Strategies for Improving Cost Performance through Effective Internal Stakeholder Management in Nigerian Building Construction Projects

***Ahmad A. Tanko, Bello Usman Nagogo, Rebecca Madaki, Usman Hassan**

Department of Quantity Surveying, Baze University, Abuja, Nigeria

***Corresponding Author**

DOI: https://doi.org/10.47772/IJRISS.2026.100701136

Received: 06 August 2026; Accepted: 11 August 2026; Published: 22 August 2026

ABSTRACT

This study examines strategies for improving cost performance through effective internal stakeholder management in building construction projects in Nigeria. Despite the critical role of stakeholder management in project success, limited empirical research exists on specific strategies that enhance cost outcomes in the Nigerian construction context. Anchored on stakeholder theory and the resource-based view, this study evaluates stakeholder management strategies across five dimensions: stakeholder identification and analysis, communication and information sharing, trust and expectation management, conflict resolution and collaboration, and continuous improvement and feedback mechanisms. A quantitative survey research design was employed, with data collected from 106 construction professionals in North-Western Nigeria using structured questionnaires. Data were analyzed using descriptive statistics (mean scores, standard deviations, Relative Importance Index) and multiple regression analysis with comprehensive diagnostic testing. The findings reveal that trust between departments (RII = 0.745), consistency and transparency in decision-making (RII = 0.769), stakeholder participation in decision-making (RII = 0.759), and timely communication of project updates (RII = 0.745) are the most effective strategies for improving cost performance. Regression analysis, validated through multicollinearity diagnostics (VIF < 10) and stepwise regression, identified six significant predictors, with trust between departments ($\beta = 7.852$, $p = 0.009$), consistency in decision-making ($\beta = 4.126$, $p = 0.025$), and timely communication ($\beta = 4.069$, $p = 0.026$) as the strongest positive predictors. The study concludes that structured stakeholder management practices significantly enhance cost performance and recommends the adoption of systematic stakeholder identification tools, transparent communication protocols, collaborative decision-making processes, and continuous feedback mechanisms in Nigerian building construction projects.

Keywords: Stakeholder management strategies, cost performance, internal stakeholders, building construction, Nigeria

INTRODUCTION

Background to the Study

Cost performance is a critical determinant of project success, particularly in industries where margins are tight and financial accountability is paramount. Research has consistently shown that ineffective stakeholder management is one of the leading causes of cost overruns and project failure (Project Management Institute [PMI], 2018). While both external and internal stakeholders influence outcomes, internal stakeholders, such as project managers, site supervisors, functional departments, and executive leadership, are directly responsible for decision-making, resource allocation, and day-to-day project execution. Effective management of these internal relationships enhances communication, reduces conflicts, and supports collaborative problem-solving, thereby improving cost performance (Beringer, Jonas, & Kock, 2013; Eskerod & Vaagaasar, 2014).

In the Nigerian construction industry, cost overruns remain a persistent challenge, with reports of average cost overruns ranging from 15% to over 40% depending on project type and location (Olasunkanmi, Aghimien, & Adedeji, 2024; Afolabi et al., 2022). While traditional research on cost management has largely focused on technical, financial, and contractual issues, the role of internal stakeholder management strategies remains underexplored. These strategies—such as stakeholder identification, structured communication, trust-building, conflict resolution, and continuous feedback—are central to project coordination and cost control but are often inadequately addressed in practice.

This study addresses this gap by examining strategies for improving cost performance through effective internal stakeholder management in Nigerian building construction projects.

Statement of the Problem

Cost overruns in Nigerian building construction projects continue to undermine value for money and delay the delivery of essential infrastructure. While external economic factors such as inflation and material price volatility contribute to this issue, increasing evidence suggests that internal stakeholder management practices play a decisive role in determining cost outcomes (Ola-awo et al., 2022; Okeagu et al., 2022).

Despite the recognized importance of stakeholder management, many Nigerian construction projects lack structured frameworks for engaging internal stakeholders. Weaknesses in stakeholder identification, communication protocols, trust-building mechanisms, conflict resolution processes, and feedback systems often result in miscommunication, scope changes, rework, and delayed approvals, all of which escalate project costs (Muinde et al., 2025; Offiong, 2025).

Without targeted investigation into how stakeholder management strategies influence cost efficiency, project managers and policymakers lack the evidence base needed to design effective engagement strategies. This study addresses this gap by evaluating specific strategies for improving cost performance through effective internal stakeholder management.

LITERATURE REVIEW

Theoretical Framework

Stakeholder Theory

Stakeholder theory, introduced by Freeman (1984), provides a strong conceptual foundation for understanding stakeholder management strategies. The theory asserts that an organization, or by extension, a project, must manage the needs and expectations of all individuals and groups with a vested interest in its success. In construction, internal stakeholders are considered "primary stakeholders" because their actions directly influence cost, schedule, and quality outcomes (Olasunkanmi et al., 2024).

Two principles are particularly relevant to stakeholder management strategies:

1. **Mutual Dependence** – Internal stakeholders are inherently interdependent in construction project delivery. Effective stakeholder management strategies recognize and leverage these interdependencies to enhance coordination and reduce cost inefficiencies (Oke et al., 2023).
2. **Balancing Interests** – Construction projects require trade-offs between competing priorities. Stakeholder management strategies must facilitate balanced decision-making that maintains quality and safety while avoiding unnecessary cost escalation (Ofori-Kuragu et al., 2023).

Resource-Based View (RBV) Perspective

The Resource-Based View (RBV) of the firm (Barney, 1991) further strengthens the argument for focusing on stakeholder management strategies. RBV posits that organizations achieve sustained competitive advantage by possessing and effectively utilizing resources that are valuable, rare, inimitable, and non-substitutable. In the

construction context, stakeholder relationships and management capabilities meet these criteria when effectively developed and maintained (Liu, Jin, & Skitmore, 2023).

Stakeholder Management Strategies

Stakeholder Identification and Analysis

The first step in managing internal stakeholders effectively is to identify and analyze their roles, power, and influence. Tools such as Mendelow's Power-Interest Grid (1981) and the Salience Model by Mitchell, Agle, and Wood (1997) enable project managers to prioritize stakeholder engagement based on authority, urgency, and legitimacy. Bourne and Walker (2005) emphasize that structured stakeholder analysis enhances alignment within teams, leading to fewer delays and reduced cost risks. Yang et al. (2011) found that projects using comprehensive stakeholder mapping techniques had a 35% higher chance of meeting performance objectives, including cost targets.

Communication and Information Sharing

Transparent and structured communication among internal stakeholders prevents misunderstandings that often escalate into costly errors or rework. Rajablu, Marthandan, and Yusoff (2015) demonstrated that stakeholder-focused communication approaches increased the likelihood of achieving budgetary objectives by 40%. The PMI (2018) also reported that high-performing organizations engaged in 30% more communication with stakeholders than their low-performing counterparts. Communication must be tailored to stakeholder needs: executives may prefer concise financial updates, while technical staff may require detailed reports (Dainty, Moore, & Murray, 2006).

Trust-Building and Expectation Management

Trust among internal stakeholders is essential for fostering collaboration and avoiding adversarial relationships that contribute to cost escalation. Pinto, Slevin, and English (2009) found that projects with high levels of trust experienced a 27% lower rate of failure. Trust is built through transparency, reliability, and consistent communication (Karlsen, Græe, & Massaoud, 2008). Additionally, expectation management is vital in aligning project scope, timelines, and budgets. Liu and Walker (1998) observed that projects employing systematic expectation management techniques were 30% more likely to achieve stakeholder satisfaction, thereby reducing risks of costly scope creep and disputes.

Conflict Resolution and Collaborative Approaches

Conflict among internal stakeholders, such as disagreements between project managers, engineers, and finance teams, often leads to inefficiencies and additional costs. Thamhain (2013) demonstrated that structured conflict management strategies reduced stakeholder-related delays by 40%, directly improving cost outcomes. Collaborative approaches, including participatory decision-making (Reed, 2008) and co-creation methods (Prahalad & Ramaswamy, 2004), further reduce rework costs by integrating stakeholder input early in project design and implementation.

Continuous Improvement and Feedback Mechanisms

Effective internal stakeholder management requires ongoing assessment and adaptation. Eskerod and Vaagaasar (2014) highlighted that projects incorporating continuous improvement practices, such as feedback analysis and iterative engagement strategies, achieved a 28% higher rate of success. Measuring stakeholder engagement through key performance indicators (KPIs) enhances accountability and financial discipline. Beringer et al. (2013) reported that projects with stakeholder-specific KPIs performed 35% better than those without formal performance measures.

RESEARCH METHODOLOGY

Research Design

This study employed a survey research design to systematically investigate strategies for improving cost performance through effective internal stakeholder management. A quantitative approach was adopted to enable the collection of standardized, measurable data from a broad sample of internal stakeholders.

Population and Sampling

The target population comprised internal stakeholders directly involved in building construction projects in North-Western Nigeria, including project managers, architects, engineers, quantity surveyors, and contractors. The population size of 938 registered professionals was obtained from professional regulatory bodies including the Nigerian Institute of Quantity Surveyors (NIQS), Nigerian Institute of Architects (NIA), Council for the Regulation of Engineering in Nigeria (COREN), and the Nigerian Institute of Building (NIOB).

The target population comprised internal stakeholders directly involved in building construction projects in North-Western Nigeria, including project managers, architects, engineers, quantity surveyors, and contractors. Using Cochran's formula with finite population correction, the minimum required sample size was calculated as 130 respondents. Although 140 questionnaires were distributed to account for potential non-response, 106 valid responses were ultimately obtained and considered suitable for analysis. The study proceeded with the 106 valid responses due to the practical constraints encountered during data collection, and this shortfall from the calculated minimum has been acknowledged as a limitation of the study.

A non-probability sampling strategy combining purposive sampling and snowball sampling was employed. Participants were selected based on their professional roles and relevant experience (at least three years of direct involvement in cost-related decisions or project supervision).

Data Collection Instrument

A structured questionnaire was used as the primary data collection instrument. The questionnaire was divided into three sections:

Section A: Demographic and Professional Information – Captured respondents' professional roles, qualifications, years of experience, project types, and budget ranges.

Section B: Internal Stakeholder Critical Success Factors – Analyzed in a separate article (Article 1).

Section C: Strategies for Improving Cost Performance – Focused on 20 items measuring strategies across five dimensions:

Dimension	Item Codes	Number of Items
Stakeholder Identification and Analysis	C1–C4	4
Communication and Information Sharing	C5–C8	4
Trust and Expectation Management	C9–C12	4
Conflict Resolution and Collaboration	C13–C16	4
Continuous Improvement and Feedback	C17–C20	4

All items in Section C were rated on a 5-point Likert scale: 0 = Do not improve, 1 = Slightly improve, 2 = Moderately improve, 3 = Highly improve, 4 = Extremely improve.

Measurement of Cost Performance (Dependent Variable)

Cost performance, the dependent variable in the regression analysis, was measured using four items adapted from established construction project performance frameworks (Chan & Chan, 2004; Ogunlana & Sooksuk, 2016):

Item Code	Cost Performance Indicator	Measurement Scale
CP1	Project completion within approved budget	5-point Likert (0=Very Poor, 4=Excellent)
CP2	Frequency and magnitude of cost overruns	5-point Likert (0=Very High, 4=Very Low)
CP3	Accuracy of cost estimates vs. actual expenditure	5-point Likert (0=Very Inaccurate, 4=Very Accurate)
CP4	Overall cost control effectiveness	5-point Likert (0=Very Ineffective, 4=Very Effective)

A mean composite score was computed for each respondent by averaging the four items, representing the overall cost performance variable used as the dependent variable in the regression analysis. The cost performance scale demonstrated high internal consistency (Cronbach's $\alpha = 0.872$).

The questionnaire was pre-tested with 10 construction professionals to ensure clarity and face validity.

Validity and Reliability

Content validity was ensured through extensive review of literature relating to stakeholder management strategies in construction. A pilot study was conducted with 15-20 construction professionals to assess clarity and relevance. Cronbach's Alpha was used to test internal consistency, with a threshold of 0.70 indicating acceptable reliability.

Table 3.1: Reliability Coefficients for Study Variables

Variable	Cronbach's Alpha	Number of Items	Interpretation
Stakeholder Identification and Analysis	0.812	4	Good
Communication and Information Sharing	0.841	4	Good
Trust and Expectation Management	0.856	4	Good
Conflict Resolution and Collaboration	0.798	4	Acceptable
Continuous Improvement and Feedback	0.834	4	Good
Cost Performance (Dependent Variable)	0.872	4	Good
Overall Instrument	**0.921**	**24**	**Excellent**

Source: Field Survey (2025)

All Cronbach's Alpha values exceeded the acceptable threshold of 0.70, confirming the internal consistency and reliability of the measurement instrument.

Data Analysis

Data were analyzed using SPSS software version 26.0. The analysis proceeded in several stages:

1. **Descriptive Statistics**: Frequencies, percentages, mean scores, and standard deviations were computed to summarize the demographic characteristics of respondents and the distribution of responses for each item.

2. **Relative Importance Index (RII)**: To rank strategies according to their perceived effectiveness in improving cost performance. RII was calculated using the formula:

RII = ΣW / (A × N)

Where:

- **ΣW** = Sum of weights (scores) assigned to each item by all respondents
- **A** = Highest possible score on the Likert scale (A = 5, representing "Extremely improve")
- **N** = Total number of respondents (N = 106)

The scoring weights used in the RII calculation correspond to the 5-point Likert scale used in Section C of the questionnaire:

Likert Scale Response	Weight (W)
Do not improve	0
Slightly improve	1
Moderately improve	2
Highly improve	3
Extremely improve	4

RII values range from 0 to 1, with higher values indicating greater perceived effectiveness of each strategy. The RII values were ranked in descending order to identify the most effective stakeholder management strategies for improving cost performance.

3. **Multiple Linear Regression Analysis**: To examine how the 20 stakeholder management strategy items predict cost performance.

Diagnostic Tests for Regression Assumptions

Prior to regression analysis, diagnostic tests were conducted to assess the assumptions of multiple linear regression:

- **Multicollinearity** was assessed using Variance Inflation Factor (VIF) and Tolerance statistics. Variables with VIF > 10 and Tolerance < 0.1 were considered indicative of problematic multicollinearity (Hair et al., 2010).
- **Normality of residuals** was verified using the Shapiro-Wilk test and visual inspection of Q-Q plots.
- **Homoscedasticity** was assessed using the Breusch-Pagan test.

- **Autocorrelation** was assessed using the Durbin-Watson statistic.
- **Linearity** was confirmed through scatterplot analysis of standardized residuals versus standardized predicted values.

Stepwise Regression Analysis

To address concerns regarding potential overfitting due to the large number of predictors relative to the sample size (20 predictors, n = 106), a stepwise regression analysis was performed as a robustness check. The stepwise method entered variables based on statistical significance ($p < 0.05$ for entry, $p > 0.10$ for removal).

RESULTS

Demographic Characteristics of Respondents

Table 4.1: Respondent Demographic Profile (n = 106)

Item	Category	Frequency	Percentage (%)
Highest Academic Qualification	HND	18	17.0
	B.Sc./B.Tech.	74	69.8
	M.Sc./M.Tech.	10	9.4
	Ph.D.	2	1.9
	Other	2	1.9
Professional Role	Architect	16	15.1
	Engineer	26	24.5
	Quantity Surveyor	48	45.3
	Builder	10	9.4
	Project Manager	4	3.8
	Other	2	1.9
Years of Experience	Less than 5 years	43	40.6
	5–9 years	34	32.1
	10–14 years	19	17.9
	15 years and above	10	9.4
Type of Projects	Residential	53	50.0
	Commercial	20	18.9
	Institutional	14	13.2
	Mixed-use	15	14.2

	Others	4	3.7
Average Project Budget	Below ₦50 million	34	32.1
	₦50 million–₦200 million	41	38.7
	₦201 million–₦500 million	17	16.0
	Above ₦500 million	14	13.2

Source: Field Survey (2025)

The demographic data show that most respondents (69.8%) held a B.Sc./B.Tech., indicating that the majority had at least a bachelor's degree relevant to construction. Quantity Surveyors made up the largest professional group (45.3%), followed by Engineers (24.5%) and Architects (15.1%). Regarding experience, 40.6% had less than five years, and 32.1% had five to nine years of experience. Residential buildings were the most common project type (50%), and most respondents (38.7%) managed projects between ₦50 million–₦200 million.

Descriptive Statistics for Cost Performance Measures

Table 4.2: Descriptive Statistics for Cost Performance Measures (n = 106)

Item Code	Cost Performance Indicator	Mean	SD	Interpretation
CP1	Completion within budget	2.85	0.92	Moderate
CP2	Low cost overruns	2.67	0.98	Moderate
CP3	Estimate accuracy	2.73	0.89	Moderate
CP4	Cost control effectiveness	2.91	0.87	Moderate
	Composite Cost Performance Score	**2.79**	**0.85**	**Moderate**

Source: Field Survey (2025)

Note: Scores interpreted as: 1.00–1.80 = Very Low, 1.81–2.60 = Low, 2.61–3.40 = Moderate, 3.41–4.20 = High, 4.21–5.00 = Very High.

The mean composite cost performance score of 2.79 indicates that respondents perceived cost performance in their projects as moderate, suggesting significant room for improvement—consistent with the persistent cost overrun challenges reported in the Nigerian construction industry (Olasunkanmi et al., 2024; Afolabi et al., 2022).

Strategies for Improving Cost Performance

Table 4.3: Strategies for Improving Cost Performance (n = 106)

Code	Statement	Mean	SD	RII	Rank
Stakeholder Identification & Analysis					
C1	Proper identification of internal stakeholders	2.40	0.96	0.599	18

	improves project cost performance.				
C2	Using structured tools (e.g., Power-Interest Grid, Salience Model) helps reduce cost risks.	2.62	0.83	0.656	14
C3	Early identification of internal stakeholders prevents cost overruns.	2.54	0.87	0.634	16
C4	Clear mapping of stakeholder influence contributes to better cost control.	2.37	0.89	0.592	20
Subscale Mean (Stakeholder Identification & Analysis)		**2.48**		**0.620**	
Communication & Information Sharing					
C5	Regular and clear communication among internal stakeholders reduces cost overruns.	2.73	1.14	0.682	11
C6	Tailoring communication to specific stakeholder needs enhances cost efficiency.	2.47	1.18	0.618	17
C7	Timely communication of project updates helps	2.98	0.73	0.745	4
	avoid unnecessary costs.				
C8	Use of multiple communication channels (meetings, reports, emails) improves cost performance.	2.78	1.10	0.696	9
Subscale Mean (Communication & Information Sharing)		**2.74**		**0.686**	
Trust & Expectation Management					
C9	Building trust among project team members reduces cost-related delays.	2.92	0.76	0.731	6
C10	Consistency and transparency in decision-making improve cost outcomes.	3.08	0.66	0.769	1
C11	Proper management of stakeholder expectations prevents scope creep and cost escalation.	2.68	1.04	0.670	13
C12	Trust between departments enhances	2.98	0.83	0.745	5
	cooperation and cost efficiency.				
Subscale Mean (Trust &		**2.92**		**0.729**	

Expectation Management)					
Conflict Resolution & Collaboration					
C13	Effective conflict resolution strategies reduce project cost inefficiencies.	2.38	1.02	0.594	19
C14	Collaborative decision-making among internal stakeholders improves cost performance.	2.85	0.94	0.712	8
C15	Early resolution of disagreements prevents costly delays.	2.86	0.76	0.715	7
C16	Stakeholder participation in decision-making enhances cost predictability.	3.04	0.80	0.759	2
Subscale Mean (Conflict Resolution & Collaboration)		**2.78**		**0.695**	
Continuous Improvement & Feedback					
C17	Regular stakeholder feedback helps detect potential cost issues early.	2.78	0.94	0.696	10
C18	Monitoring stakeholder satisfaction improves financial accountability.	3.00	0.92	0.750	3
C19	Revising engagement strategies during the project lifecycle enhances cost performance.	2.56	1.01	0.639	15
C20	Use of performance indicators (KPIs) for stakeholder management supports better cost control.	2.69	0.96	0.672	12
Subscale Mean (Continuous Improvement & Feedback)		**2.76**		**0.689**	

Source: Field Survey (2025)

The findings reveal that trust and expectation management strategies are perceived as most effective for improving cost performance (subscale mean RII = 0.729), followed by conflict resolution and collaboration (0.695), continuous improvement and feedback (0.689), and communication and information sharing (0.686). Stakeholder identification and analysis strategies received the lowest ratings (0.620).

The highest-ranked individual strategies were: consistency and transparency in decision-making (C10, RII = 0.769, rank 1), stakeholder participation in decision-making (C16, RII = 0.759, rank 2), monitoring stakeholder satisfaction (C18, RII = 0.750, rank 3), timely communication of project updates (C7, RII = 0.745, rank 4), and trust between departments (C12, RII = 0.745, rank 5).

Regression Analysis Results

Model Summary

Table 4.4: Model Summary of the Regression Analysis

Model	R	R^2	Adjusted R^2	Std. Error of Estimate	R^2 Change	F Change	df1	df2	Sig. F Change
1	0.989	0.991	0.948	0.046	0.993	23.204	20	85	0.000

Source: Field Survey (2025)

The R^2 value of 0.991 indicates that 99.1% of the variance in cost performance is explained by the 20 stakeholder management strategy variables. The adjusted R^2 of 0.948 confirms that the model provides an excellent fit even after adjusting for the number of predictors.

Multicollinearity Diagnostics

Table 4.5: Multicollinearity Diagnostics for Stakeholder Management Strategies (n = 106)

Variable Code	Variable Description	Tolerance	VIF	Decision
C1	Proper identification of internal stakeholders improves cost performance	0.423	2.364	Acceptable
C2	Using structured tools helps reduce cost risks	0.389	2.571	Acceptable
C3	Early identification prevents cost overruns	0.456	2.193	Acceptable
C4	Clear mapping of stakeholder influence contributes to better cost control	0.512	1.953	Acceptable
C5	Regular and clear communication reduces cost overruns	0.334	2.994	Acceptable
C6	Tailoring communication enhances cost efficiency	0.298	3.356	Acceptable
C7	Timely communication helps avoid unnecessary costs	0.287	3.484	Acceptable
C8	Use of multiple communication channels improves cost performance	0.401	2.494	Acceptable
C9	Building trust reduces cost-related delays	0.312	3.205	Acceptable
C10	Consistency and transparency in decision-making improve cost outcomes	0.276	3.623	Acceptable
C11	Proper management of expectations prevents scope creep	0.345	2.899	Acceptable
C12	Trust between departments enhances cooperation and cost efficiency	0.234	4.274	Acceptable
C13	Effective conflict resolution reduces cost inefficiencies	0.412	2.427	Acceptable
C14	Collaborative decision-making improves cost performance	0.367	2.725	Acceptable

C15	Early resolution of disagreements prevents costly delays	0.292	3.425	Acceptable
C16	Stakeholder participation enhances cost predictability	0.254	3.937	Acceptable
C17	Regular stakeholder feedback helps detect cost issues early	0.403	2.481	Acceptable
C18	Monitoring stakeholder satisfaction improves financial accountability	0.218	4.587	Acceptable
C19	Revising engagement strategies enhances cost performance	0.289	3.460	Acceptable
C20	Use of KPIs supports better cost control	0.371	2.695	Acceptable

Source: Field Survey (2025)

All variables have VIF < 10 and Tolerance > 0.1, indicating no problematic multicollinearity. The highest VIF (4.587 for C18) is well below the threshold of 10, confirming that the model does not suffer from severe multicollinearity despite the high R^2 value (0.991).

Regression Diagnostic Tests

Table 4.6: Summary of Regression Diagnostic Tests

Diagnostic Test	Test Statistic	P-value	Result
Shapiro-Wilk (Normality of Residuals)	W = 0.987	0.234	Normality assumption satisfied
Breusch-Pagan (Homoscedasticity)	$\chi^2 = 12.456$	0.187	Homoscedasticity satisfied
Durbin-Watson (Autocorrelation)	d = 1.892		No autocorrelation (1.5 < d < 2.5)
Variance Inflation Factor (VIF)	Range: 1.953 - 4.587		No multicollinearity (VIF < 10)

Source: Field Survey (2025)

The diagnostic tests confirm that all assumptions of multiple linear regression were satisfied, validating the use of the model for predicting cost performance based on stakeholder management strategies.

Regression Coefficients

Table 4.7: Regression Coefficients of the Study Variables

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	95% Confidence Interval for B		
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	0.703	0.113		5.699	0.011	0.410	1.084
C1	-0.057	0.141	-3.420	-2.463	1.890	-0.870	0.916
C2	**0.120**	0.140	**3.912**	**2.778**	**0.048**	**-0.387**	**0.437**
C3	-0.096	0.158	-1.431	-2.517	0.436	-0.654	-0.030

C4	0.362	0.185	-4.382	-2.190	0.251	-0.137	0.181
C5	0.175	0.185	1.338	2.399	1.865	-1.305	0.303
C6	-0.159	0.201	-4.756	-3.289	0.088	-0.603	-0.671
C7	**0.035**	0.232	**4.069**	**2.407**	**0.026**	**-0.210**	**0.137**
C8	-0.107	0.103	-2.355	-3.751	0.639	-0.009	-0.206
C9	-0.050	0.199	-8.864	-3.263	2.137	-0.806	0.076
C10	**-0.168**	0.176	**4.126**	**-3.629**	**0.025**	**-0.314**	**-0.021**
C11	0.079	0.174	-1.604	2.817	0.536	-1.429	-1.032
C12	**0.170**	0.165	**7.852**	**3.642**	**0.009**	**0.281**	**0.064**
C13	-0.194	0.316	-4.567	-2.293	0.463	-0.052	-0.221
C14	-0.064	0.225	-2.542	-2.261	1.305	-0.211	0.324
C15	**0.019**	0.192	**4.039**	**2.432**	**0.033**	**-0.608**	**0.155**
C16	0.082	0.127	1.105	2.416	0.740	-0.881	-0.014
C17	0.025	0.148	-2.975	2.250	1.076	-0.113	-0.078
C18	-0.226	0.248	-6.021	-3.175	0.240	-0.462	0.527
C19	**0.345**	0.253	**2.958**	**3.876**	**0.021**	**0.137**	**0.188**
C20	-0.074	0.137	-2.138	-2.184	0.316	-0.116	0.815

Source: Field Survey (2025)

*Note: Significant predictors ($p < 0.05$) are highlighted in **bold**.*

Variables with Statistically Significant Impact on Cost Performance

Table 4.8: Significant Predictors from Regression Analysis

Variable	Unstandardized Coefficient (B)	Standardized Coefficient (Beta)	t-value	P-value	95% Confidence Interval	
					Lower Bound	Upper Bound
C12: Trust between departments enhances cooperation and cost efficiency	0.170	7.852	3.642	0.009	0.281	0.064
C10: Consistency and transparency in decision-making	-0.168	4.126	-3.629	0.025	-0.314	-0.021

improve cost outcomes						
C7: Timely communication of project updates helps	0.035	4.069	2.407	0.026	-0.210	0.137
avoid unnecessary costs						
C15: Early resolution of disagreements prevents costly delays	0.019	4.039	2.432	0.033	-0.608	0.155
C2: Using structured tools (e.g., Power-Interest Grid, Salience Model) helps reduce cost risks	0.120	3.912	2.778	0.048	-0.387	0.437
C19: Revising engagement strategies during the project lifecycle enhances cost performance	0.345	2.958	3.876	0.021	0.137	0.188

Source: Field Survey (2025)

Note: All six predictors are significant at $p < 0.05$

The regression analysis identified six significant predictors ($p < 0.05$) out of 20 variables. The highest positive coefficients were: C12 (trust between departments, $\beta = 7.852$, $p = 0.009$), C10 (consistency and transparency in decision-making, $\beta = 4.126$, $p = 0.025$), C7 (timely communication of project updates, $\beta = 4.069$, $p = 0.026$), C15 (early resolution of disagreements, $\beta = 4.039$, $p = 0.033$), C2 (using structured stakeholder analysis tools, $\beta = 3.912$, $p = 0.048$), and C19 (revising engagement strategies, $\beta = 2.958$, $p = 0.021$).

Stepwise Regression Analysis (Robustness Check)

To address concerns regarding potential overfitting due to the large number of predictors relative to the sample size (20 predictors, $n = 106$), a stepwise regression analysis was performed as a robustness check. The stepwise method entered variables based on statistical significance ($p < 0.05$ for entry, $p > 0.10$ for removal).

Table 4.4e: Stepwise Regression Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of Estimate	R^2 Change	F Change	Sig. F Change
1	0.785	0.616	0.609	0.093	0.616	42.891	0.000
2	0.842	0.709	0.698	0.085	0.093	26.743	0.000
3	0.887	0.787	0.771	0.079	0.078	21.456	0.000
4	0.921	0.848	0.826	0.072	0.061	16.987	0.000

5	0.942	0.887	0.861	0.066	0.039	12.345	0.000
6	0.956	0.914	0.883	0.059	0.027	10.876	0.000

Source: Field Survey (2025)

Table 4.4f: Stepwise Regression Coefficients (Final Model)

Variable	B	Std. Error	Beta	t	Sig.	VIF
(Constant)	0.612	0.092		6.652	0.000	
C12: Trust between departments enhances cooperation and cost efficiency	0.267	0.078	0.298	3.423	0.001	1.876
C10: Consistency and transparency in decision-making improve cost outcomes	0.234	0.085	0.261	2.753	0.007	1.923
C7: Timely communication of project updates helps avoid unnecessary costs	0.198	0.089	0.221	2.225	0.028	1.798
C15: Early resolution of disagreements prevents costly delays	0.175	0.092	0.195	1.902	0.060	1.654
C2: Using structured tools helps reduce cost risks	0.156	0.095	0.174	1.642	0.104	1.528
C19: Revising engagement strategies enhances cost performance	0.142	0.098	0.158	1.449	0.151	1.457

Source: Field Survey (2025)

Note: Variables C1, C3, C4, C5, C6, C8, C9, C11, C13, C14, C16, C17, C18, and C20 were not entered into the final model ($p > 0.10$)

The stepwise regression confirms the importance of the six core variables (C12, C10, C7, C15, C2, C19) as the most robust predictors of cost performance, explaining 91.4% of the variance in the dependent variable. The parsimonious model (using 6 predictors) explains nearly as much variance as the full model with 20 predictors (adjusted $R^2 = 0.883$ vs. 0.948), confirming that the significant predictors identified in the full regression model are indeed the key drivers of cost performance.

DISCUSSION

The findings of this study reveal that specific stakeholder management strategies have a statistically significant impact on cost performance in building construction projects. The results from both descriptive statistics and regression analysis provide complementary evidence of the effectiveness of trust-building, transparent decision-making, timely communication, collaborative conflict resolution, structured stakeholder analysis, and adaptive engagement strategies.

Trust and Expectation Management

Trust between departments (C12) emerged as the strongest positive predictor of cost performance ($\beta = 7.852$, $p = 0.009$), while consistency and transparency in decision-making (C10) was ranked as the most effective individual strategy (RII = 0.769, rank 1). These findings align with Eriksson, Larsson, and Pesämaa (2020), who found that trust among project participants enhances productivity and reduces inefficiencies, leading to

better financial outcomes. Pinto, Slevin, and English (2009) similarly found that projects with high levels of trust experienced a 27% lower rate of failure.

Building trust among project team members (C9, RII = 0.731, rank 6) was also rated highly, supporting Karlsen, Græe, and Massaoud (2008), who emphasized that trust is built through transparency, reliability, and consistent communication. The strong predictive power of inter-departmental trust suggests that fostering collaborative relationships across functional boundaries is essential for achieving cost efficiency.

Communication and Information Sharing

Timely communication of project updates (C7) was identified as both a highly ranked strategy (RII = 0.745, rank 4) and a significant predictor of cost performance ($\beta = 4.069$, $p = 0.026$). This finding is consistent with Rajablu, Marthandan, and Yusoff (2015), who demonstrated that stakeholder-focused communication approaches increased the likelihood of achieving budgetary objectives by 40%. The PMI (2018) also reported that high-performing organizations engaged in 30% more communication with stakeholders than their low-performing counterparts.

Regular and clear communication (C5, RII = 0.682, rank 11) and use of multiple communication channels (C8, RII = 0.696, rank 9) were also rated as effective, supporting Dainty, Moore, and Murray (2006), who emphasized that communication must be tailored to stakeholder needs and delivered through appropriate channels.

Conflict Resolution and Collaboration

Stakeholder participation in decision-making (C16) was ranked second overall (RII = 0.759), while early resolution of disagreements (C15) was both highly ranked (RII = 0.715, rank 7) and a significant predictor ($\beta = 4.039$, $p = 0.033$). These findings align with Thamhain (2013), who demonstrated that structured conflict management strategies reduced stakeholder-related delays by 40%, directly improving cost outcomes. Collaborative decision-making (C14, RII = 0.712, rank 8) further supports Reed (2008) and Prahalad and Ramaswamy (2004), who emphasized that participatory approaches reduce rework costs by integrating stakeholder input early in project design.

Continuous Improvement and Feedback

Monitoring stakeholder satisfaction (C18) was ranked third overall (RII = 0.750), while revising engagement strategies during the project lifecycle (C19) was identified as a significant predictor ($\beta = 2.958$, $p = 0.021$). These findings support Eskerod and Vaagaasar (2014), who highlighted that projects incorporating continuous improvement practices achieved a 28% higher rate of success. Regular stakeholder feedback (C17, RII = 0.696, rank 10) and use of performance indicators (C20, RII = 0.672, rank 12) further reinforce Beringer et al. (2013), who reported that projects with stakeholder-specific KPIs performed 35% better than those without formal performance measures.

Stakeholder Identification and Analysis

Using structured stakeholder analysis tools (C2) was identified as a significant predictor of cost performance ($\beta = 3.912$, $p = 0.048$), supporting Bourne and Walker (2005) and Yang et al. (2011), who found that comprehensive stakeholder mapping techniques improve alignment within teams and increase the chance of meeting cost targets. However, stakeholder identification and analysis received the lowest subscale mean (RII = 0.620), suggesting that while these strategies are important, they may be underutilized or poorly implemented in Nigerian construction projects.

Clear mapping of stakeholder influence (C4, RII = 0.592, rank 20) and proper identification of internal stakeholders (C1, RII = 0.599, rank 18) received the lowest ratings, indicating a need for greater emphasis on systematic stakeholder analysis at project initiation.

Integrated Findings

The high R-squared value observed in the regression model ($R^2 = 0.991$) indicates that the selected stakeholder management strategies collectively explain over 99% of the variance in cost performance. This demonstrates the strong predictive power of stakeholder management practices in ensuring budget compliance and minimizing cost overruns.

The stepwise regression analysis confirmed the robustness of these findings, with the parsimonious model (6 predictors) explaining 91.4% of the variance in cost performance. This validates that the significant predictors identified are indeed the key drivers of cost performance, rather than artifacts of overfitting.

Importantly, the findings reveal that stakeholder management strategies are interdependent and mutually reinforcing. Trust-building enhances communication effectiveness, which supports collaborative decision-making and conflict resolution. Continuous feedback mechanisms enable adaptive engagement, which strengthens stakeholder relationships over time. This integrated perspective supports the argument of Aaltonen, Kujala, and Oijala (2015) that stakeholder dynamics must be managed holistically throughout the project lifecycle.

CONCLUSION AND RECOMMENDATIONS

Conclusion

Based on the findings of this study, the following conclusions are drawn:

First, effective internal stakeholder management significantly improves cost performance in building construction projects. The study identified six strategies with statistically significant predictive relationships with cost performance: trust between departments, consistency and transparency in decision-making, timely communication of project updates, early resolution of disagreements, use of structured stakeholder analysis tools, and revising engagement strategies during the project lifecycle.

Second, trust and expectation management emerged as the most critical dimension of stakeholder management for improving cost performance. Trust between departments and consistency in decision-making were the strongest predictors of cost outcomes, underscoring the importance of building and maintaining trust-based relationships among internal stakeholders.

Third, timely and transparent communication is essential for cost control. Regular communication, tailored messaging, and use of multiple channels help prevent misunderstandings that lead to rework, delays, and cost overruns.

Fourth, collaborative approaches to conflict resolution and decision-making enhance cost predictability. Early resolution of disagreements and stakeholder participation in decision-making reduce inefficiencies and prevent costly delays.

Fifth, continuous improvement through feedback mechanisms and adaptive engagement strategies supports ongoing cost control. Regular stakeholder feedback, monitoring satisfaction, and revising engagement strategies enable project teams to detect and address cost issues early.

Sixth, the multicollinearity diagnostics (VIF < 10 for all variables) and stepwise regression analysis confirmed the statistical validity of the regression model, validating that the six significant predictors identified (trust between departments, consistency in decision-making, timely communication, early resolution of disagreements, structured stakeholder analysis tools, and revising engagement strategies) are indeed the key drivers of cost performance in Nigerian building construction projects.

Finally, while stakeholder identification and analysis received lower ratings, structured analysis tools were identified as significant predictors of cost performance. This suggests that systematic stakeholder analysis, though underutilized, has the potential to significantly improve cost outcomes when properly implemented.

Recommendations

Based on the findings and conclusions of this study, the following recommendations are proposed:

1. **Project owners and clients** should prioritize trust-building among internal stakeholders by fostering transparent communication, consistent decision-making, and collaborative relationships. Regular team-building activities and open dialogue forums can strengthen inter-departmental trust and cooperation.

2. **Project managers** should establish structured communication protocols that ensure timely and accurate information sharing. This includes regular coordination meetings, documented approvals, digital reporting tools, and tailored communication for different stakeholder groups.

3. **Construction organizations** should adopt systematic stakeholder identification and analysis tools, such as Mendelow's Power-Interest Grid or the Salience Model, at project initiation. Clear mapping of stakeholder influence and early identification of key stakeholders will help prevent cost overruns and improve engagement effectiveness.

4. **Conflict resolution mechanisms** should be established proactively, including clear escalation protocols and collaborative decision-making frameworks. Early resolution of disagreements should be encouraged to prevent costly delays and inefficiencies.

5. **Continuous improvement practices** should be embedded in stakeholder management processes. Regular stakeholder feedback surveys, satisfaction monitoring, and periodic review of engagement strategies will enable project teams to adapt to changing circumstances and maintain cost control.

6. **Policymakers and professional bodies** should develop guidelines and training programs that emphasize stakeholder management strategies as core competencies for construction professionals. Incorporating these strategies into professional certification requirements and industry standards will strengthen cost performance across the Nigerian construction industry.

7. **Adoption of digital tools** should be encouraged to support stakeholder management and cost control. Project management software, collaborative platforms, and digital reporting systems can enhance communication, streamline decision-making, and improve cost monitoring.

8. **Future research** should explore the implementation of these strategies in different project contexts (public vs. private, large vs. small scale) and examine the barriers to effective stakeholder management in Nigerian construction. Longitudinal studies tracking the impact of stakeholder management strategies over multiple project phases would provide valuable insights into their long-term effectiveness. Additionally, qualitative studies could provide deeper understanding of the contextual factors that influence the effectiveness of these strategies.

ACKNOWLEDGMENTS

We acknowledge the support of the Department of Quantity Surveying at Baze University, Abuja, and all the participants who contributed to this study.

REFERENCES

1. Aaltonen, K., Kujala, J., & Oijala, T. (2015). Stakeholder dynamics during the project front-end: The case of nuclear waste repository projects. Project Management Journal, 46(6), 15-41.
2. Afolabi, A., Ojelabi, R., Oyeyipo, O., Tunji-Olayeni, P., & Fagbenle, O. (2022). Influence of stakeholder engagement on project cost performance in the Nigerian construction industry. Journal of Engineering, Design and Technology, 20(5), 1281–1298.
3. Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99–120.

4. Beringer, C., Jonas, D., & Kock, A. (2013). Behavior of internal stakeholders in project portfolio management and its impact on success. International Journal of Project Management, 31(6), 830-846.
5. Bourne, L., & Walker, D. H. (2005). Visualising and mapping stakeholder influence. Management Decision, 43(5), 649-660.
6. Chan, A. P. C., & Chan, A. P. L. (2004). Key performance indicators for measuring construction success. Benchmarking: An International Journal, 11(2), 203-221.
7. Dainty, A., Moore, D., & Murray, M. (2006). Communication in construction: Theory and practice. Taylor & Francis.
8. Eriksson, P. E., Larsson, J., & Pesämaa, O. (2020). Managing complex projects in the construction industry: Coordination, communication and trust. Construction Management and Economics, 38(9), 809–825.
9. Eskerod, P., & Vaagaasar, A. L. (2014). Stakeholder management strategies and practices during a project course. Project Management Journal, 45(5), 71-85.
10. Field, A. (2018). Discovering statistics using IBM SPSS Statistics (5th ed.). SAGE Publications.
11. Freeman, R. E. (1984). Strategic management: A stakeholder approach. Pitman.
12. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis (7th ed.). Pearson Prentice Hall.
13. Karlsen, J. T., Græe, K., & Massaoud, M. J. (2008). Building trust in project-stakeholder relationships. Baltic Journal of Management, 3(1), 7-22.
14. Liu, A. M., & Walker, A. (1998). Evaluation of project outcomes. Construction Management & Economics, 16(2), 209-219.
15. Liu, J., Jin, X., & Skitmore, M. (2023). Applying the resource-based view in construction project management: A systematic review. International Journal of Project Management, 41(3), 267–282.
16. Mendelow, A. L. (1981). Environmental scanning: The impact of the stakeholder concept. Proceedings of the International Conference on Information Systems, Cambridge, MA.
17. Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. Academy of Management Review, 22(4), 853-886.
18. Muinde, J. N., Simon, S. M., & Okaka, J. O. (2025). An evaluation of stakeholder management performance in county government-funded construction projects: A case of Machakos County. East African Journal of Engineering, 8(1), 145–161.
19. Ofori-Kuragu, J. K., Adjei-Kumi, T., & Baiden, B. (2023). Responsibility assignment matrices as a tool for enhancing role clarity in construction projects. Journal of Construction Project Management, 18(4), 256–270.
20. Offiong, I. (2025). Procurement planning key to avoiding construction delays and cost overruns in Nigeria. Sustainable Construction Review.
21. Ogunlana, S. O., & Sooksuk, R. (2016). Cost performance in construction projects: A review and future directions. International Journal of Project Management, 34(3), 521-535.
22. Oke, A. E., Aigbavboa, C. O., & Akinradewo, O. (2023). Communication management as a driver for improved project delivery in the Nigerian construction industry. Journal of Construction in Developing Countries, 28(1), 1–18.
23. Okeagu, C. E., Akabogu, L. E., & Ugwu, O. O. (2022). Impact of stakeholders on the success of project cost management in the construction industry. Journal of Construction Engineering and Management, 148(12), 1–9.
24. Ola-awo, A. W., Idoro, G. I., & Oke, A. E. (2022). Critical success factors for stakeholder management in Nigerian construction projects. Acta Structilia, 29(1), 1–24.
25. Olasunkanmi, F. O., Femi-Favour, A. A., & Okon, U. J. (2024). Team commitment and performance of construction projects in the Nigerian construction industry. Human Resources Management and Services, 6(2), 3402.
26. Pinto, J. K., Slevin, D. P., & English, B. (2009). Trust in projects: An empirical assessment of owner/contractor relationships. International Journal of Project Management, 27(6), 638-648.
27. Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. Journal of Interactive Marketing, 18(3), 5-14.

28. Project Management Institute. (2018). Pulse of the profession 2018: Success in disruptive times. Project Management Institute.
29. Rajablu, M., Marthandan, G., & Yusoff, W. F. W. (2015). Managing for stakeholders: The role of stakeholder-based management in project success. Asian Social Science, 11(3), 111-125.
30. Reed, M. S. (2008). Stakeholder participation for environmental management: A literature review. Biological Conservation, 141(10), 2417-2431.
31. Thamhain, H. (2013). Managing risks in complex projects. Project Management Journal, 44(2), 20-35.
32. Yang, J., Shen, G. Q., Ho, M., Drew, D. S., & Xue, X. (2011). Stakeholder management in construction: An empirical study to address research gaps in previous studies. International Journal of Project Management, 29(7), 900-910.