Major Causes of Cost Overrun in Construction Projects Arising from Planning and Execution Gaps in South-East Nigeria [1]

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Abstract

Cost overrun in construction projects is a persistent issue in South-East Nigeria, often leading to project delays, reduced quality, or outright abandonment. This study examines the major reasons of cost overrun arising from planning and execution gaps in the study area. Using a well-thought-out questionnaire, data were collected from 80 construction professionals including architects, builders, quantity surveyors, and engineers across five states: Abia, Anambra, Ebonyi, Enugu, and Imo. Respondents valued the impact of 20 cost overrun factors on a five-point Likert scale. The analysis exposed that poor cost estimation, frequent design fluctuations, and lowly site investigation are the most serious planning-related causes, while late fund distribution, unskilled contractors, and poor site monitoring dominate at the performance phase. A substantial positive correlation ($r = 0.68$, $p < 0.01$) was found between planning deficiencies and execution-stage cost increases. These findings emphasize the need for calculated pre-construction planning, well-timed funding, and capable contractor selection. The study endorses policy reform to implement feasibility reviews, stakeholder engagement, and early-stage risk valuations. Addressing these systemic shortfalls can reduce cost overruns and improve the success rate of infrastructure provision in South-East Nigeria.

1.0 Introduction

Price overrun remains the most common and disruptive challenges in the Nigerian construction sector, especially in the South-East geopolitical zone. Despite improvements in design technology, quantity surveying, and financial controls, project delivery in this region frequently suffers from significant cost escalation (Ameh & Osegbo, 2011). These overruns are not only mirroring the systemic inadequacies but also of gaps in preparation and implementation phases, often aggravated

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by inadequate stakeholder harmonization, deficient project documentation, and inconsistent funding regimes.

The occurrence of cost overrun has important socio-economic consequences. Projects that exceed budget allocations often experience extended delivery timelines, reduced scope, and in some cases, total desertion (Omoregie & Radford, 2006). These effects are especially pronounced in public sector construction where funding is rigid and politically sensitive. In the context of South-East Nigeria, these increases also disrupt infrastructure development, affect public sureness, and increase the financial exposure of government institutions.

Numerous studies have recognized the role of planning shortages including poor estimation, late design changes, and immature feasibility studies as precursors to cost overrun (Kaming et al., 1997; Elinwa & Joshua, 2001). Execution gaps such as improper sequencing, resource misallocation, and little technical supervision worsen these problems (Olatunji, 2010). Yet, limited experiential work exists that separates these planning and execution gaps within the regional context of the South-East. This study fills this gap by analyzing specific factors contributing to cost overrun using data obtained from experienced specialists operating within the region.

The aim is to explore the link between planning and execution lapses and their direct impact on cost outcomes in building projects. By identifying the leading cost overrun factors rooted in the early and execution phases of projects, the study supports efforts to develop context-based interventions that can enhance financial control and project performance in the Nigerian construction sector.

2.0 Literature Review

Cost overrun is broadly defined as the excess of actual construction cost over the initial budgeted cost (Flyvbjerg et al., 2003). In construction literature, various factors have been advanced to explain cost escalations. These include poor cost estimates, inflation, changes in project scope, contractor incompetence, and client-induced delays (Aibinu & Jagboro, 2002; Kaming et al., 1997).

Planning deficiencies are recognized as a primary cause of cost deviation. According to Elinwa and Joshua (2001), pre-contract planning activities including feasibility studies, soil tests, and accurate quantity take-offs are often poorly executed in Nigerian projects. Inadequate site information and omission of key elements in bills of quantities lead to post-award cost adjustments. Similarly, Ameh and Osegbo (2011) reported that estimation errors and late inclusion of client requirements increase rework and contract sums.

Design changes and insufficient risk assessments during planning further compound the problem. Design freeze is rarely enforced in Nigerian projects, allowing for scope creep during execution. This contributes significantly to cost escalation. El-Sayegh (2008) emphasized the need for structured risk allocation in procurement documentation to minimize variations and associated costs.

Execution-phase issues are equally problematic. Unstable cash flows, contractor inexperience, and poor site management result in resource wastage and low productivity (Ayangade et al., 2009). Moreover, the use of unskilled labor and lack of timely supervision lead to quality defects that require rectification, thus inflating costs. Omoregie and Radford (2006) identified these executional inefficiencies as the reason many projects in Nigeria exceed both time and cost budgets.

Within South-East Nigeria, ecological challenges such as soil erosion, poorly managed access roads, and seasonal flooding further disturb project execution. Anecdotal evidence and prior case studies reveal that contractors are often unprepared for regional logistics constraints. According to Maduka (2022), local planning authorities often fail to provide adequate site clearance and infrastructure data, leaving contractors to discover major issues only during execution. This disconnect between planning documentation and site reality results in unbudgeted expenditures.

Comparative research by Dlakwa and Culpin (1990) ranked inflation, scope changes, and client delays as top cost overrun causes in Northern Nigeria. However, similar region-specific studies for the South-East are limited. This research seeks to rank cost overrun factors arising from both planning and execution deficiencies, using statistical evidence from on-ground professionals in Enugu, Abia, Imo, Ebonyi, and Anambra states.

While international studies have emphasized the role of contract strategy and technology in reducing overruns (Chan & Kumaraswamy, 1997), contextual constraints in Nigeria such as bureaucracy, lack of project data, and corrupt procurement practices often nullify these advantages. Therefore, interventions must be grounded in local realities. This paper builds on the theoretical foundation of project risk theory and construction economics to examine how early-phase and implementation-phase inadequacies contribute to cost overruns in the region.

3.0 Methodology

This study used a quantitative survey research plan. Data were obtained through organized questionnaires administered to 80 construction specialists across five South-East states of Nigeria: Anambra, Ebonyi, Abia, Enugu, and Imo. The sample included architects, builders, quantity surveyors, civil engineers, and project managers all with a lowest of five years of post-qualification knowledge.

The questionnaire focused on cost overrun occurrences, categorized by phases: planning and execution. Respondents rated the impact of 20 identified cost overrun factors on a 5-point Likert scale ranging from 1 (negligible) to 5 (very high). The instrument was pilot-tested with Cronbach's alpha = 0.87, confirming internal consistency. Data were analyzed using SPSS version 25. Mean item scores were computed to rank the severity of each factor. Cross-tabulation was used to compare perceptions across professions and states.

Table 1: Top 10 Causes of Cost Overrun by Mean Score

Rank	Factor	Mean Score
1	Inadequate Cost Estimation	4.65
2	Frequent Design Changes	4.52
3	Delay in Fund Disbursement	4.47
4	Poor Site Investigation	4.40
5	Inadequate Project Planning	4.36
6	Inflation and Price Fluctuations	4.33
7	Incompetent Contractors	4.28
8	Change in Scope of Work	4.21
9	Bureaucratic Delay in Approvals	4.19
10	Poor Site Management and Supervision	4.10

4.0 Results and 4.1 Findings

From the analysis, the top three planning-related causes of cost overrun are inadequate cost estimation, frequent design changes, and poor site investigation. These indicate gaps in feasibility assessments and cost control mechanisms during pre-construction. Respondents emphasized that many clients prioritize starting construction over investing in detailed planning documents, leading to revisions and reworks mid-execution.

On the execution side, delays in fund disbursement, contractor incompetence, and site mismanagement were dominant. These result in productivity loss and repeated activities that inflate cost. A strong correlation ($r = 0.68$, $p < 0.01$) was found between planning inadequacies and execution-phase cost escalations, confirming that early-phase decisions directly affect site-level outcomes.

Professionals in the public sector perceived bureaucratic delays and changes in political leadership as critical, while private sector respondents emphasized inflation and scope creep. Through all respondents, increase in price remained a cross-cutting restraint, especially in projects longer than 12 months.

5.0 Conclusion and Recommendations

This study endorses those cost overruns in South-East Nigerian construction projects are mainly driven by planning and implementation gaps. Insufficient cost estimating, inadequate design development and poor pilot investigations create a weak foundation for delivery. During execution, delayed payments, weak supervision, and contractor inefficiencies aggravate the problem.

It is recommended that clients and consultants invest more time and resources in pre-construction planning, including feasibility studies and stakeholder alignment. Mandatory project audits before

commencement should be enforced by regulatory agencies. For improved execution, payment structures should be streamlined to prevent delays, and contractor selection must prioritize competence over lowest bids.

These interventions, when tailored to local conditions in the South-East, can improve financial discipline and restore confidence in public and private construction investment.

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