CONSTRUCTION PROJECT MANAGEMENT

Private Project Delivery under Current Procurement Systems in Nigeria

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Abstract

Private construction projects in Nigeria continue to face delays, cost overruns, coordination problems and quality concerns. Procurement systems shape contractual relationships, allocation of responsibilities, communication and project control, and may therefore influence delivery outcomes. This study assessed current procurement systems used in private construction projects in Nigeria, the factors guiding their selection, the challenges associated with implementation, and perceived relationships with cost, time and quality performance. A descriptive survey was conducted among construction professionals in Lagos and Ibadan. Of 143 questionnaires distributed, 105 valid responses were returned, giving a response rate of 73.4%. Stratified and purposive sampling were used. Data were analysed in SPSS using frequencies, percentages, mean scores, rankings and Pearson correlation. Design and Build had the highest reported adoption mean (3.42), followed by Traditional Procurement (3.35) and Negotiated Procurement (3.21); Integrated Project Delivery had the lowest mean (2.16). Availability of project funds (4.29), project complexity (4.28) and project size (4.27) were the strongest reported procurement-selection factors. Project delays (4.20), cost overruns (4.04) and poor coordination (3.95) were prominent challenges. Respondents rated procurement-related scheduling/programme management at 4.15, specification compliance at 4.08 and cost control at 4.03. Overall performance was positively associated with cost ($r = 0.253$, $p = 0.009$), time ($r = 0.517$, $p < 0.001$) and quality ($r = 0.591$, $p < 0.001$). The study concludes that procurement choices should align with project financing, complexity, size and quality requirements, supported by effective planning, contract administration and stakeholder coordination.

Keywords: construction procurement; private construction; project delivery; Nigeria; cost performance; time performance; quality performance

1 Introduction

Construction procurement establishes the contractual and organisational arrangements through which projects are designed, resourced, coordinated and delivered. The selected system affects risk allocation, stakeholder responsibilities, communication, cost control and scheduling. In Nigeria, private construction activity contributes to residential, commercial, industrial and institutional development, yet projects continue to encounter delays, budget escalation, quality deficiencies and disputes. These outcomes have been associated with procurement planning, contract administration, coordination, inflation and changing material costs.

Although several procurement methods are available, selection may be driven by familiarity rather than a systematic assessment of project needs. There is a need for empirical evidence focused specifically on private projects, particularly in Lagos and Ibadan. This article addresses three objectives: (i) identify commonly used procurement systems; (ii) examine procurement-selection

factors and implementation challenges; and (iii) evaluate perceived project performance and its relationship with cost, time and quality.

2 Methodology

The study adopted a descriptive survey design. The target respondents were construction professionals involved in private construction project delivery in Lagos and Ibadan, including engineers, project managers, quantity surveyors, builders and contractors. Stratified sampling by professional group and purposive selection of respondents with relevant experience were used. A structured questionnaire collected respondent-profile data and ratings of procurement systems, selection factors, challenges and performance indicators using five-point response scales.

A total of 143 questionnaires were distributed and 105 were validly completed and returned (73.4%); the remaining 38 (26.6%) were not returned or were unsuitable for analysis. Data were analysed using SPSS. Frequencies and percentages described respondents; mean scores and rankings summarised ratings; and Pearson correlation examined associations between overall project performance and cost, time and quality. The results represent respondents' reported perceptions and should not be interpreted as audited project records or proof of causation.

3 Results and discussion

3.1 Respondent profile

The sample included 105 professionals, with 61 respondents (58.0%) based in Lagos and 44 (42.0%) in Ibadan. Civil/structural engineers formed the largest group (61.9%). The experience profile included 32 respondents (30.5%) with more than 20 years' experience and 24 (22.9%) with 16–20 years. All respondents indicated participation in private construction projects. The respondent profile is given in Table 1 and Figures 1 and 2.

Table 1. Profile of the respondents (n = 105).

Respondent characteristic	Category	Frequency	%
Location	Lagos	61	58.0
Location	Ibadan	44	42.0
Profession	Civil/structural engineer	65	61.9
Profession	Project manager	12	11.4
Profession	Quantity surveyor	12	11.4
Profession	Builder	6	5.7
Profession	Electrical engineer	5	4.8
Profession	Contractor	5	4.8
Experience	Less than 5 years	14	13.3
Experience	5–10 years	22	21.0
Experience	11–15 years	13	12.4
Experience	16–20 years	24	22.9
Experience	Above 20 years	32	30.5

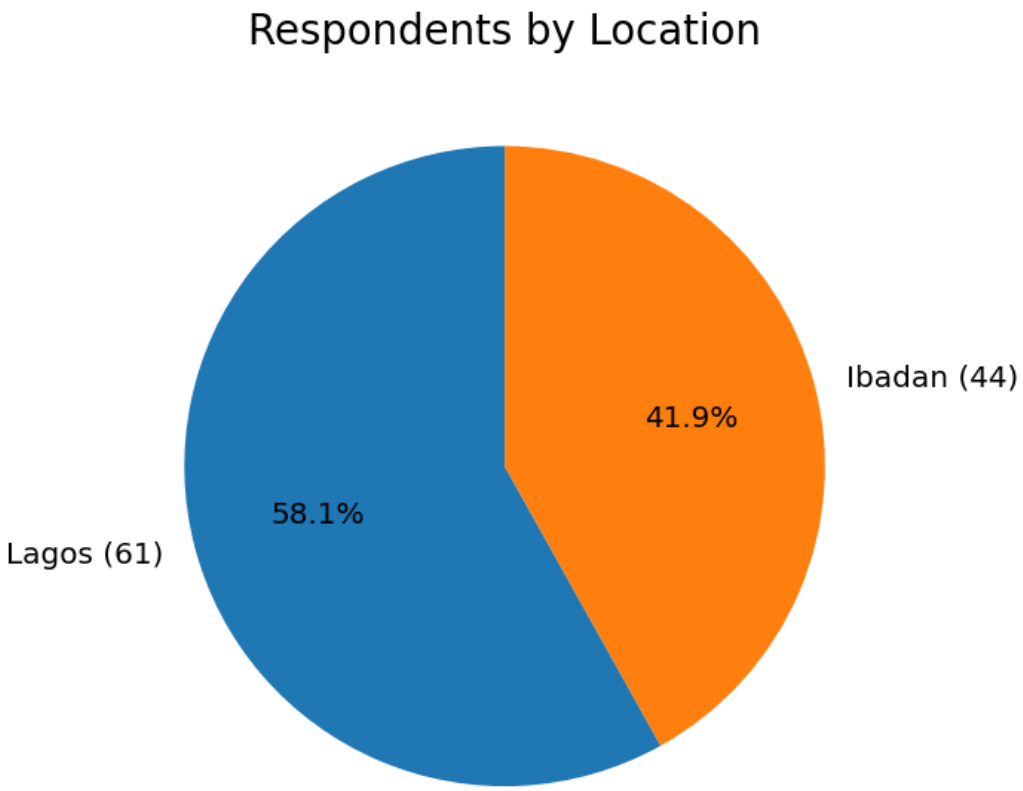


Figure 1. Distribution of respondents by study location.

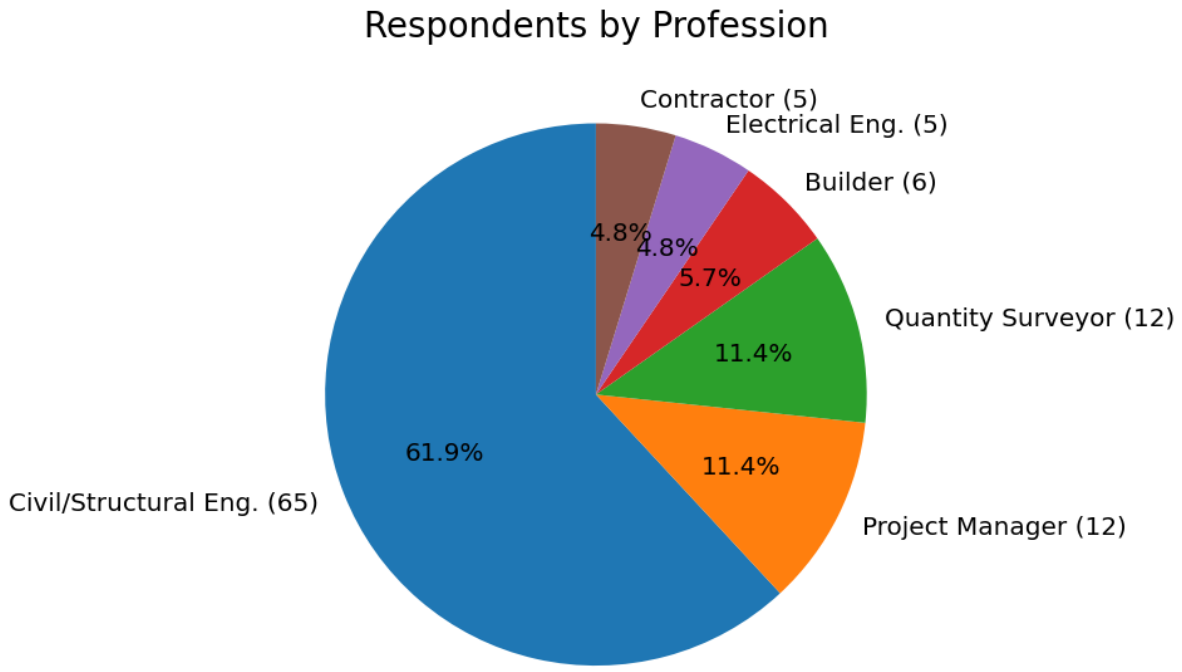


Figure 2. Distribution of respondents by professional discipline.

3.2 Procurement systems in use

Design and Build recorded the highest mean adoption score (3.42), followed by Traditional Procurement (3.35) and Negotiated Procurement (3.21). Direct Labour Procurement (3.16), Construction Management (3.03) and Labour-Only Procurement (3.02) occupied the middle range. Partnering/Collaborative Procurement (2.37), Turnkey Procurement (2.28) and Integrated Project Delivery (2.16) were among the least reported methods. The systems are ordered by mean score in Table 2 and Figure 3.

Table 2. Mean adoption scores of the procurement systems.

Procurement system	Mean	Order by mean
Design and Build	3.42	1
Traditional Procurement	3.35	2
Negotiated Procurement	3.21	3
Direct Labour Procurement	3.16	4
Construction Management	3.03	5
Labour-Only Procurement	3.02	6
Management Contracting	2.84	7
Partnering/Collaborative Procurement	2.37	8
Turnkey Procurement	2.28	9
Integrated Project Delivery	2.16	10

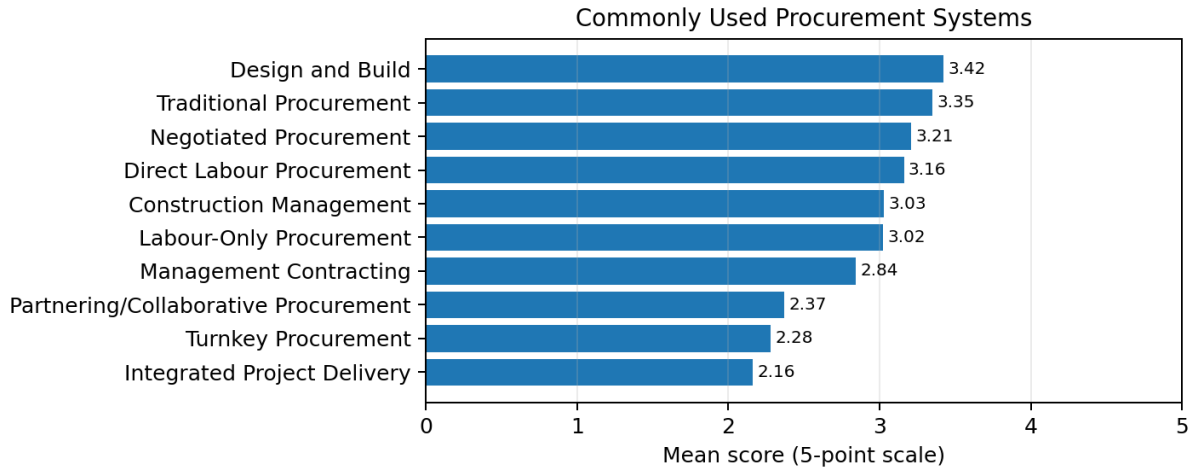


Figure 3. Mean ratings for procurement systems (higher scores indicate more frequent reported use).

The results suggest that respondents most often encountered Design and Build and Traditional Procurement, while integrated and collaborative approaches were less established in the surveyed context. Selection should nevertheless be matched to project requirements rather than based solely on the relative popularity of a method.

3.3 Factors influencing procurement selection

Availability of project funds ranked highest (mean = 4.29), closely followed by project complexity (4.28) and project size (4.27). Expected quality (4.10), past project experience (3.98) and desired completion time (3.97) were also influential. The lowest means in the set were for the nature of the client (3.71), availability of skilled professionals (3.72) and risk allocation (3.75), although all were above the midpoint of the five-point scale (Table 3 and Figure 4).

Table 3. Factors influencing the selection of procurement systems.

Factor	Mean	Rank
Availability of project funds	4.29	1
Project complexity	4.28	2
Project size	4.27	3
Expected project quality	4.10	4
Past project experience	3.98	5
Desired completion time	3.97	6
Client experience	3.95	7
Consultant recommendations	3.92	8
Competent contractors	3.79	9
Risk allocation	3.75	10
Skilled professionals	3.72	11
Nature of client	3.71	12

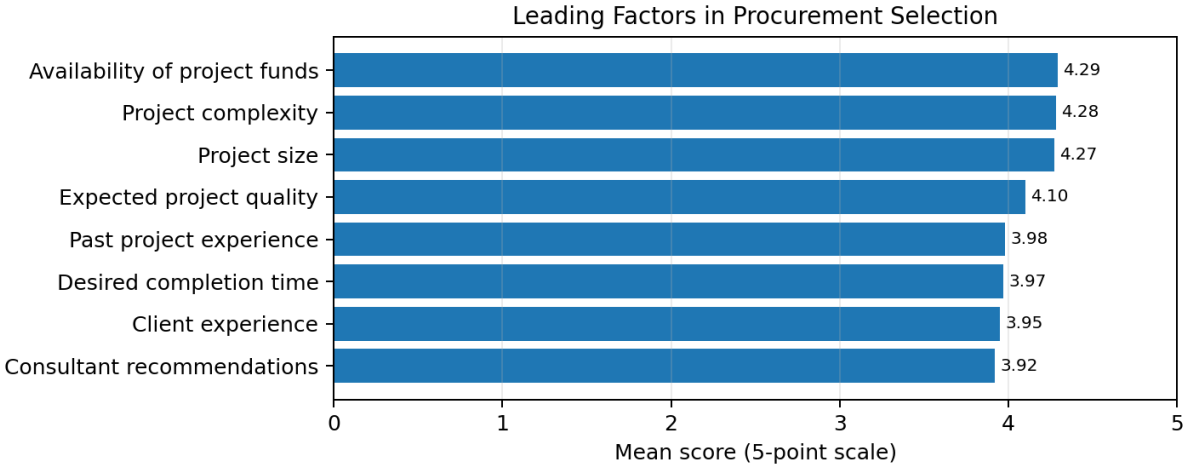


Figure 4. Eight highest-rated factors influencing procurement selection.

3.4 Challenges affecting delivery

Project delays received the highest challenge rating (4.20), followed by cost overruns (4.04) and poor coordination among project participants (3.95). Lack of experienced professionals and weak regulatory/contractual frameworks each scored 3.93, while poor decision-making scored 3.92. Limited client involvement was the lowest-rated challenge (3.22) (Table 4 and Figure 5). The pattern

points to the importance of realistic scheduling, financial planning, clear responsibilities and stronger coordination and contract administration.

Table 4. Challenges affecting the delivery of private projects.

Challenge	Mean	Rank
Project delays	4.20	1
Cost overruns	4.04	2
Poor coordination	3.95	3
Lack of experienced professionals	3.93	4
Weak regulatory/contractual framework	3.93	5
Poor decision-making	3.92	6
Poor contract administration	3.83	7
Poor communication	3.77	8
Frequent design changes	3.74	9
Inadequate risk allocation	3.40	10
Contractual disputes	3.36	11
Limited client involvement	3.22	12

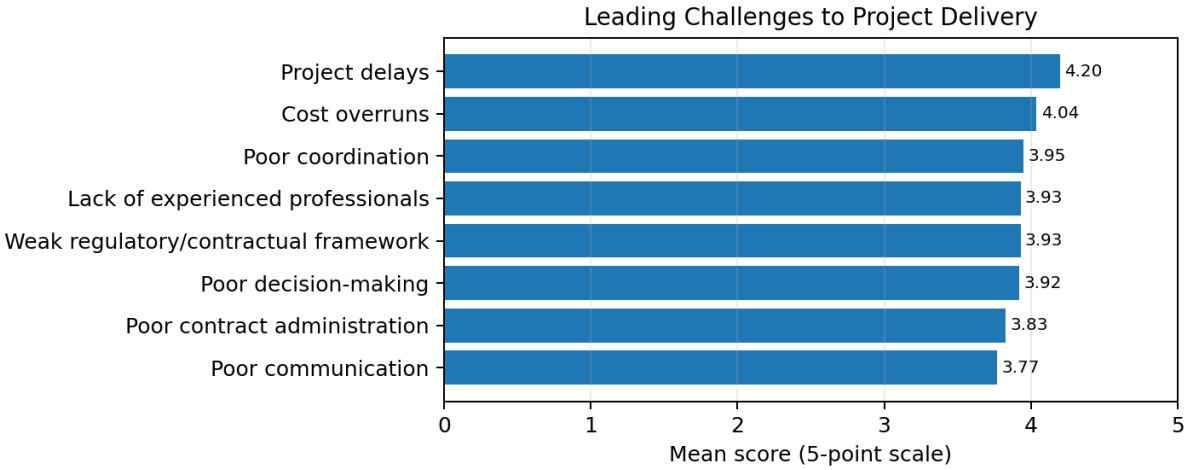


Figure 5. Eight highest-rated challenges affecting private project delivery.

3.5 Perceived project performance

Respondents reported positive contributions of procurement arrangements to selected performance indicators. Improved scheduling and programme management scored 4.15; the view that procurement choice influences cost, time and quality scored 4.12; compliance with specifications scored 4.08; and overall project performance scored 4.07. Cost control scored 4.03. However, achieving required quality standards scored 3.70 (Table 5 and Figure 6), the lowest of the listed performance items, indicating that procurement choice alone may not ensure quality without adequate supervision and implementation.

Table 5. Perceived contribution of the procurement systems to project performance.

Performance indicator	Mean
Improved scheduling/programme management	4.15
Procurement choice influences cost, time and quality	4.12
Compliance with project specifications	4.08
Overall project performance	4.07
Improved cost control	4.03
Minimising cost overruns	4.00
Completion within budget	3.99
Stakeholder coordination	3.96
Timely completion	3.93
Reducing project delays	3.84
Workmanship/construction quality	3.88
Achieving required quality standards	3.70

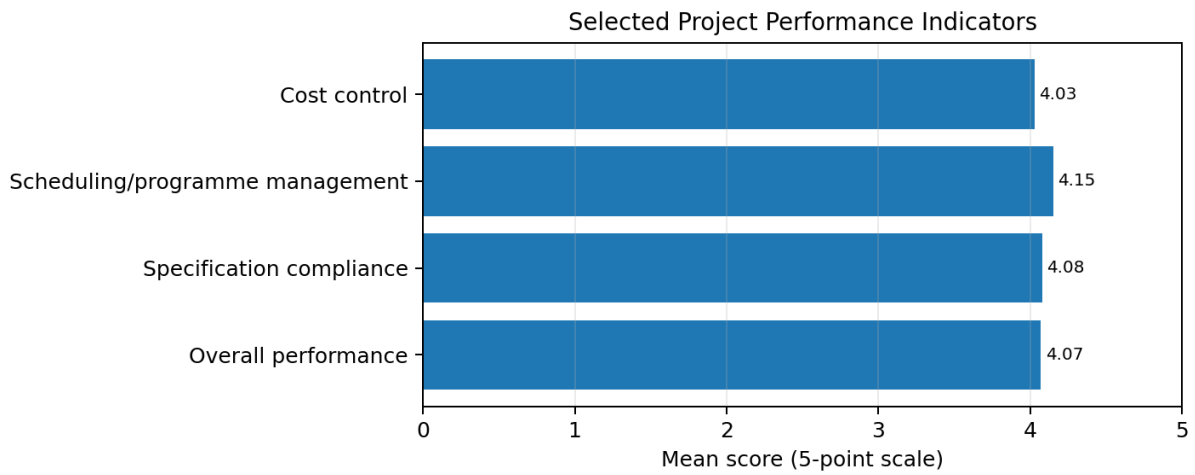


Figure 6. Selected project performance indicators.

3.6 Correlation between performance and delivery outcomes

The results show positive and statistically significant associations between overall project performance and cost ($r = 0.253$, $p = 0.009$), time ($r = 0.517$, $p < 0.001$) and quality ($r = 0.591$, $p < 0.001$), based on 105 responses (Table 6). The association was weakest for cost and strongest for quality, with time also showing a moderate positive relationship. These correlations indicate association, not causation.

Table 6. Pearson correlation between overall project performance and cost, time and quality (n = 105).

Outcome variable	Correlation with overall performance (r)	p-value	Interpretation
Cost	0.253	0.009	Weak positive; statistically significant
Time	0.517	<0.001	Moderate positive; statistically significant
Quality	0.591	<0.001	Moderate positive; statistically significant

4 Conclusion

This study assessed current procurement systems and private construction project delivery in Lagos and Ibadan, Nigeria. Design and Build had the highest mean adoption score, followed by Traditional Procurement and Negotiated Procurement. Availability of funds, project complexity and project size were the strongest selection considerations. Project delays, cost overruns and poor coordination were the most prominent challenges. Respondents rated procurement-related scheduling, specification compliance and cost control positively, and reported statistically significant positive associations between overall performance and cost, time and quality.

The findings support a project-specific approach to procurement selection. Procurement systems should be aligned with available finance, project scale and complexity, required quality, and delivery objectives. Effective planning and implementation remain essential; no procurement method can by itself eliminate delays, cost escalation or quality problems.

5 Recommendations

1. Clients should evaluate funding availability, project size, complexity, required quality and completion targets before selecting a procurement system.
2. Project teams should strengthen baseline scheduling, cash-flow planning, cost monitoring and change control to address delays and cost overruns.
3. Contract documents should clearly allocate responsibilities, risks, decision rights and procedures for variations and dispute resolution.
4. Clients, consultants, contractors and suppliers should establish regular coordination meetings and timely information-sharing protocols.
5. Competent professionals and effective supervision should be provided throughout delivery, with quality assurance linked to specifications and inspection requirements.
6. Future studies should include a wider geographic sample and, where possible, compare survey perceptions with objective project cost, time and quality records.

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