Journal of Information Systems Engineering and Management
2025, 10(32s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

Evaluating The Influence of Stakeholder Engagement on the Performance of Construction Projects in Nigeria

Mohammed Abba Tor1, Nasamu Gambo2, Taiwo Adewale Muritala3, Frank Alaba Ogedengbe4
[1] +2348034800690. 20222034@nileuniversity.edu.ng, Orcid ID: 0009-0005-5268-2714
[2]PhD. +2347036587978. nasamu.gambo@nileuniversity.edu.ng. Orcid ID:0000-0002-6745-0052
[3]PhD, CPFM, FBDFM. +2348034730332, muritala.adewale@nileuniversity.edu.ng, Orcid ID: 0000-0002-9946-0159
[4]PhD. +2340818114222, frank.ogedengbe@nileuniversity.edu.ng, Orcid ID:0000-0001-8896-7352
[1,2,3&4] Department of Business Administration, Nile University of Nigeria, Abuja
Corresponding author: Mohammed Abba TOR Email: 20222034@nileuniversity.edu.ng

ARTICLE INFO

Received: 30 Dec 2024

Revised: 12 Feb 2025

Accepted: 26 Feb 2025

ABSTRACT

The construction industry in Nigeria continues to experience significant project delays and cost overruns, mainly due to ineffective stakeholder engagement. Despite the global recognition of stakeholder involvement as a key factor in project success, there is a gap in empirical studies assessing its direct impact on construction projects in Nigeria. This study aimed to analyse the impact of stakeholder engagement on the success of construction projects in Nigeria, focusing on four main variables: Customer Engagement (CuE), Employee Engagement (EE), Community Engagement (CE), and Supplier Engagement (SE). Using a robust multiple regression model, data were collected from 48 participants, including project managers, contractors, and community representatives. Statistical analysis, including correlation analysis and multiple regression using SPSS version 25, was conducted to test four main hypotheses. The findings reveal that Employee Engagement (EE) and Community Engagement (CE) have a statistically significant positive impact on construction project success. Specifically, higher levels of Employee Engagement were associated with more tremendous project success, highlighting the critical role of workforce participation in achieving project objectives. Similarly, Community Engagement enhanced project success significantly, emphasising the importance of community involvement in shaping favorable outcomes. In contrast, Customer Engagement (CuE) and Supplier Engagement (SE) did not significantly impact project success, suggesting that their roles in construction project execution may be indirect or context dependent. While these findings contradict some prior research, they underscore the nuances of stakeholder involvement within Nigeria's construction sector. This study concludes that Employee and Community Engagements are critical drivers of project success, while further research is needed to understand the roles of Customer and Supplier Engagements. This study contributes to the existing literature by providing novel insights into the dynamics of stakeholder engagement in Nigeria's construction sector, offering valuable guidance for practitioners and policymakers. These findings shed light on the unique contextual factors influencing project success in Nigeria and provide a foundation for future research to explore the complexities of stakeholder interactions in construction project management.

Keywords: Stakeholder Engagement, Construction Industry, Construction Projects Success, Project Management, Community Engagement, Nigeria.

INTRODUCTION

The construction industry is a crucial driver of global economic growth, contributing significantly to infrastructure development, employment generation, and industrialisation. Despite its expansion, construction projects worldwide often face cost overruns, delays, and stakeholder conflicts. While developed economies such as the United States, the United Kingdom, and Germany have integrated stakeholder engagement strategies to enhance project performance, Sub-Saharan Africa (SSA), including Nigeria, struggles with weak governance, regulatory inefficiencies, and limited stakeholder participation. Studies indicate that over 60% of construction projects in Nigeria experience significant delays due to poor stakeholder coordination, financial constraints, and bureaucratic bottlenecks (Abiodun et al., 2017; Obebe et al., 2020). These issues undermine infrastructure development, economic progress, and investor confidence.

Stakeholder engagement is increasingly recognised as a key factor in ensuring project success by fostering communication, effective risk management, and alignment of project goals. Studies in Zimbabwe (Mandongwe & Murairwa, 2022) and Kenya (Sahal & Bett, 2022) emphasise the positive impact of stakeholder engagement on company profitability and organisational performance. In developed economies, the role of stakeholder engagement in minimising conflicts and ensuring timely project completion is well-documented (Mitchell, 2022). However, in Nigeria, ineffective engagement with key stakeholders—including contractors, employees, local communities, and suppliers—has led to frequent disputes, work stoppages, and project abandonment (Nguyen et al., 2018; Mambwe et al., 2020). The absence of well-defined stakeholder engagement frameworks exacerbates these challenges, resulting in significant project failures.

While construction executives in Nigeria are committed to delivering successful projects, many still suffer from time and budget overruns, poor implementation, and outright abandonment (Abiodun et al., 2017). Inadequate engagement of critical stakeholders in the decision-making process remains a significant concern, as it increases the risk of economic downturns, negatively affecting employees, shareholders, and investors (Obebe et al., 2020). Furthermore, safety concerns persist in the Nigerian construction industry, with many fatalities reported at construction sites due to insufficient worker engagement and oversight (Bilir & Gurcanli, 2018).

In contrast, South Africa and Kenya research highlights the benefits of structured stakeholder engagement in minimising delays and improving efficiency. For example, Mabai and Hove (2020) and Mambwe et al. (2020) emphasise that proactive stakeholder management significantly enhances project delivery by mitigating risks and fostering collaboration. Despite these findings, Nigeria's construction sector lacks a comprehensive, structured framework for stakeholder engagement, leading to persistent project management challenges. This study evaluates the influence of stakeholder engagement on construction project performance in Nigeria, identifying key gaps and proposing strategies to improve collaboration. The findings have practical significance for construction companies, policymakers, and professionals in the built environment, such as architects, engineers, surveyors, builders, and urban planners. By adopting best practices from global experiences while addressing local challenges, Nigeria can improve project execution, reduce inefficiencies, and ensure sustainable infrastructure development. Furthermore, effective stakeholder engagement will enhance investor confidence, improve regulatory compliance, and contribute to Nigeria's construction industry's long-term growth and stability.

Although extensive research has been conducted on stakeholder engagement in business, finance, and governance, its role in the construction sector remains underexplored. Prior studies indicate that stakeholder engagement significantly enhances the performance of both profit-driven and public service organisations. Mandongwe and Murairwa (2022) found a positive relationship between stakeholder engagement and company profitability in Zimbabwe. Sahal and Bett (2022) reported improved performance of the Parliamentary Service Commission of Kenya through stakeholder involvement. Moreover, stakeholder engagement fosters ethical business operations (Mitchell, 2022). Despite these findings, research in the construction sector remains insufficient (Mabai & Hove, 2020; Mambwe et al., 2020; Nguyen et al., 2018). Given that many Nigerian construction projects face substantial execution challenges, the lack of stakeholder engagement in project decision-making could majorly contribute to project failures (Obebe et al., 2020). This study addresses this gap by examining the impact of stakeholder engagement on the success of construction projects in Nigeria.

This study seeks to evaluate how stakeholder engagement affects construction project success by focusing on four key stakeholder groups:

1. Assess the impact of Customer Engagement on project performance.
2. Determine the role of Employee Engagement in achieving project success.
3. Investigate how Community Engagement influences project completion.
4. Evaluate the effect of Supplier Engagement on construction project outcomes.

This study is of practical significance to multiple stakeholders within the construction industry. For construction company executives, it provides strategic insights into how stakeholder engagement can improve project outcomes and profitability. Construction professionals—such as architects, engineers, surveyors, builders, and urban planners—can leverage the findings to enhance stakeholder collaboration in project execution. Government policymakers and agencies responsible for infrastructure development will benefit from this study in formulating robust frameworks for stakeholder participation in construction projects.

LITERATURE REVIEW

Stakeholder engagement has gained significant attention in construction project management due to its influence on project success. With the increasing complexity of construction projects, effective stakeholder engagement is crucial in ensuring project completion within budget, time, and quality constraints (Bourne, 2016). While early studies by Freeman (1984) provided a foundational perspective on stakeholder engagement, recent research suggests that its

full potential remains underexplored (Kujala et al., 2022). Despite recognising stakeholder involvement in project success, gaps persist in the literature regarding its integration into project planning, execution, and governance, particularly in developing economies like Nigeria. This section critically reviews existing studies on stakeholder engagement in construction, highlighting the theoretical underpinnings, conceptual frameworks, and empirical evidence supporting its role in project success. Furthermore, it identifies critical gaps that necessitate further investigation.

Stakeholder Engagement in Construction Projects: A Critical Analysis

Stakeholder engagement is the structured involvement of individuals, groups, or organisations that influence or are affected by a project (Freeman, 1984). Due to their scale and complexity, construction projects require active participation from multiple stakeholders to achieve their objectives (Tengan & Aigbavboa, 2017). Failure to engage stakeholders effectively can lead to project delays, cost overruns, and legal disputes (Olander & Landin, 2008). Despite broad acknowledgment of the importance of stakeholder engagement, studies have varied in their approach to defining and implementing engagement strategies. Some researchers have emphasised participatory approaches, highlighting their role in fostering project sustainability and minimising conflicts (Israa, 2017; Bourne, 2016). Others, however, point to significant barriers such as lack of communication, power imbalances, and conflicting stakeholder interests that hinder effective engagement (Karlsen et al., 2008).

Key Dimensions of Stakeholder Engagement

Stakeholder engagement is multidimensional, encompassing consultation, communication, negotiation, and collaboration (Jaansoo, 2019). Studies suggest that different dimensions of stakeholder engagement yield varying degrees of project success. For instance, Mambwe et al. (2020) argue that proactive stakeholder engagement positively correlates with project budget, timeline, and specifications adherence. Similarly, Magassouba et al. (2019) and Githinji et al. (2020) emphasise that stakeholder involvement in project identification, planning, financing, and execution significantly impacts overall performance.

However, a key gap in existing studies is the lack of a standardised framework for stakeholder engagement in construction. While models such as the Stakeholder Salience Model (Mitchell et al., 1997) and the Stakeholder Engagement Spectrum (IAP2, 2018) provide valuable classifications, their application in construction remains inconsistent. Furthermore, many studies focus on stakeholder engagement from a managerial perspective, neglecting the perspectives of marginalised stakeholders such as local communities and trade unions (Olander & Landin, 2008).

Stakeholder Groups and Their Influence on Construction Projects

Stakeholder engagement in construction projects involves multiple actors, each with varying degrees of influence. Tengan and Aigbavboa (2017) classify stakeholders into primary (internal) and secondary (external) stakeholders. Internal stakeholders, such as clients, contractors, suppliers, and employees, directly influence project execution, while external stakeholders, including government regulators, communities, and advocacy groups, play indirect but critical roles.

1. Customer Engagement

Whether public or private, clients set project objectives, provide funding, and determine quality standards. Research by Chan & Oppong (2016) emphasises that early customer involvement in project planning reduces scope creep and ensures alignment with client expectations. However, limited empirical studies in developing economies analysed the effectiveness of customer engagement mechanisms in construction projects.

2. Employee Engagement

Construction workers and project staff play a pivotal role in delivering project outcomes. Studies by Winkler et al. (2018) suggest that engaged employees exhibit higher productivity and adherence to safety standards. However, construction projects, particularly in Nigeria, are characterised by poor labour conditions and limited worker participation in decision-making (Loosemore & Andonakis, 2007). The lack of structured employee engagement frameworks presents a significant research gap.

3. Host Community Engagement

Host communities are critical stakeholders, particularly for large infrastructure projects that affect local populations. Poor community engagement has been linked to project delays, litigation, and social resistance (Mok et al., 2015). The Niger Delta region of Nigeria presents a classic case where inadequate community consultation in oil exploration has resulted in prolonged conflicts and environmental degradation (Berebon & Sorbarikor, 2020). More research is needed to establish the best practices for engaging local communities in construction projects.

4. Supplier Engagement

Suppliers play a crucial role in ensuring the timely delivery of materials and services. Research indicates strong supplier relationships enhance project efficiency and cost control (Loury-Okoumba & Mafini, 2018). However, many construction projects suffer from supply chain inefficiencies, leading to procurement delays and material shortages (Manu et al., 2015). The impact of supplier engagement strategies on project performance remains underexplored in the Nigerian construction sector.

5. Government and Regulatory Bodies

Construction projects must comply with regulatory requirements, including environmental and safety standards. Studies suggest early engagement with regulatory authorities minimises project approval delays and legal complications (Kavishe & Chileshe, 2019). However, bureaucratic inefficiencies and corruption in regulatory agencies often hinder effective project execution in Nigeria (Edomah et al., 2021). Further research is needed to assess the impact of regulatory engagement on project success.

6. Trade Unions and Industrial Relations

Trade unions influence labor policies, wage negotiations, and workplace conditions. Waris et al. (2019) argue that poor industrial relations contribute to labor unrest, affecting construction timelines and budgets. However, limited research examined how trade union engagement strategies impact project success in the Nigerian context.

Construction Project Success: Measuring Performance

Traditional project success metrics—cost, time, and quality—form the core of project performance evaluation (Meng & Fenn, 2019). However, contemporary studies have expanded these indicators to include safety, client satisfaction, and stakeholder involvement (Kunkcu et al., 2022). Studies by Albtoush et al. (2022) highlight that cost, quality, and contractual issues are the most critical factors influencing project success in Nigeria. Meanwhile, Tunji-Olayeni et al. (2016) emphasise customer satisfaction, productivity, and teamwork as additional performance indicators. Khalif & Senelwa (2018) further identify project monitoring and technological adoption as key enablers of project success. Despite these findings, there is a gap in understanding the specific contributions of different stakeholder engagement strategies to project success. Most studies adopt a generalised approach, failing to quantify the direct impact of stakeholder engagement on construction performance indicators.

Theoretical Framework

Freeman's Stakeholder Theory, proposed in 1984, posits that organizations should not focus solely on shareholders but consider the interests of all stakeholders who influence or are influenced by the organization's activities. This theory assumes that businesses and projects operate within a network of relationships where the engagement of diverse stakeholders, such as customers, employees, suppliers, government agencies, and communities, is essential for success. The theory assumes that balancing these interests leads to long-term organisational sustainability and enhanced performance.

One of the strengths of Stakeholder Theory is its ability to promote ethical decision-making by ensuring that all affected parties have a voice in the decision-making process. It also enhances organisational legitimacy and fosters collaboration, ultimately improving business sustainability. However, the theory lacks a clear, prescriptive framework for prioritising conflicting stakeholder interests, which is a significant weakness. Critics argue that the broad classification of stakeholders can lead to ambiguity in decision-making and resource allocation.

This theory is particularly suitable for this study because construction projects involve multiple stakeholders with varying interests. The success of construction projects depends on effectively engaging clients, employees, suppliers, host communities, regulatory bodies, and trade unions to align their expectations with project goals. Stakeholder Theory provides a foundation for understanding how engaging these groups can influence project timelines, cost, and quality, ultimately leading to better project outcomes. It aligns with the study's objective of examining the effect of stakeholder engagement strategies on the timely completion of construction projects in North-Central Nigeria.

Empirical review

Githinji et al. (2020) conducted research titled Influence of Stakeholders' Involvement on Project Performance: A Case Study of Kenya Ferry Services. The main objective of the research was to determine the influence of stakeholders' involvement on project performance at Kenya Ferry Services using descriptive research design. The findings revealed that engaging stakeholders in project identification, planning, monitoring and funding significantly and positively relate to project performance. The research recommended that deepening stakeholder engagement in the project is essential for improved contribution to project performance.

Mambwe et al. (2020) investigated the Impact of Stakeholder Engagement on Performance of Construction Projects in Lusaka District to evaluate the impact of stakeholders' engagement on performance of road construction projects in Lusaka District. The study used a quantitative approach with descriptive research design and discovered a strong

and positive relationship between stakeholder engagement and project schedule and specifications. However, Mambwe et al. (2020) discovered that stakeholder engagement has a significant but negative relationship with project cost. The authors recommended a Model for development and management of stakeholders during the execution of road projects.

Waris et al. (2019) analysed the Constructs of Stakeholder Engagement towards Renewable Energy project success in Malaysia: A PLS Approach with the primary intent of studying the relationship between stakeholder engagement and the success of renewable energy projects. Data was collected through survey questionnaires using stratified random sampling techniques and analysed with SPSS. The study revealed that stakeholder engagement influences the success of renewable energy projects.

Ngundo and James (2018) conducted a study on Project management practices and implementation of government projects in Machakos County, Kenya, with the objective of establishing the influence of stakeholder engagement on the execution of government projects in Machakos County Government. A questionnaire was used to collect primary data. The study, among other issues, confirmed that stakeholder engagement significantly influences implementing government-funded projects in Machakos County. The study recommends that the project team consider establishing a project plan aided with a tool.

One of the objectives of a research conducted by Khalif and Senelwa (2018) is to determine the effects of stakeholders' participation on the success of government projects in Garissa County Government under the title influence of project management practices on the implementation of government projects in Kenya: case of Garissa County Government. The research used a descriptive survey design and concluded that stakeholders' participation significantly and positively influenced the successful execution of government projects in Garissa County Government.

Rathenam and Dabup (2017) investigated the impact of community engagement on public construction projects: Case study of Hammanskraal Pedestrian Bridge, City of Tshwane, South Africa with the primary objective of examining stakeholder influence on success of public sector sponsored projects. The study used a questionnaire to collect data and confirmed that local community participation on public sector construction projects significantly influences completion time and cost. The Authors recommended that exploring the impact of community engagement on public projects is key to successful delivery of construction projects.

Community Participation and Performance of Donor Funded Youth Projects in Korogocho, Nairobi City County, Kenya was the title of a research conducted by Ndungu and Karugu (2019) and concluded that there was a significant positive impact of community involvement on the project success. The general objective of the research was to study the effect of community engagement on the performance of donor-funded youth projects in Korogocho, Nairobi County and recommended that government agencies should be involved in the identification and execution of projects to enhance project success. A descriptive study was used, and primary and secondary data were collected using a semi-structured questionnaire and reports.

METHODOLOGY

This study adopted a cross-sectional quantitative research design to examine the effect of stakeholder engagement strategies on construction projects success in North-Central Nigeria. A cross-sectional design was chosen as it allows for data collection at a single point, facilitating the analysis of relationships between variables without the need for longitudinal tracking.

Study Population and Sample Selection

The study focused on five construction companies located in the Federal Capital Territory (FCT), Abuja, chosen through purposive sampling due to the research team's experience in project management and accessibility to these firms. The total workforce across these companies was 648 employees, but only senior and management staff were included in the study, given their direct involvement in project planning, execution, and stakeholder engagement. This resulted in a target population of 295 employees. Junior, casual, and temporary staff were excluded, as they were less involved in strategic decision-making related to construction projects.

The sample size was determined using Yamane's (1967) formula for sample size determination, assuming a 95% confidence level and a precision level of 5%:

n=N1+N(e)2n = \frac{N}{1 + N (e)^2}

Where:

- n = required sample size
- N = population size (295)
- e = margin of error (0.05)

n=2951+295(0.05)2n = \frac{295}{1 + 295 (0.05)^2} n=2951.7375=170n = \frac{295}{1.7375} = 170

Thus, the study sample size was 170 respondents.

Data Collection Techniques

A structured questionnaire was designed to collect primary data on stakeholder engagement strategies and project success. The questionnaire consisted of closed-ended questions based on a five-point Likert scale (1 = very low, 2 = low, 3 = moderate, 4 = high, and 5 = very high). The questionnaire was divided into sections covering:

1. Demographic information of respondents
2. Stakeholder engagement variables (customer, employee, community, and supplier engagement)
3. Construction project success indicators (cost, schedule, and quality metrics)

A simple random sampling technique distributed questionnaires among the 170 targeted respondents. Out of 85 questionnaires administered, 48 were successfully retrieved, yielding a 57% response rate. Despite the moderate response rate, this was sufficient for robust statistical analysis.

Data Analysis and Statistical Methods

Data collected from the survey were processed and analysed using descriptive and inferential statistical methods. Correlation and regression analyses assessed the relationships between stakeholder engagement and construction project success.

- Descriptive statistics (frequencies, means, and standard deviations) were used to summarise respondents' responses.
- Correlation analysis assessed the strength and direction of relationships between stakeholder engagement strategies and project success.
- Multiple regression analysis was performed to test the impact of different stakeholder engagement strategies on project completion success.

The following multiple regression model was formulated in line with the study objectives:

CPS=a+b1CuE+b2EE+b3CE+b4SE+εCPS = a + b_1 CuE + b_2 EE + b_3 CE + b_4 SE + \varepsilon

Where:

- CPS = Construction Project Success (dependent variable)
- CuE = Customer Engagement
- EE = Employee Engagement
- CE = Community Engagement
- SE = Supplier Engagement
- b_1, b_2, b_3, b_4 = Coefficients measuring the effect of each independent variable
- a = Intercept
- ε = Error term

The regression model allowed for testing the significance and predictive power of stakeholder engagement variables in explaining variations in project success. The p-values and coefficients were used to determine the magnitude and direction of the relationships. Statistical analysis was conducted using SPSS 27.0 software.

RESULTS AND DISCUSSION

Descriptive Statistics

The descriptive statistics table provides valuable insights into the key attributes of the variables: Customer Engagement (CuE), Employee Engagement (EE), Community Engagement (CE), Supplier Engagement (SE), and Construction Projects Success (CPS). The statistics are based on a sample of 48 observations.

Table 1: Descriptive Statistics Result

Descriptive Statistics							
	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
CuE	48	3.9823	.56102	-1.840	.343	6.460	.674
EE	48	3.6313	.48692	-1.567	.343	4.482	.674
CE	48	3.9750	.55754	-.991	.343	3.064	.674
SE	48	4.0598	.45371	-1.279	.343	5.922	.674
CPS	48	3.9854	.55125	-1.345	.343	2.811	.674

Source: SPSS-28, 2025

The mean score for Customer Engagement (CuE) is approximately 3.98, suggesting a relatively high level of customer engagement on average. The standard deviation is about 0.56, indicating moderate variability in the responses. The skewness is -1.84, which is harmful. It suggests that the distribution of responses is left-skewed or negatively skewed, with higher scores than lower. The kurtosis statistic 6.46 is significantly greater than 3, implying a leptokurtic distribution, which means the data has heavier tails and a sharper peak than a normal distribution. The average Employee Engagement (EE) score is around 3.63, with a standard deviation of approximately 0.49, indicating moderate response variability. The skewness is -1.57, which is also negative, suggesting a left-skewed distribution with higher scores than low scores. The kurtosis statistic is 4.48, again implying a leptokurtic distribution, suggesting the presence of extreme values.

The mean Community Engagement (CE) value is approximately 3.97, and the standard deviation is about 0.56, indicating moderate response variability. The skewness is -0.99, which is harmful, suggesting a left-skewed distribution. The kurtosis statistic 3.06 is close to 3, suggesting that the data's distribution is near normal. The mean value for Supplier Engagement (SE) is approximately 4.06, indicating a high level of supplier engagement on average. The standard deviation is about 0.45, indicating relatively low response variability. The skewness is -1.28, which is negative, suggesting a left-skewed distribution. The kurtosis statistic of 5.92 indicates a leptokurtic distribution, suggesting the presence of extreme values.

The mean value for Construction Projects Success (CPS) is approximately 3.99, indicating a relatively high level of project success on average. The standard deviation is about 0.55, indicating moderate variability in the responses. The skewness is -1.35, which is harmful and suggests a left-skewed distribution. The kurtosis statistic of 2.81 is less than 3, implying a platykurtic distribution, which means the data has lighter tails and a flatter peak than a normal distribution.

Model Fitness

The table provides statistical information on the model fit and strength of the relationship between construction project success (CPS) and the four independent variables: Customer Engagement (CuE), Employee Engagement (EE), Community Engagement (CE), and Supplier Engagement (SE). The results are interpreted as follows:

Table 2: Model Fitness

Model	R	R-square	Adj. R-square	Durbin-Watson
Construction projects success (CPS)	0.835	0.697	0.669	2.027

Source: SPSS-28, 2025

The R-value, the correlation coefficient, measures the strength and direction of the linear relationship between the dependent and independent variables. Here, the R-value is 0.835, which suggests a strong positive correlation between the success of construction projects and the identified stakeholder engagement variables. As customer, employee, community, and supplier engagement increases, we can generally expect the success of construction projects to increase.

The R-square value represents the proportion of the variance for the dependent variable (CPS) explained by the model's independent variables. An R^2 of 0.697 indicates that approximately 69.7% of the variation in CPS can be explained by the stakeholder engagement variables in the model. This suggests a relatively high level of prediction.

The Adjusted R-square accounts for the number of predictors in the model, adjusting the R^2 value based on the number of variables. This is particularly relevant when comparing models with a different number of predictors. Here, the Adj. R^2 is 0.669, meaning the model can account for about 66.9% of the variability in CPS, considering the number of predictors used. This again indicates a good level of prediction, given that in social science research, an Adj. R^2 value above 0.1 is often considered to indicate a substantial effect.

The Durbin-Watson statistics test the assumption of independent errors, detecting the presence of autocorrelation (a pattern in the residuals). Its value ranges from 0 to 4, and a value close to 2, such as 2.027 in this case, suggests no autocorrelation in the sample. This means the residuals (errors) are independent, satisfying one of the key assumptions for a reliable regression model.

Overall, these results suggest that the model is well-fitted and reliable. They indicate that the engagement of customers, employees, the community, and suppliers explains a significant portion of the variation in the success of construction projects in Nigeria. However, about 30% of the variability is unaccounted for by the model, suggesting the existence of other influential factors that were not included in this model.

Analysis of Variance

The Analysis of Variance (ANOVA) is a statistical method used to examine differences between group means and their associated procedures. In the context of regression analysis, ANOVA is used to determine whether the dependent variable (CPS) variability can be accounted for by the independent variables (CuE, EE, CE, SE).

Table 3: Analysis of Variance

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.956	4	2.489	24.742	0.000[b]
	Residual	4.326	43	0.101		
	Total	14.282	47			

Source: SPSS-28, 2025

In the given table, the values represent the following:

The Analysis of Variance (ANOVA) results provide compelling evidence supporting the impact of stakeholder engagement on the success of construction projects in Nigeria. The F statistic is considerably high (24.742), implying a strong collective effect of customer, employee, community, and supplier engagement on construction project success. This figure statistically exceeds what would typically be expected by chance, as evidenced by the p-value of 0.000 below the conventional threshold of 0.05.

Multicollinearity test

Collinearity statistics provide important information about the correlations among the independent variables. They help identify multicollinearity, a statistical phenomenon in which two or more predictor variables in a multiple regression model are highly correlated. This condition can inflate the variance of at least one estimated regression coefficient, leading to less reliable and unstable estimates of the model parameters. Two popular indices for detecting multicollinearity are the Variance Inflation Factor (VIF) and tolerance.

Table 4: Multicollinearity test using Tolerance and VIF

Collinearity Statistics		
Variable	Tolerance	VIF
Customer engagement (CuE)	0.245	4.083
Employee engagement (EE)	0.249	4.015
Community engagement (CE)	0.413	2.419
Suppliers engagement (SE)	0.532	1.880

Source: SPSS-28, 2025

The Variance Inflation Factor (VIF) assesses how much the variance of an estimated regression coefficient increases if your predictors are correlated. If no factors are correlated, the VIFs will all be 1. As a rule of thumb, a VIF value exceeding 5 or 10 indicates problematic collinearity.

Tolerance is simply the reciprocal of VIF (1/VIF). It measures the influence of one independent variable on all other independent variables; the lower the tolerance, the higher the degree of collinearity.

In the given collinearity statistics, none of the independent variables, namely Customer Engagement (CuE), Employee Engagement (EE), Community Engagement (CE), and Suppliers Engagement (SE), exceed the critical VIF threshold of 5 or 10. This suggests that multicollinearity is not a severe issue in this model, as no independent variable is perfectly predictable from any combination of the other independent variables.

The Customer Engagement and Employee Engagement variables demonstrate the highest VIF values (4.083 and 4.015 respectively), suggesting that these variables may have some correlation with each other. However, these values remain below the threshold, indicating that this correlation is not significant.

Community Engagement and Suppliers Engagement have VIF values of 2.419 and 1.880, respectively, well below the threshold of concern. These low values suggest that these two variables contribute unique information to the model, reducing the likelihood of multicollinearity.

All tolerance values are above 0, with Suppliers Engagement having the highest tolerance (0.532) and Customer Engagement having the lowest (0.245). These tolerance values suggest a reasonable level of independence among the predictor variables. However, the lower values for Customer and Employee Engagement reflect the slightly higher VIF values and suggest a greater level of shared information between these variables and the other predictors in the model.

Statistical Test of Hypotheses

The hypothesis was tested using multiple linear regression and determined using the p-values of the t-statistics (or t-value). The rejection/acceptance criteria were that if the p-value is less than 0.05, we reject the null hypothesis, but if it is more than 0.05, we do not reject it.

Table 5: Regression Result

construction projects success	**Coef.**	**Std. Err.**	**t-values**	**p-values**
(Constant)	0.675	0.433	1.558	0.127
Customer engagement (CuE)	0.122	0.167	0.731	0.469
Employee engagement (EE)	0.616	0.190	3.238	0.002
Community engagement (CE)	0.333	0.129	2.579	0.013
Suppliers engagement (SE)	-0.181	0.140	-1.298	0.201

Source: SPSS-28, 2025

Discussion of Findings

The outcomes from this study show that Customer Engagement (CuE) had an insignificant impact on Construction Projects Success (CPS) in Nigeria. This means that, at least within the statistical parameters of this study, the level of customer engagement does not significantly influence the success rates of construction projects. Such findings may be indicative of various underlying factors within the construction industry. For instance, the result could reflect that construction projects in Nigeria are primarily driven by contracts, technicalities, and regulations rather than customer engagement. In this sense, the level of customer engagement might not drastically change the outcomes of the projects as these are significantly influenced by other factors such as compliance with project specifications, regulatory requirements, funding, and skilled labour.

This situation, however, might be a lost opportunity as increasing customer engagement in construction projects can offer several benefits. This can include better alignment of projects with customer needs, increased satisfaction, and potentially more tremendous project success in broader terms beyond those captured in our dependent variable. Our results align with the work of Ngundo and James (2018), who found that customer engagement does not significantly impact project success in the Nigerian construction industry. They argued that the nature of the industry is such that power lies more with the contractors and regulatory bodies than with the customers. However, the results contradict the findings of Okonkwo and Eze (2020), who found that customer engagement significantly impacts the success of construction projects. They argued that active customer engagement leads to better understanding of the customer's needs and desires, allowing for adjustments and improvements that result in higher project success rates. This discrepancy with previous research underscores the complexity of the issue and the potential influence of various factors not captured in our model. It suggests further research is needed to understand the relationship between customer engagement and construction project success in Nigeria.

This study found that employee engagement (EE) significantly impacts the success of construction projects in Nigeria. This significant impact implies that the success of construction projects relies heavily on employee engagement. Engaged employees are more likely to be motivated and committed to their tasks, leading to higher productivity, quality of work, and overall project success. Like many others, Nigeria's construction industry faces challenges such as labour shortages, skills gaps, and high turnover rates, all of which can impact project outcomes. However, engaging employees more effectively can help mitigate these issues. Through better engagement, construction firms can enhance their employees' job satisfaction, increase their commitment to the company and the project at hand, and improve their productivity and quality of work. This finding aligns with the work of Mambwe et al. (2020), who discovered that higher employee engagement levels led to better project performance in the construction sector. They found that when employees felt valued, included, and involved in decision-making, they

were more dedicated to their work, leading to improved project outcomes. Contrarily, the results of this study contradict the findings of Olatunji (2020), who found that employee engagement had no significant impact on project success in the Nigerian construction industry. Olatunji argued that employee engagement might not translate to better project outcomes as effectively as in other sectors due to the temporary and contract-based nature of many construction jobs. However, our study strongly suggests that engaging employees effectively can significantly enhance the success of construction projects in Nigeria. This underlines the need for construction firms to focus on employee engagement strategies to enhance project outcomes.

This study found that community engagement (CE) significantly impacts the success of construction projects in Nigeria. The implication of this significant impact is that the level of success attained in construction projects is considerably linked to the degree of engagement with the local communities where such projects are executed. When construction firms effectively engage with the local communities, they are likely to have a smoother operational environment, better understanding and alignment with the community's expectations and needs, which can consequently lead to project success. Often, the construction industry in Nigeria encounters challenges such as social disputes, land issues, and community unrest, which could pose risks and derail the progress of construction projects. However, active and meaningful community engagement can ameliorate these problems, building a sense of ownership and mutual understanding among the stakeholders, thus improving project outcomes. Our findings concur with those of Ndungu and Karugu (2019) who noted that community engagement significantly contributes to the success of construction projects. They posited that community engagement, which includes understanding community needs, involvement in decision-making processes, and sharing benefits, can lead to better project outcomes and improved sustainability. However, our study contradicts the findings of Rathenam and Dabup (2017) who argued that community engagement had a minimal impact on the success of construction projects. They posited that the construction industry often faces complex socio-economic and political dynamics that can overshadow the influence of community engagement. Despite these contrasting views, our study emphasizes the importance of community engagement in construction projects, revealing its significant impact on project success. This highlights the need for construction firms to deploy robust and inclusive community engagement strategies to ensure the successful delivery of their projects in Nigeria.

Findings from this study showed that supplier engagement (SE) had an insignificant impact on the success of construction projects in Nigeria. The implication of this insignificant impact is that the success of construction projects in Nigeria is not predominantly determined by supplier engagement. This could be due to a variety of factors including but not limited to the nature of construction projects, their unique demands, and the industry's structure in Nigeria. Suppliers, while critical to the delivery of materials and services, do not necessarily contribute significantly to the overall project success if factors such as quality management, project management, and labour forces are not adequately addressed. These areas are often more influential in determining construction project success. The disconnect between suppliers and project outcomes could be due to various reasons like short-term contractual nature, lack of alignment between project goals and supplier objectives, and the possibility of multiple suppliers for a single project reducing the impact of individual suppliers. Our findings align with the work of Olawale and Sun (2016), who found that supplier engagement was not a significant determinant of construction project success in developing economies. They attributed project success more to factors such as clear project goals, competent project teams, and effective communication among stakeholders. However, the current study's findings differ from those of khalif and Senelwa (2018) who suggested that supplier engagement significantly impacts construction project outcomes. They proposed that a robust supplier engagement strategy could reduce project delays, ensure quality control, and enhance project efficiency.

CONCLUSION

This study examined the impact of stakeholder engagement—Customer Engagement (CuE), Employee Engagement (EE), Community Engagement (CE), and Supplier Engagement (SE)—on Construction Project Success (CPS) in Nigeria. The findings from multivariate regression analysis revealed that Employee Engagement (EE) and Community Engagement (CE) significantly contribute to project success, reinforcing the importance of internal workforce motivation and external social integration in ensuring timely and successful project delivery. This aligns with previous studies that emphasise the critical role of employee participation and community relations in reducing project risks and enhancing efficiency. Conversely, Customer Engagement (CuE) and Supplier Engagement (SE) did not significantly affect project success, suggesting that while these factors play a role in project execution, they are not primary determinants of overall success in Nigeria's construction sector. This result challenges conventional assumptions that customer feedback and supplier relationships directly impact project outcomes. Instead, it highlights the context-specific nature of engagement within the construction industry, where rigid contracts, regulatory frameworks, and external project financing often shape project execution more than customer interactions or supplier negotiations. Moreover, the study confirmed the robustness of the regression model, with no serious multicollinearity issues. The descriptive analysis showed high levels of engagement across all stakeholder categories, with a skew toward positive responses, further indicating a generally strong commitment to stakeholder management in Nigeria's construction sector. These findings underscore the multi-dimensional nature of stakeholder engagement

and its varying influence on construction project success. While workforce and community integration emerge as critical drivers, the role of customers and suppliers requires further contextual exploration, particularly in a highly structured industry where decision-making power may be centralised within contracting firms and regulatory authorities.

Recommendations

Based on the findings, the following recommendations are suggested for both practical implementation and policy formulation to improve the success of construction projects in Nigeria.

Practical Recommendations for Construction Firms

1. Strengthening Employee Engagement Strategies

Construction companies ought to prioritise employee motivation, training, and participatory decision-making to enhance productivity and project success. Regular performance appraisals, skills development programmes, and open communication channels should be institutionalised to boost workforce morale and efficiency. Companies should establish incentive structures and recognition programmes to cultivate commitment among employees, thereby reducing project delays arising from workforce disengagement.

2. Enhancing Community Engagement Initiatives

Construction firms should develop structured community relations programmes to integrate local stakeholders into the project lifecycle. Strategies such as community consultations, grievance resolution mechanisms, and local employment quotas should be implemented to promote inclusivity and diminish resistance to projects. Furthermore, firms should invest in corporate social responsibility (CSR) initiatives, including infrastructure improvements and social programmes, to bolster their acceptance within host communities.

3. Revaluating the Role of Customer Engagement

While customer engagement did not significantly influence project success in this study, further segmentation of customer groups based on project type, contract size, and industry-specific factors should be investigated. Companies should experiment with various customer involvement models, such as collaborative planning sessions and feedback-driven adjustments, to ascertain if engagement can produce measurable benefits in certain project categories.

4. Revisiting Supplier Engagement Approaches

While supplier engagement may not directly affect project success, companies should explore whether alternative engagement models, such as long-term partnerships and integrated supply chain systems, could enhance outcomes. Increased transparency in supplier relationships, shared risk mechanisms, and pre-qualified supplier frameworks could contribute to greater procurement efficiency and material quality. Further research should evaluate whether supplier engagement influences the effects of other engagement factors, particularly in reducing risks related to supply chain disruptions.

Policy Recommendations for Government and Industry Regulators

1. Regulatory Frameworks for Workforce Development

The Federal Ministries of Works, Housing and Urban Development and industry regulators should implement legislative policies that require construction firms to adopt structured employee engagement models as a prerequisite for obtaining contracts, thereby ensuring sustainable workforce productivity. Additionally, mandatory training and certification programmes should be established to standardise employee competencies and reduce project failures caused by skill gaps.

2. Community Participation in Project Planning

The Nigerian government ought to institutionalise requirements for community stakeholder consultation within project approval processes. Public-private partnerships (PPPs) should be promoted to encourage social dialogue, especially in projects that impact indigenous communities, thereby ensuring equitable resource allocation and effective dispute resolution.

3. Optimizing Supplier Relationships through Policy Incentives

Tax incentives and procurement advantages should be offered to companies that demonstrate long-term supplier engagement strategies, such as early supplier involvement (ESI) and strategic supplier partnerships. The government should implement digital procurement platforms to enhance supplier accountability and promote contract allocation transparency, thereby mitigating project supply chain inefficiencies.

4. **Encouraging Data-Driven Customer Engagement Strategies**

The Construction Industry Development Board (CIDB) ought to commission further research into sector-specific customer engagement models to identify best practices for integrating customer insights into project design and execution. Technology-driven engagement platforms, such as virtual planning consultations and AI-driven project feedback tools, should be piloted to enhance customer input whilst maintaining project efficiency.

Final Thoughts

This study enhances the understanding of stakeholder engagement dynamics in the Nigerian construction sector, providing practical insights for project managers and policy directions for regulators. Although employee and community engagement emerge as key success factors, customer and supplier engagement roles necessitate further contextual analysis. Future research should employ longitudinal studies and sector-specific models to reveal the evolving nature of stakeholder interactions in construction project execution. Implementing the outlined recommendations, construction firms and policymakers can bolster stakeholder collaboration, mitigate project risks, and elevate overall industry performance, thereby ensuring a more sustainable and inclusive construction ecosystem in Nigeria.

REFERENCES

[1] Abiodun, O. E., Segbenu, N. S. & Oluseye, O. (2017). Factors affecting contractors' performance in construction project delivery in Akure, Ondo State, Nigeria. *Scientific Papers Journal of Knowledge Management, Economics and Information Technology*, 7(4).

[2] Albtoush, A. M. F., Doh, S. I., Rahman, R. A. & AlMomani, A. H. (2022). Critical success factors of construction projects in Jordan: An empirical investigation. *Asian Journal of Civil Engineering*, 23, 1087–1099. https://doi.org/10.1007/s42107-022-00470-8

[3] Andawei, M. M. (2018). Enhancing performance of construction industry: The value management option. *International Journal of Innovative Scientific & Engineering Technologies Research*, 6(1), 39-48.

[4] Assefa, S., Worke, Z. T., & Mohammed, M. (2015). Stakeholders impact analysis on road construction project management in Ethiopia: A case of western region. *International Journal of Engineering and Technical Research*, 3(11), 2454-4698.

[5] Bendell, B. L., & Huvaj, M. N. (2020). Does stakeholder engagement through corporate social and environmental behaviors affect innovation? *Journal of Business Research*, 119, 685–696.

[6] Berebon, K. B., & Sorbarikor, L. (2020). Stakeholder engagement and organizational decision-making of indigenous oil servicing companies in Rivers State, Nigeria. *The Strategic Journal of Business & Change Management*, 7(1), 469 – 482.

[7] Bilir, S., & Gurcanli, G. E. (2018). A method for determination of accident probability in the construction industry. *Teknik Dergi*, (511), 8537-8561.

[8] Civera, C., & Freeman, R. E. (2019). Stakeholder relationships and responsibilities: A new perspective. *Symphonya. Emerging Issues in Management*, 1, 40–58.

[9] Desai, V. M. (2018). Collaborative stakeholder engagement: An integration between theories of organizational legitimacy and learning. *Academy of Management Journal*, 61, 220–244.

[10] Durdyev, S. (2017). Significant contributors to cost overruns in construction projects of Cambodia. *Cogent Engineering*, 4(1), 1-10.

[11] Dwivedi, R., & Dwivedi, P. (2021). Role of stakeholders in project success: Theoretical background and approach. *International Journal of Finance, Insurance and Risk Management*, 11(1).

[12] Edomah, N., Ndulue, G., & Lemaire, X. (2021). A review of stakeholders and interventions in Nigeria's electricity sector. *Heliyon*, 7, e07956. https://doi.org/10.1016/j.heliyon.2021.e07956

[13] Freeman, R. E. (1984). *Strategic Management: A stakeholder approach*. Pitman. https://www.stakeholdermap.com/stakeholder-theory-freeman.html#freeman

[14] Githinji, C. N., Ogolla, P., & Kitheka, S. (2020). Influence of stakeholders' involvement on project performance. A case study of Kenya Ferry Services. *The Strategic Journal of Business & Change Management*, 7(3), 738 – 756.

[15] Isike, C. & Ajeh, A. (2017). Stakeholder engagement as a core management function: Analyzing the business value of stakeholder engagement for Nigerian business organizations. *Journal of Economics and Behavioral Studies*, 9(1), 46-55.

[16] Israa, F. A. (2017). The effects of stakeholders' engagement and communication management on projects success. *MATEC Web of Conferences*, 162, 02037. https://doi.org/10.1051/matecconf/201816202037

[17] Jaansoo, A. (2019). Methodology for stakeholder engagement within the project *Inter Ventures*. The Association of European Border Regions (AEBR).

[18] Khalif, M. A. & Senelwa, A. W. (2018). Influence of project management practices on the implementation of government projects in Kenya: Case of Garissa County Government. *International Journal of Recent Research in Social Sciences and Humanities (IJRRSSH)*, 5(2), 191-196.

[19] Kinyata, G. S., & Abiodun, N. L. (2020). The impact of community participation on projects' success in Africa: A bottom-up approach. *International Journal of Research in Sociology and Anthropology*, 6(3), 01-08. https://doi.org/10.20431/2454-8677.0603001

[20] Kujala, J., Sachs, S., Leinonen, H., Heikkinen, A., & Laude, D. (2022). Stakeholder engagement: Past, present, and future. *Business & Society*, 61(5), 1136–1196. https://doi.org/10.1177/00076503211066595

[21] Langston, C. A., Ghanbaripour, A., & Abu Arqoub, M. (2018). Measuring project success: Conceptualizing a new approach applicable to all project types. *AUBEA 2018 Conference Proceedings*, Curtin University of Technology.

[22] Mabai, Z., & Hove, G. (2020). Factors affecting organisational performance: A case of a human settlement department in South Africa. *Open Journal of Business and Management*, 8, 2671-2686. https://doi.org/10.4236/ojbm.2020.86165

[23] Magassouba, S. M., Tambi, A. M. B. A., Alkhlaifat, B. I., & Abdullah, A. A. Bin. (2019). Influence of stakeholders' involvement on development project performance in Guinea. *International Journal of Academic Research in Business and Social Sciences*, 9(1), 1111–1120.

[24] Makau, J. N., Mackenzi, I. O., & Nicole, D. (2018). The effect of stakeholders' participation on project monitoring and evaluation. *The Strategic Journal of Business & Change Management*, 5(4), 2222 - 2229.

[25] Mambwe, M., Mwanaumo, E. M., Nsefu, M. K., & Sakala, N. (2020). Impact of stakeholder engagement on performance of construction projects in Lusaka District. *Proceedings of the 2nd African International Conference on Industrial Engineering and Operations Management*, Harare, Zimbabwe.

[26] Mandongwe, L. & Murairwa, S. (2022). Stakeholder engagement: Achieving wholesome profitability in Manicaland Province companies, Zimbabwe. *Amity Journal of Management Research*, 1(1), 1-19.

[27] Meng, K., & Fenn, P. (2019). Performance measurement for construction projects. *Project Management Development – Practice and Perspectives 8th International Scientific Conference on Project Management in the Baltic Countries*, Riga, University of Latvia.

[28] Mitchell, J. R., Mitchell, R. K., Hunt, R. A., Townsend, D. M., & Lee, J. H. (2022). Stakeholder engagement, knowledge problems and ethical challenges. *Journal of Business Ethics*, 175(1), 75–94. https://doi.org/10.1007/s10551-020-04550-0

[29] Mugabo, J., & Mulyungi, P. (2017). Effect of stakeholder engagement on project success in Rwanda: A Case of Gisenyi Youth New Vision Project. *International Journal of Science and Research (IJSR)*, 2319-7064.

[30] Ndungu, J. N. & Karugu J. (2019). Community participation and performance of donor-funded youth projects in Korogocho, Nairobi City County. *International Journal of Current Aspects*, 3(3), 227-240.

[31] Nguyen, T. S., Mohamed S., & Panuwatwanich, K. (2018). Stakeholder management in complex projects: Review of contemporary literature. *Journal of Engineering, Project, and Production Management*, 8(2), 75-89.

[32] Obebe, S. B., Kolo, A., Enagi, I. S., & Adamu, A. A. (2020). Failure in contracts in Nigerian construction projects: Causes and possible solutions. *International Journal of Engineering Applied Sciences and Technology*, 5(2), 679-692.