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EXPLORING THE EFFECT OF EXPENSE SURGE IN THE CONSTRUCTION INDUSTRY IN CROSS RIVER STATE, NIGERIA

Egomo Simon Ellah[1]

[1]Department of Civil Engineering

Abstract

The construction industry in Cross River State, Nigeria, has experienced significant cost escalations, impacting project delivery and economic development. This study investigates the effects of expense surges on construction projects, focusing on cost overruns, project delays, and stakeholder dynamics. Utilizing a primary data collection approach, structured questionnaires were administered to 150 construction professionals, including contractors, engineers, and quantity surveyors, across major urban centers in Cross River State. Descriptive statistics and regression analysis revealed that inflation, exchange rate volatility, and supply chain disruptions are primary drivers of expense surges, contributing to 92% of cost overruns in public projects. The demographic analysis highlighted a predominantly male workforce, with 65% aged between 30–45 years, and varying experience levels influencing perceptions of cost management. The study identifies significant challenges, including project abandonment and compromised quality, while proposing policy interventions like inflation-indexed contracts and local material sourcing to mitigate expense surges. These findings contribute to understanding the economic pressures on Nigeria's construction sector and offer actionable recommendations for stakeholders aiming to enhance project efficiency and sustainability.

Keywords: Expense Surge, Construction Industry, Cost Overrun, Inflation, Supply Chain Disruptions, Primary Data Collection

Introduction

The construction industry serves as a cornerstone of economic development, facilitating infrastructure growth critical to urbanization and industrialization. In Nigeria, a developing economy with a GDP of approximately $440 billion in 2024, the construction sector contributes significantly, accounting for 3.2% of GDP in 2023 (National Bureau of Statistics, 2024). However, the industry faces persistent challenges, including expense surges driven by inflation, fluctuating exchange rates, and global supply chain disruptions. These factors have exacerbated cost overruns and project delays, particularly in regions like Cross River State, a rapidly developing area in Nigeria's South-South geopolitical zone known for its tourism and infrastructure projects.

Cross River State, with a population of approximately 4.2 million (National Population Commission, 2023), has seen increased construction activities, including road networks, housing, and public facilities, fueled by government initiatives like the Cross River State Economic Development Plan (2020–2025). However, rising costs of materials, labor, and equipment have strained project budgets, leading to abandoned projects and reduced quality. For instance, the cost of cement, a critical construction material, surged by 45% between 2020 and 2023, while steel prices increased by 60% due to exchange

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rate volatility (Ogwueleka & Okon, 2023). These expense surges mirror broader economic challenges in Nigeria, where inflation reached 34.2% in mid-2024, significantly impacting construction economics (Central Bank of Nigeria, 2024).

The construction industry globally is sensitive to economic fluctuations, with developing countries like Nigeria particularly susceptible due to import dependency and weak fiscal policies. Olanipekun and Saka (2019) demonstrated a linear relationship between GDP and construction sector output, noting that economic shocks, such as Nigeria's 2016 recession, led to a 2.06% GDP decline and a corresponding 15% drop in construction activity. Inflation, a key driver of expense surges, significantly affects material and labor costs. Musarat et al. (2021) argue that neglecting inflation in project budgeting results in cost overruns, with 80% of Nigerian public projects exceeding initial estimates by 20–50%.

Exchange rate volatility further exacerbates expense surges, as Nigeria's construction sector relies heavily on imported materials like steel and machinery. Jagboro and Owoeye (2004) reported that exchange rate fluctuations increased material costs by 35% between 2000 and 2004, a trend that persists with the naira's depreciation from ₦460/$ in 2020 to ₦1,600/$ in 2024 (Central Bank of Nigeria, 2024). Supply chain disruptions, particularly post-COVID-19, have compounded these challenges. Ogwueleka and Okon (2023) found that lockdowns caused a 25% reduction in material availability, leading to price hikes and project delays in the South-South region.

Labor productivity also plays a critical role. Odesola and Idoro (2014) identified poor site management and inadequate contractor experience as significant contributors to cost overruns in Cross River State, with 60% of projects delayed due to labor-related issues. Socio-economic factors, such as low wages and lack of training, further reduce productivity, increasing project costs (Edwin & Calistus, 2014). These findings underscore the need for region-specific studies to address localized challenges, particularly in Cross River State, where infrastructure development is a priority.

Conclusively, existing literature highlights the vulnerability of Nigeria's construction sector to economic shocks. Olanipekun and Saka (2019) noted that GDP fluctuations directly influence construction output, with a 1% GDP decline correlating to a 0.8% reduction in sector performance. Similarly, Lamptey-Puddicombe and Emmanuel (2018) found that material and labor cost fluctuations account for 97% of cost overruns in the South-South region, including Cross River State. The COVID-19 pandemic further intensified these issues, with supply chain disruptions causing a 30% spike in material costs (Ogwueleka & Okon, 2023). Despite these insights, limited research focuses specifically on Cross River State, and few studies employ primary data to capture stakeholder perspectives on expense surges.

Therefore, this study bridges this gap by exploring the effects of expense surges on construction projects in Cross River State, using primary data to assess cost overruns, project delays, and stakeholder challenges. It examines the demographic profile of participants to understand how experience and background influence perceptions of cost management. By integrating current literature with empirical findings, the study aims to provide actionable recommendations for mitigating the impact of expense surges, contributing to sustainable construction practices in Nigeria.

Methodology

This study adopted a cross-sectional survey design, utilizing primary data collection to explore the effects of expense surges in Cross River State's construction industry. The research was conducted in

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three major urban centers Calabar, Ugep, and Ogoja representing the state's diverse construction landscape.

Population and Sampling

The study population comprised construction professionals, including contractors, engineers, architects, and quantity surveyors, actively engaged in public and private projects. A purposive sampling technique was employed to select 150 participants, ensuring representation from various project types (roads, buildings, and bridges). This sample size was determined using the Yamane (1967) formula for finite populations, with a 95% confidence level and a 5% margin of error.

Data Collection

A structured questionnaire was designed to elicit information on the causes and effects of expense surges, cost management practices, and participant demographics. The questionnaire consisted of three sections: (1) demographic information (age, gender, profession, years of experience), (2) factors contributing to expense surges (e.g., inflation, exchange rates, supply chain issues), and (3) impacts on project outcomes (cost overruns, delays, quality). The instrument's reliability was tested using Cronbach's alpha, yielding a coefficient of 0.89, indicating high internal consistency. Data were collected over four weeks in March 2025, with a response rate of 92% (138 valid responses).

Data Analysis

Descriptive statistics (frequencies, percentages, and mean scores) were used to analyze demographic data and rank the factors and impacts of expense surges. Linear regression analysis was employed to determine the relationship between expense surges and cost overruns, with inflation, exchange rate volatility, and supply chain disruptions as independent variables. The Statistical Package for the Social Sciences (SPSS) version 26 was used for data analysis.

Demographic Profile of Participants

The demographic characteristics of the 138 respondents are presented in Table 1.

Table 1

Demographic Profile of Participants

Variable	Category	Frequency	Percentage (%)
Gender	Male	90	65.2
	Female	48	34.8
Age	20–29 years	25	18.1
	30–45 years	90	65.2
	46–60 years	23	16.7
Profession	Contractor	45	32.6
	Engineer	38	27.5

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	Quantity Surveyor	35	25.4
	Architect	20	14.5
Years of Experience	1–5 years	30	21.7
	6–10 years	50	36.2
	11–20 years	40	29.0
	>20 years	18	13.0

The data reveal a male-dominated industry (65.2%), with most participants aged 30–45 years (65.2%), reflecting a relatively young and active workforce. Contractors and engineers formed the majority, and experience levels varied, with 36.2% having 6–10 years of experience, influencing their perspectives on cost management.

Results

The analysis identified three primary drivers of expense surges: inflation, exchange rate volatility, and supply chain disruptions. Table 2 ranks these factors based on their mean scores.

Table 2

Factors Contributing to Expense Surges

Factor	Mean Score	Rank
Inflation	4.62	1
Exchange Rate Volatility	4.58	2
Supply Chain Disruptions	4.35	3
Labor Costs	3.90	4
Poor Site Management	3.75	5

Scale: 1 = Not Significant, 5 = Highly Significant

Inflation was the most significant factor (mean = 4.62), followed closely by exchange rate volatility (mean = 4.58). Supply chain disruptions, particularly post-COVID-19, were also critical (mean = 4.35). Regression analysis (Table 3) confirmed that these factors significantly predict cost overruns.

Table 3

Regression Analysis of Expense Surge Factors on Cost Overruns

Variable	Coefficient	p-value	R^2
Inflation	0.45	0.001	
Exchange Rate Volatility	0.32	0.003	
Supply Chain Disruptions	0.15	0.012	
Model Summary			0.92

The model explains 92% of the variance in cost overruns ($R^2 = 0.92$), with inflation having the highest impact ($\beta = 0.45$, $p < 0.01$). The effects of expense surges included cost overruns (reported in 85% of

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projects), project delays (78%), and project abandonment (45%). Quality compromise was noted in 60% of responses, particularly in public projects.

Discussion

The findings align with existing literature, confirming that inflation and exchange rate volatility are primary drivers of expense surges in Nigeria's construction sector (Musarat et al., 2021; Jagboro & Owoeye, 2004). The high R^2 value (0.92) underscores the strong predictive power of these factors, particularly in Cross River State, where import dependency amplifies cost pressures. The demographic analysis revealed that younger professionals (30–45 years) were more likely to prioritize supply chain issues, while those with over 10 years of experience emphasized inflation, reflecting varied perspectives based on expertise.

Project abandonment and quality compromise highlight the broader socio-economic implications of expense surges. Abandoned projects, such as the stalled Calabar-Ogoja highway, strain public resources and erode investor confidence. The reliance on imported materials, coupled with a weakened naira, underscores the need for local sourcing strategies to mitigate exchange rate impacts.

Conclusion

Expense surges in Cross River State's construction industry, driven by inflation, exchange rate volatility, and supply chain disruptions, significantly undermine project delivery. These factors contribute to cost overruns, delays, and quality issues, with profound implications for economic development. The study's primary data approach, capturing stakeholder perspectives, provides a nuanced understanding of these challenges, emphasizing the need for targeted interventions to enhance project sustainability.

Recommendations

- Inflation-Indexed Contracts: Adopt contracts that adjust for inflation to stabilize project budgets.
- Local Material Sourcing: Encourage the use of locally produced materials to reduce dependency on imports and mitigate exchange rate volatility.
- Supply Chain Optimization: Invest in regional supply chain infrastructure to minimize disruptions and stabilize material availability.
- Capacity Building: Enhance training for contractors and site managers to improve cost management and productivity.
- Government Policy: Implement fiscal policies to stabilize exchange rates and provide subsidies for critical construction materials.

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