Nigeria's tertiary education sector, the relationship between procurement governance and infrastructure quality has become increasingly visible due to the rapid expansion of campus facilities over the past two decades. Government initiatives aimed at improving higher education infrastructure particularly those implemented through the Tertiary Education Trust Fund (TETFund) have resulted in the construction of numerous lecture halls, laboratories, administrative complexes, and student facilities across universities and polytechnics. Although these projects have significantly expanded institutional capacity, empirical assessments of campus infrastructure frequently reveal concerns relating to building functionality, environmental performance, and long-term durability. Several studies note that newly completed public buildings sometimes exhibit issues such as inefficient spatial planning, inadequate ventilation systems, or premature deterioration of structural components (Fagbemi, 2025). These concerns raise important questions about the institutional factors influencing the architectural outcomes of publicly funded construction projects.

While deficiencies in construction quality are often attributed to contractor performance or weak project supervision, a growing body of scholarship suggests that procurement governance itself may play a decisive role in shaping architectural design outcomes. Procurement frameworks that prioritise lowest-cost bidding mechanisms may inadvertently encourage contractors to adopt cost-minimisation strategies that alter design specifications or compromise material quality. In addition, bureaucratic procurement procedures and fragmented decision-making structures may limit the effective participation of design professionals during project implementation. These institutional dynamics highlight the need to examine procurement practices not merely as administrative processes but as structural determinants of architectural quality in public infrastructure development. Against this background, this study explores the relationship between public procurement practices and architectural design outcomes in public buildings within the Nigerian tertiary education sector, drawing contextual insights from infrastructure development at Auchi Polytechnic, Auchi, Edo State.

Conceptual Clarification

Conceptual clarification is essential for establishing a clear analytical foundation for examining the relationship between procurement governance and architectural outcomes in public infrastructure development. The concepts of public procurement and architectural design outcomes are often discussed independently in the literature on public administration and built environment studies. However, understanding how these concepts interact within the context of public building projects requires a more integrated interpretation that reflects institutional realities in developing economies such as Nigeria. This section therefore clarifies the key concepts underpinning the study and situates them within the broader discourse on infrastructure governance and architectural performance.

Public Procurement in Infrastructure Development

Public procurement broadly refers to the institutional procedures through which government entities acquire goods, services, and construction works from external suppliers in order to fulfil public sector responsibilities. Within the context of infrastructure development, procurement systems govern how architectural consultants, engineering professionals, and construction contractors are selected, contracted, and supervised during project execution. Procurement frameworks therefore function not only as financial governance mechanisms but also as administrative structures that shape the organization and delivery of public infrastructure projects.

In many countries, procurement regulations are designed primarily to safeguard public funds by ensuring transparency, competition, and accountability in contract allocation. The logic underlying this regulatory emphasis is that open and competitive procurement procedures reduce opportunities for corruption and promote efficient use of public resources. However, contemporary scholarship increasingly recognises that procurement systems also influence the qualitative dimensions of infrastructure delivery, including design performance, technical innovation, and long-term sustainability (Thai, 2021).

Within Nigeria, the institutional framework for public procurement is largely defined by the Public Procurement Act (PPA) 2007, which introduced standardised procedures for government contracting and established the Bureau of Public Procurement (BPP) as the regulatory authority responsible for overseeing procurement activities across federal institutions. The Act emphasises competitive bidding, due process compliance, and transparency in contract award decisions. While these principles have improved accountability in government expenditure, scholars have observed that procurement procedures in practice often emphasise cost-based evaluation criteria that prioritise the lowest responsive bidder during contractor selection (Oladiran & Oche, 2024).

Although such cost-oriented procurement models can promote fiscal discipline, they may also create unintended consequences within the construction sector. Contractors competing for public contracts frequently adjust their bids to remain financially competitive, sometimes by proposing lower-cost materials or simplified construction techniques. While these adjustments may comply with procurement requirements, they can also affect the quality and durability of the final building. In this sense, procurement frameworks do more than regulate financial transactions; they shape the conditions under which architectural designs are implemented during construction.

Furthermore, procurement governance in Nigerian public institutions often involves multiple layers of administrative approval, including institutional procurement committees, regulatory oversight bodies, and funding agencies. While these structures are intended to strengthen accountability, they can also introduce procedural delays that disrupt project planning and affect design implementation. Consequently, procurement systems operate as institutional environments that mediate the translation of architectural ideas into built infrastructure.

Architectural Design Outcomes in Public Buildings

Architectural design outcomes refer to the physical, functional, environmental, and aesthetic qualities that emerge from the architectural design and construction process. These outcomes represent the tangible results of interactions between design professionals, construction contractors, institutional clients, and regulatory frameworks during project development. In public buildings, architectural outcomes determine how effectively the built environment supports the activities and needs of its users.

From a functional perspective, architectural design outcomes influence how efficiently space is organised to accommodate institutional activities. For example, in tertiary educational institutions, lecture theatres, laboratories, offices, and circulation spaces must be carefully arranged to support teaching, research, and administrative operations. Poor spatial planning can lead to overcrowding, inefficient movement within buildings, and reduced productivity among building users.

Environmental performance also represents an important dimension of architectural outcomes. In tropical climates such as Nigeria's, building design must respond to climatic conditions by incorporating adequate ventilation systems, shading strategies, and thermal comfort considerations. Buildings that fail to respond appropriately to environmental conditions may rely excessively on artificial cooling systems, thereby increasing energy consumption and operational costs.

Another critical dimension of architectural design outcomes relates to structural durability and material performance. Public buildings are expected to serve institutional needs over long periods of time, often several decades. Consequently, the selection of construction materials and detailing methods plays a crucial role in determining the lifespan and maintenance requirements of buildings. When procurement processes prioritise cost reduction without sufficient attention to material quality, the resulting buildings may experience premature deterioration, leading to higher maintenance expenditure over time.

Architectural outcomes also possess symbolic and aesthetic significance. Public buildings often represent the identity and prestige of government institutions. Well-designed campus buildings can reinforce institutional reputation, promote a sense of belonging among students and staff, and contribute positively to the visual character of educational environments. Conversely, poorly designed structures may diminish the architectural coherence of institutional campuses and weaken their symbolic presence.

Importantly, architectural outcomes are not determined solely by the creativity of architects during the design phase. Rather, they emerge from complex interactions between design intentions and institutional processes such as procurement governance, construction supervision, and budgetary management. Architectural ideas developed during the

conceptual design stage may be modified, simplified, or altered during procurement and construction due to financial constraints, contractor decisions, or administrative interventions.

The Interface between Procurement Practices and Architectural Outcomes

Understanding the relationship between procurement practices and architectural outcomes requires recognising procurement systems as institutional environments that influence design implementation. Procurement procedures determine how project objectives are defined, how contractors are selected, and how contractual responsibilities are allocated among project stakeholders. These decisions can significantly shape the degree to which architectural designs are faithfully implemented during construction.

In many public sector projects, procurement systems emphasise procedural compliance and cost efficiency as primary evaluation criteria. While these priorities are important for maintaining financial accountability, they may inadvertently reduce attention to qualitative aspects of infrastructure development such as spatial functionality, environmental performance, and aesthetic coherence. When procurement frameworks focus predominantly on financial indicators, architectural quality may become a secondary consideration within project decision-making processes.

The implications of this dynamic are increasingly evident within infrastructure development projects in Nigerian tertiary institutions. Campus buildings constructed under public procurement frameworks sometimes reflect compromises between design intentions and budgetary constraints imposed during procurement evaluation. For instance, architectural elements originally intended to enhance environmental performance such as shading devices or specialised façade treatments may be simplified or removed during construction in order to reduce project costs.

This interface between procurement governance and architectural design outcomes highlights the need for procurement frameworks that recognise infrastructure quality as a multidimensional concept. Achieving value for public investment requires balancing financial accountability with considerations relating to design performance, sustainability, and long-term functionality.

By clarifying these conceptual relationships, the present study provides a foundation for analysing how procurement practices influence architectural design outcomes within the institutional context of public infrastructure development in Nigeria.

Theoretical Framework

The analysis of public procurement practices and architectural design outcomes in public buildings can be conceptually grounded in Principal–Agent Theory (PAT). This theoretical perspective provides a robust lens for understanding the governance relationships that arise when government institutions delegate responsibilities to external actors during infrastructure development. In the context of Nigerian public buildings, PAT illuminates how institutional structures, procurement procedures, and professional incentives intersect to influence architectural quality.

Principal–Agent Theory and Public Procurement

Principal–Agent Theory, originating in economics and organisational studies (Eisenhardt, 1989), examines relationships in which one party, the principal delegates decision-making authority to another, the agent under conditions of asymmetric information. In public infrastructure development, government institutions act as principals, while architects, engineers, and construction contractors function as agents tasked with executing projects according to contractual agreements. The theory highlights potential conflicts of interest, such as differences in objectives, information asymmetry, and varying risk preferences between principals and agents.

In the procurement context, principals (e.g., government agencies or tertiary institutions) aim

to ensure value-for-money, compliance with regulations, and long-term infrastructure performance. Agents, by contrast, may prioritise profit maximisation, cost minimisation, or expedient completion, sometimes at the expense of architectural quality or sustainability. These divergences create risks for project outcomes, including deviations from original design intentions, compromised material quality, or reduced functional performance of buildings.

Relevance of Principal–Agent Dynamics to Architectural Outcomes

Applying Principal–Agent Theory to architectural design underscores the ways procurement processes mediate design implementation. The selection of contractors, evaluation of bids, and specification of project objectives all represent mechanisms through which principals attempt to align agent behaviour with desired outcomes. However, when procurement frameworks emphasise lowest-cost tendering or bureaucratic compliance over design performance, agents may respond by altering construction methods, materials, or even fundamental aspects of architectural plans.

For example, in Nigerian tertiary institutions such as Auchi Polytechnic, procurement committees often evaluate contractors primarily on financial criteria, giving less weight to technical expertise or design fidelity. Contractors, acting as agents, may therefore propose modifications that reduce costs but undermine environmental performance, spatial efficiency, or material durability. Similarly, delays in procurement approvals or fragmented oversight structures can disrupt the continuity of design implementation, resulting in buildings that partially realise the architect's original vision.

Integration with Infrastructure Governance

Principal–Agent Theory also explains the institutional mechanisms intended to mitigate divergence between principal and agent objectives. Contractual arrangements, performance monitoring, and post-construction evaluations are examples of governance tools designed to reduce information asymmetry and incentivise compliance with quality standards. In Nigerian public procurement, however, studies have shown that these mechanisms are often inadequately enforced, creating gaps between intended design outcomes and actual built results (Fagbemi, 2025).

By framing procurement governance through the Principal–Agent lens, this study conceptualises architectural outcomes not solely as the result of design expertise but as the product of an interactive institutional system. Procurement processes, contract structures, and oversight mechanisms jointly shape how architectural designs are realised in the physical environment. This theoretical perspective provides a structured approach for analysing how procurement practices influence architectural quality in public buildings, bridging the often-separate literatures of public administration, construction management, and architectural studies.

Theoretical Implications

Adopting Principal–Agent Theory implies that improving architectural outcomes requires aligning the incentives of agents with the objectives of principals. In practical terms, this involves designing procurement systems that value design quality alongside cost control, integrating professional expertise into evaluation committees, and establishing monitoring systems that assess both financial and architectural performance. The framework thus informs the study's literature review and analysis by highlighting the institutional pathways through which procurement governance affects design implementation in Nigerian public buildings.

Literature Review

The literature on public procurement, construction management, and architectural outcomes provides a multifaceted understanding of how institutional governance influences the physical quality and functionality of public buildings. While much research has addressed cost efficiency, project delivery, and procedural

compliance, fewer studies focus explicitly on the intersection between procurement practices and architectural quality. This review synthesises contemporary scholarship from both Nigerian and international contexts, highlighting the mechanisms through which procurement governance affects architectural design outcomes in public buildings.

Public Procurement Governance in Nigeria

Public procurement governance in Nigeria has undergone significant reform over the last two decades, primarily driven by the enactment of the Public Procurement Act (PPA) 2007. The Act was designed to address systemic inefficiencies, corruption, and lack of transparency in government contracting (Oladiran & Oche, 2024). Scholars note that the Act introduced standardised competitive bidding procedures, clear guidelines for contractor selection, and oversight mechanisms via the Bureau of Public Procurement (BPP), which collectively enhanced procedural transparency in public infrastructure projects.

However, despite these reforms, Nigerian studies reveal that procurement governance continues to face significant challenges. Boniface, Nnadi, and Eze (2024) observe that bureaucratic delays, fragmented institutional responsibilities, and limited technical capacity within procurement committees often impede timely project execution. In tertiary institutions, for example, projects funded through TETFund frequently experience extended approval cycles that disrupt construction schedules and compromise design continuity (Bamidele, 2021). These findings suggest that while procedural reforms have strengthened accountability, they may inadvertently constrain architectural quality by delaying design implementation or limiting professional oversight during contractor engagement.

Further, procurement practices in Nigeria are often dominated by cost-oriented evaluation criteria. Contractors are frequently selected based on the lowest responsive bid, creating incentives for cost-minimisation strategies that can compromise material quality, structural integrity, and adherence to original architectural specifications (Fagbemi, 2025). In this way, procurement governance shapes not only administrative compliance but also the technical and aesthetic outcomes of public building projects, reflecting the Principal–Agent dynamics whereby the interests of agents (contractors) may diverge from the objectives of principals (government institutions or tertiary authorities).

Procurement Systems and Construction Project Performance

Extensive research in construction management highlights the critical influence of procurement systems on project performance. Procurement models that encourage early collaboration between designers and contractors such as Design-Build and Integrated Project Delivery are consistently associated with higher quality outcomes in both functional and aesthetic dimensions (Assaf et al., 2022). These models enable architectural considerations to inform construction methods and resource allocation, thereby reducing the risk of design compromise during implementation.

Conversely, traditional procurement methods, including the widely used *Design–Bid–Build* model, maintain a strict separation between design and construction phases. In such arrangements, contractors are engaged only after architectural plans are finalised, limiting opportunities for iterative adjustments and technical input from builders. Within Nigeria, this separation is compounded by cost-focused tender evaluation and bureaucratic oversight, creating a structural environment where design fidelity is often secondary to procedural compliance (Oladiran & Oche, 2024).

Empirical evidence from Nigerian tertiary institutions illustrates these challenges. For example, in a study of polytechnic infrastructure projects, Fagbemi (2025) found that delays in procurement approval and contractor selection frequently necessitated revisions to original design plans. In several cases, architectural elements intended to optimise ventilation, daylighting, and spatial efficiency were omitted

or simplified to comply with budgetary constraints, demonstrating how procurement procedures can directly influence architectural outcomes.

Architectural Design Outcomes and Public Procurement

Architectural design outcomes encompass functional, structural, environmental, and aesthetic characteristics that determine how effectively a building serves its intended purpose. In the context of public buildings, the quality of architectural outcomes affects not only user satisfaction but also institutional performance, maintenance costs, and the long-term sustainability of the infrastructure.

Recent Nigerian studies emphasise that procurement systems are critical mediators of architectural quality. Oladiran and Oche (2024) argue that procurement processes determine the degree of professional input allowed during project implementation, the allocation of project risks, and the prioritisation of technical specifications versus financial compliance. Similarly, Bamidele (2021) observes that cost-focused procurement strategies frequently limit the inclusion of design innovations or environmentally responsive features, resulting in functional but suboptimal buildings.

International literature reinforces these observations. In the United Kingdom, for example, Turner et al. (2022) demonstrate that procurement frameworks incorporating performance-based criteria for design and sustainability produce higher-quality public buildings compared to traditional cost-focused tendering models. Similarly, studies from South Africa show that integrating architectural and engineering oversight into procurement evaluation reduces post-construction modifications and enhances user satisfaction (Mokwena & Nkosi, 2023). These comparative insights suggest that architectural quality is not merely a technical concern but an outcome shaped by governance and institutional arrangements.

Nigerian Case Illustrations

In practice, the interplay between procurement governance and architectural outcomes is particularly evident in Nigerian tertiary institutions. At *Auchi Polytechnic, Edo State*, several recently completed buildings funded through TETFund and institutional budgets demonstrate the consequences of procurement-driven design compromises. Reports indicate that while these buildings meet contractual and regulatory compliance requirements, they often exhibit simplified façades, reduced environmental performance measures, and limited spatial optimisation. Such observations reflect a recurring pattern across Nigerian public institutions, where procurement procedures emphasising lowest-cost bids and procedural compliance constrain the full realisation of architectural designs.

Similarly, studies of campus infrastructure in federal universities such as the University of Lagos and Ahmadu Bello University show that procurement delays and fragmented professional participation frequently lead to modifications of architectural plans during construction (Fagbemi, 2025; Bamidele, 2021). These modifications often prioritise budget adherence over functional or aesthetic considerations, illustrating the Principal–Agent dynamic in which contractors (agents) adjust design implementation to align with procurement incentives rather than long-term institutional goals.

Synthesis and Conceptual Implications

Synthesising the Nigerian and international literature reveals several critical insights. First, procurement governance is a structural determinant of architectural design outcomes. The processes through which contractors are selected, bids are evaluated, and projects are supervised influence whether architectural visions are faithfully realised. Second, cost-dominated procurement frameworks, while enhancing financial accountability, may inadvertently reduce attention to spatial functionality, environmental responsiveness, and aesthetic coherence. Third, institutional arrangements that integrate technical expertise

into procurement decision-making particularly through the active participation of architects and engineers tend to produce buildings that better align with user needs and long-term institutional objectives.

These findings support the application of Principal–Agent Theory as a conceptual lens, highlighting how divergences between the objectives of principals (public institutions) and agents (contractors, sometimes architects) are mediated through procurement structures. The literature review thus establishes a strong theoretical and empirical foundation for examining how public procurement practices influence architectural outcomes in Nigerian tertiary institutions, providing both a contextual and comparative basis for the present study.

Research Gap

Despite the growing body of scholarship on public procurement, construction management, and architectural outcomes, significant gaps remain in the Nigerian context, particularly regarding the intersection between procurement governance and the quality of architectural design in public buildings. Most existing studies focus predominantly on administrative compliance, cost efficiency, project delivery timelines, or contractor performance (Oladiran & Oche, 2024; Boniface, Nnadi, & Eze, 2024). While these dimensions are essential for financial accountability and operational efficiency, they do not fully capture how institutional procurement practices influence the qualitative and functional characteristics of buildings, including spatial planning, environmental responsiveness, and aesthetic coherence.

Within Nigeria, empirical studies on tertiary institution infrastructure projects reveal recurring challenges such as incomplete design implementation, material compromises, and post-construction modifications (Fagbemi, 2025; Bamidele, 2021). These studies suggest that procurement structures particularly cost-dominated tender evaluations, bureaucratic delays, and limited participation of architectural professionals may inadvertently constrain architectural quality. However, there is a lack of systematic analysis linking these procurement processes directly to architectural outcomes, and most research stops at identifying performance deficiencies without interrogating the institutional mechanisms driving them.

Moreover, while international literature emphasises procurement models that integrate design performance criteria and collaborative contractor engagement as mechanisms for enhancing architectural quality (Turner et al., 2022; Mokwena & Nkosi, 2023), there is limited comparative analysis showing how such models could be adapted or applied in the Nigerian institutional context. The gap is further compounded by a scarcity of studies that focus on *polytechnics and similar public tertiary institutions*, which often have unique governance structures and funding mechanisms compared to federal universities. Auchi Polytechnic, for example, operates under both institutional and intervention funding regimes, creating a complex procurement environment that has not been fully explored in existing research.

Furthermore, the theoretical understanding of procurement as an institutional mediator of architectural quality remains underdeveloped in Nigeria. While Principal–Agent Theory provides a conceptual framework for interpreting divergences between institutional objectives and contractor incentives, few empirical studies explicitly apply this lens to analyse procurement-induced variations in design implementation. This theoretical gap limits the capacity to develop evidence-based recommendations that address both financial accountability and architectural performance in public building projects.

The research gap is defined by four key deficiencies:

1. **Limited focus on qualitative architectural outcomes**: Most studies prioritise cost, compliance, and project timelines over spatial, environmental, and aesthetic performance.
2. **Insufficient linkage between procurement practices and design quality**: Existing literature does not systematically analyse how procedural, financial, or institutional aspects of

procurement influence architectural outcomes.

3. **Contextual limitations**: There is a scarcity of research focusing on Nigerian polytechnics and other public tertiary institutions, which have complex and layered procurement frameworks.
4. **Underutilisation of theoretical frameworks**: Principal–Agent Theory and other governance perspectives have not been fully applied to interpret the institutional mechanisms that mediate architectural design quality.

Addressing these gaps is essential for advancing both scholarly understanding and policy formulation. This study seeks to fill these gaps by analysing the institutional, procedural, and financial dimensions of public procurement as they influence architectural design outcomes in public buildings, with a particular focus on Auchi Polytechnic, Edo State, Nigeria. By integrating theoretical interpretation, contextual illustration, and literature synthesis, the study aims to provide actionable insights for enhancing infrastructure governance and architectural quality in Nigerian public institutions.

Methodology (Literature Review Approach)

This study adopts a qualitative, theoretical, and literature review methodology, suitable for examining the relationship between public procurement practices and architectural design outcomes in public buildings. Given the focus on institutional governance, architectural quality, and procedural mechanisms, a literature-based approach enables the integration of empirical evidence, theoretical insights, and contextual examples from Nigerian tertiary institutions, particularly Auchi Polytechnic, alongside comparative perspectives from international scholarship.

Research Design

The study follows a systematic literature review framework, guided by the objective of synthesising contemporary knowledge on procurement governance and architectural outcomes. Unlike primary data collection, this design emphasises the critical interpretation and integration of existing research, providing a conceptual and theoretical foundation for analysing procurement-induced variations in architectural quality. The literature review methodology is particularly suited to public infrastructure research in contexts where data may be dispersed across multiple institutional reports, academic publications, and regulatory documents.

Literature Search Strategy

A comprehensive search of scholarly literature was conducted using multiple databases, including *Scopus, Web of Science, Google Scholar, and institutional repositories.* Key search terms included:

- "Public procurement AND Nigeria"
- "Architectural design quality AND public buildings"
- "Procurement governance AND tertiary institutions"
- "Infrastructure project performance AND Nigeria"
- "Design–build AND project outcomes"

The search was restricted to peer-reviewed journal articles, conference proceedings, and institutional reports published between 2021 and 2026, ensuring the inclusion of the most recent empirical and theoretical insights. Foundational works predating 2021 were also included where they provide essential theoretical grounding or historical context for Nigerian procurement reforms (e.g., Thai, 2001; Eisenhardt, 1989).

Inclusion and Exclusion Criteria

The literature was screened according to specific criteria to ensure relevance and quality:

Inclusion Criteria:

1. Studies addressing public procurement, construction management, or architectural outcomes.

2. Research conducted in Nigeria or in comparable developing country contexts, with attention to tertiary education institutions.
3. Publications reporting empirical findings, theoretical analysis, or case-based insights.
4. Peer-reviewed journal articles, government or institutional reports, and authoritative policy documents.

Exclusion Criteria:

1. Studies focusing exclusively on private sector projects without relevance to public procurement.
2. Non-scholarly publications such as blog posts, opinion pieces, or unverified online content.
3. Articles lacking sufficient methodological transparency or conceptual clarity.

Data Extraction and Analysis

Data were extracted and organised according to thematic relevance. Key variables included:

- **Procurement practices and procedures**: tendering mechanisms, cost evaluation criteria, and administrative structures.
- **Architectural design outcomes**: functional efficiency, spatial planning, environmental responsiveness, material quality, and aesthetic integrity.
- **Institutional and contextual factors**: governance structures, bureaucratic processes, funding mechanisms, and professional participation.

The extracted data were then synthesised using thematic analysis, enabling identification of patterns, contradictions, and gaps within the literature. Themes were interpreted through the lens of Principal–Agent Theory, focusing on how procurement frameworks mediate the relationship between institutional objectives (principals) and contractor/architect incentives (agents). This analytical approach allowed for the integration of Nigerian case examples, including projects from Auchi Polytechnic, and comparative insights from international contexts.

Justification of Methodology

The literature review approach is justified on several grounds:

1. **Conceptual depth**: It allows for the synthesis of diverse theoretical perspectives, particularly the application of Principal–Agent Theory, to understand the institutional determinants of architectural quality.
2. **Contextual relevance**: By focusing on Nigerian tertiary institutions, the study situates abstract theoretical constructs within concrete local realities, including regulatory, financial, and bureaucratic contexts.
3. **Comparative insight**: The method permits the integration of international best practices and evidence from other developing countries, providing benchmarks for improving procurement governance and design outcomes.
4. **Feasibility and scholarly rigour**: Accessing primary data on public construction projects in Nigeria is often constrained by institutional bureaucracy. A systematic literature review provides a robust alternative for generating credible insights while maintaining transparency and methodological rigor.

The methodology combines systematic literature search, critical thematic analysis, and theoretical interpretation to explore how public procurement practices influence architectural outcomes in Nigerian public buildings. By synthesising both domestic and international evidence, the study establishes a strong empirical and conceptual foundation for subsequent discussion and policy recommendations.

Discussion of Major Findings

The synthesis of the literature, interpreted through the Principal Agent theoretical lens,

highlights the intricate ways in which public procurement practices influence architectural design outcomes in Nigerian public buildings. Evidence from Nigerian tertiary institutions, particularly Auchi Polytechnic, Edo State, demonstrates that procurement governance is a structural determinant of both the technical and aesthetic quality of built infrastructure. The findings underscore three major themes: the impact of cost-focused procurement, the role of professional participation, and the effects of bureaucratic and institutional arrangements on design implementation.

Cost-Dominated Procurement and Architectural Quality

A consistent finding across Nigerian studies is that procurement systems prioritising the lowest-cost bidder often compromise design integrity. Contractors, acting as agents, are incentivised to minimise construction costs in ways that may conflict with the architectural vision or functional objectives of the principal (Oladiran & Oche, 2024; Fagbemi, 2025). In practice, this has led to instances where building materials are downgraded, structural detailing is simplified, or environmental and aesthetic features are omitted.

For example, at Auchi Polytechnic, several TETFund-funded academic buildings demonstrated compliance with contractual specifications but exhibited suboptimal ventilation, inefficient spatial layouts, and simplified façade treatments. These outcomes reflect the tendency for cost-focused procurement to privilege financial compliance over long-term usability, durability, and architectural expression. Comparative studies from the United Kingdom and South Africa (Turner et al., 2022; Mokwena & Nkosi, 2023) indicate that incorporating performance-based criteria in procurement, such as sustainability and functional efficiency, leads to more faithful realisation of architectural designs, suggesting a pathway for reform in Nigeria.

Professional Participation in Procurement Processes

The literature highlights that the degree of professional representation within procurement committees significantly affects architectural outcomes. Where architects and engineers are insufficiently involved in procurement decision-making, the translation of design intent into construction can be compromised. This aligns with the Principal–Agent perspective: when agents (contractors) operate with limited oversight from technically informed principals or intermediaries, decisions are more likely to prioritise expedient or financially advantageous outcomes over design fidelity (Bamidele, 2021).

In Nigerian tertiary institutions, procurement committees are often dominated by administrative personnel or financial officers, whose evaluation frameworks emphasise compliance with regulations and cost containment rather than design quality. Consequently, contractors implement simplified or modified versions of the original architectural plans, sometimes without fully consulting the design professionals. This phenomenon not only undermines functional performance but also affects the symbolic and aesthetic dimensions of public buildings, which are critical for institutional identity and user satisfaction.

Bureaucratic and Institutional Constraints

Another major finding is that bureaucratic delays and fragmented institutional arrangements affect the continuity and quality of architectural implementation. Public building projects in Nigeria frequently involve multiple layers of approval, including institutional procurement committees, regulatory oversight agencies such as the BPP, and external funding bodies like TETFund. While these layers enhance procedural accountability, they can also result in significant delays that necessitate design modifications, budget adjustments, or phased construction strategies (Boniface, Nnadi, & Eze, 2024).

At Auchi Polytechnic, delayed approvals for contractor engagement and procurement documentation occasionally led to post-design adjustments to building layouts or material specifications, affecting both functionality and durability. These outcomes illustrate how procedural rigidity can indirectly shape architectural quality by creating temporal and

financial pressures that compel agents to modify designs. In the language of Principal–Agent Theory, these institutional delays exacerbate information asymmetry and misaligned incentives, allowing agents to make decisions that reduce the intended value of the project.

Synthesis of Nigerian and International Insights

Integrating Nigerian case studies with international literature provides a nuanced understanding of the mechanisms linking procurement practices to architectural outcomes. Globally, evidence shows that procurement systems incorporating design-performance criteria, early contractor involvement, and collaborative governance tend to produce buildings that align more closely with the original architectural vision (Assaf et al., 2022; Turner et al., 2022). Conversely, the Nigerian experience demonstrates that cost-driven, bureaucratically layered, and professionally unbalanced procurement systems frequently produce buildings that meet minimum contractual requirements but underperform in terms of spatial functionality, environmental responsiveness, and aesthetic coherence.

This synthesis suggests that improving architectural quality in Nigerian public buildings requires not only procedural reform but also institutional and cultural shifts that recognise design quality as a strategic objective of public procurement. Mechanisms such as weighted technical evaluation, active participation of design professionals in procurement decisions, and post-occupancy assessments could align agent behaviour with principal objectives, thereby enhancing both functional and aesthetic outcomes.

Implications for Policy and Practice

The findings have direct implications for policymakers, institutional administrators, and professional bodies in Nigeria. First, they highlight the need for procurement evaluation frameworks that balance cost efficiency with architectural and functional performance. Second, they emphasise the critical role of professional expertise in guiding procurement decisions to ensure that design intentions are fully realised. Third, they underscore the importance of streamlining bureaucratic processes to prevent delays that compromise design quality.

The discussion demonstrates that architectural outcomes in Nigerian public buildings are not solely determined by design expertise but are shaped by the broader procurement governance ecosystem, where cost, professional oversight, and institutional procedures intersect. By interpreting these outcomes through Principal–Agent Theory, the study clarifies the pathways through which procurement practices influence the translation of architectural vision into built form, providing a foundation for evidence-based reforms in Nigeria's public construction sector.

Conclusion

This study has examined the relationship between public procurement practices and architectural design outcomes in Nigerian public buildings, with a particular focus on Auchi Polytechnic, Edo State. The analysis demonstrates that procurement governance is not merely an administrative or financial process; it functions as a structural determinant of architectural quality, mediating how design intentions are translated into functional and aesthetically coherent built environments. By synthesising Nigerian and international literature within a Principal–Agent theoretical framework, the study highlights the institutional mechanisms through which procurement practices influence building performance, durability, environmental responsiveness, and spatial functionality.

Key findings indicate that cost-focused procurement models, when implemented without adequate professional oversight, often lead to compromises in material quality, spatial planning, and design fidelity. Bureaucratic delays and fragmented decision-making structures further exacerbate these challenges, creating conditions under which contractors (agents) make implementation decisions that diverge from institutional objectives (principals). Conversely, international evidence suggests that procurement approaches incorporating technical

performance criteria, collaborative design-construction integration, and professional participation enhance the realisation of architectural vision.

In the Nigerian context, tertiary institutions such as Auchi Polytechnic demonstrate both the promise and limitations of current procurement systems. While projects frequently achieve regulatory compliance and functional adequacy, they often fall short of achieving optimal architectural outcomes, particularly in terms of environmental performance, spatial efficiency, and aesthetic quality. This underscores the need for a more nuanced understanding of procurement governance one that balances fiscal accountability with design quality and long-term institutional value.

Improving architectural outcomes in Nigerian public buildings requires institutional reforms that address both procedural and qualitative dimensions of procurement. Policies that integrate professional expertise into evaluation processes, adopt performance-based procurement criteria, and streamline bureaucratic procedures can align agent behaviour with institutional objectives, ensuring that public investments in infrastructure deliver both functional and symbolic value. By framing procurement as an instrument of architectural governance rather than solely financial management, this study provides a conceptual and practical foundation for enhancing the quality, sustainability, and user satisfaction of public buildings in Nigeria.

Recommendations

Based on the findings and analysis of public procurement practices and their impact on architectural design outcomes, several actionable recommendations emerge for policymakers, tertiary institution administrators, procurement professionals, and architectural practitioners in Nigeria. These recommendations aim to strengthen the alignment between procurement governance and architectural quality, ensuring that public investments in infrastructure yield functional, durable, and aesthetically coherent buildings.

Integrate Design-Performance Criteria into Procurement Frameworks

Procurement evaluation should move beyond cost-dominated models to incorporate technical and architectural performance criteria. Weighting tender evaluations to include functional efficiency, material quality, environmental responsiveness, and design fidelity would encourage contractors to implement designs without compromising critical architectural features. For example, including criteria for passive ventilation, daylight optimisation, and durable material selection in tender scoring can ensure that environmental and functional considerations are prioritised alongside cost.

Enhance Professional Participation in Procurement Committees

Architects, engineers, and design consultants should play active and authoritative roles in procurement decision-making processes. Their expertise can guide contractor selection, clarify design expectations, and monitor adherence to technical specifications during project implementation. In tertiary institutions like Auchi Polytechnic, formalising professional representation on procurement committees can reduce the likelihood of design modifications that compromise spatial functionality or aesthetic quality.

Streamline Bureaucratic and Institutional Processes

Procedural delays in approvals, tender evaluations, and contract administration have been shown to negatively affect architectural outcomes. Streamlining bureaucratic processes through clear timelines, integrated approval systems, and reduced procedural redundancies can minimise delays that force contractors to modify original designs. Establishing a centralised project monitoring unit within institutions can coordinate procurement, funding, and design implementation more effectively.

Adopt Collaborative Procurement Models

Where feasible, institutions should explore integrated procurement models, such as Design-Build or Performance-Based Contracting, which foster early collaboration between architects, engineers, and contractors. Such models facilitate real-time adjustments without compromising design integrity and encourage innovation in construction methods while maintaining alignment with institutional objectives. Evidence from international contexts demonstrates that collaborative approaches yield higher-quality architectural outcomes and improve post-occupancy satisfaction (Turner et al., 2022; Mokwena & Nkosi, 2023).

Implement Post-Occupancy Evaluation and Feedback Mechanisms

Institutions should establish systematic post-occupancy evaluation (POE) processes to assess whether completed buildings meet functional, environmental, and aesthetic expectations. Feedback from building users, including students, staff, and facility managers, can inform future procurement guidelines, highlight recurring design challenges, and strengthen accountability mechanisms. POE serves both as a governance tool and as a learning mechanism to enhance architectural quality in successive projects.

Strengthen Capacity Building for Procurement and Design Professionals

Training programmes and continuous professional development for procurement officers, architects, and engineers can enhance awareness of the interrelationship between procurement governance and architectural outcomes. Emphasis should be placed on best practices for balancing cost efficiency with design quality, sustainable construction methods, and adherence to regulatory standards. By cultivating a workforce capable of making informed decisions at the intersection of finance, design, and construction, institutions can reduce misalignments between principals' objectives and agents' actions.

Policy and Regulatory Recommendations

At the national level, regulatory bodies such as the Bureau of Public Procurement should issue guidelines emphasising quality metrics in public construction procurement. These guidelines could mandate inclusion of environmental, functional, and aesthetic criteria in tender documentation and promote audit mechanisms to ensure that procurement practices align with broader infrastructure quality objectives. By embedding architectural performance considerations into the regulatory framework, Nigeria can foster a more holistic approach to public building development.

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