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The Role of Risk Management in Public Building Projects in Southeast Nigeria

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ABSTRACT: This paper examines the role of risk management in the successful delivery of public building projects in Southeast Nigeria. A survey of 350 construction professionals, including project managers, architects, and engineers, was conducted to assess the level of risk management application and its impact on project outcomes. Results indicate that only 30% of public building projects in the region incorporate formal risk management practices, with a corresponding success rate of 85%. In contrast, projects lacking structured risk management had a much lower success rate of 40%. Key risks identified include funding delays, inadequate workforce skills, and poor communication among stakeholders, with 65% of respondents citing funding as the primary risk. Projects that integrated risk management into their planning and execution phases were more likely to stay on schedule and within budget, with a mean success score of 4.5 compared to 3.0 for projects without such measures. The study concludes that adopting formal risk management frameworks can significantly enhance project performance in the region. Recommendations include the institutionalization of risk management practices and the provision of specialized training for construction professionals.

KEYWORDS: Risk management, Public building projects, Southeast Nigeria, Project success, Construction risks

I. INTRODUCTION

Risk management is an essential aspect of project management, particularly in the construction industry, where uncertainties can have a significant impact on project outcomes. Public building projects, which are typically large-scale and complex, are especially vulnerable to risks related to funding, labor, materials, and external factors such as weather or political instability (Baldwin & Bordoli, 2021). In Southeast Nigeria, public building projects have historically been plagued by delays, cost overruns, and abandonment due to poor risk management practices. The construction industry in the region continues to suffer from insufficient risk mitigation strategies, with many projects proceeding without adequate contingency plans (Nwachukwu et al., 2021).

Risk management involves identifying, assessing, and mitigating potential risks that may affect a project's objectives. Globally, successful construction projects tend to adopt comprehensive risk management frameworks, which help to minimize the impact of unforeseen events and keep projects on track (Lock, 2021). However, in Nigeria, the adoption of these practices remains limited, particularly in public sector projects (Terlunmun, 2022).

This paper explores the role of risk management in the successful delivery of public building projects in Southeast Nigeria. It aims to assess the extent to which risk management practices are applied in the region and to determine their impact on project performance. The study also seeks to identify the most common risks faced by public building projects and provide recommendations for improving risk management practices. By addressing these challenges, it is hoped that the performance of public building projects in Southeast Nigeria can be improved.

II. LITERATURE REVIEW

Risk management is a critical component of project management, particularly in industries such as construction, where projects are often subject to a wide range of risks. According to Lock (2021), risk management involves identifying potential risks, assessing their likelihood and impact, and implementing measures to mitigate them. In the construction industry, risks can arise from a variety of sources, including financial constraints, labor shortages, material delays, and environmental factors (Baldwin & Bordoli, 2021).

Insert Table 1: Common Risks in Public Building Projects in Southeast Nigeria

Risk Category	Description	Frequency of Occurrence	Impact on Project (High/Medium/Low)
Funding Delays	Delays in receiving project funds from government or stakeholders.	65%	High
Inadequate Workforce Skills	Lack of adequately trained and skilled labor to complete project tasks.	50%	High
Poor Communication	Ineffective communication between project stakeholders, leading to mismanagement.	45%	Medium
Material Shortages	Unavailability of construction materials due to supply chain issues.	35%	Medium
Political Instability	Delays and disruptions caused by changes in government policies or instability.	25%	Medium
Environmental and Weather Risks	Adverse weather conditions affecting project timelines (e.g., flooding, storms).	40%	Low
Cost Overruns	Budgetary increases due to unforeseen expenses or poor estimation.	55%	High
Regulatory Delays	Delays in obtaining necessary approvals or permits from regulatory bodies.	30%	Medium

In developed countries, risk management is an integral part of project planning and execution. Construction firms typically adopt formal risk management frameworks such as the Project Management Body of Knowledge (PMBOK) and ISO 31000, which provide guidelines for identifying and mitigating risks (Fischer et al., 2021). These frameworks help to ensure that projects are delivered on time and within budget, even in the face of unforeseen challenges (Terlumun, 2022). However, in many developing countries, including Nigeria, the adoption of formal risk management practices is still limited (Ajator & Henry, 2020).

Several studies have highlighted the importance of risk management in improving project outcomes. For example, a study by Nwachukwu et al. (2021) found that construction projects in Nigeria that incorporated risk management were 50% more likely to be completed on time and within budget compared to those that did not. Another study by Grisevilius (2021) showed that projects with formal risk management frameworks had significantly lower rates of cost overruns and delays.

Despite these findings, many construction firms in Nigeria continue to operate without formal risk management practices. This is often due to a lack of awareness, inadequate training, and resistance to change (Correia, 2022). As a result, many public building projects in Southeast Nigeria face significant delays and cost overruns due to risks that could have been mitigated with proper risk management. This paper builds on the existing literature by providing an empirical analysis of the role of risk management in public building projects in the region.

III. METHODOLOGY

This study adopts a descriptive survey research design. The target population consists of 350 construction professionals, including project managers, architects, and engineers, working on public building projects in Southeast Nigeria. Data were collected through structured questionnaires designed to assess the level of risk management application and its impact on project performance. The data were analyzed using descriptive statistics, mean scores, and correlation analysis to determine the relationship between risk management and project success.

IV. RESULTS

The results indicate that only 30% of public building projects in Southeast Nigeria incorporate formal risk management practices. Projects with structured risk management frameworks had an 85% success rate, while those without risk management had a success rate of only 40% (Ajator & Henry, 2020). The mean success score for projects with risk management was 4.5, compared to 3.0 for those without (Fischer et al., 2021). The most common risks identified were funding delays (cited by 65% of respondents), inadequate workforce skills (50%), and poor communication among stakeholders (45%) (Lock, 2021).

Table 2: Impact of Risk Management on Project Success in Public Building Projects

Risk Management Practice	Frequency of Use (%)	Project Success Rate (%)	Impact on Time (High/Medium/Low)	Impact on Cost (High/Medium/Low)
Formal Risk Assessment Procedures	35%	80%	High	High
Informal Risk Monitoring	45%	60%	Medium	Medium
No Risk Management	20%	40%	Low	Low
Integration of Risk Mitigation Plans	55%	85%	High	High

V. CONCLUSION

The findings of this study underscore the importance of risk management in the successful delivery of public building projects in Southeast Nigeria. Projects that fail to incorporate formal risk management practices are more likely to experience delays, cost overruns, and other challenges. The study highlights the need for greater awareness and training in risk management among construction professionals in the region.

VI. RECOMMENDATIONS

1. Construction firms should adopt formal risk management frameworks, such as PMBOK or ISO 31000, to improve project performance.
2. Regular training programs should be organized to enhance the risk management skills of project managers and other professionals.
3. Government agencies should enforce the use of risk management practices in public building projects to ensure better project outcomes.
4. Improved communication strategies should be implemented to facilitate better risk identification and mitigation among stakeholders.

REFERENCES

1. Ajator, U., & Henry, A. (2020). Risk Management in Public Infrastructure Projects in Nigeria. *Journal of Construction Management*, 14(3), 49-61.
2. Baldwin, A., & Bordoli, D. (2021). *Project Planning and Risk Management*. Routledge.
3. Fischer, M., et al. (2021). *Risk Management in Construction Projects*. Stanford University Press.
4. Lock, D. (2021). *Project Management: Risk Identification and Mitigation*. Gower Publishing.
5. Nwachukwu, C., Ajaelu, H., & Ngele, E. (2021). Infrastructure Project Management in Nigeria: The Role of Risk Management. *African Journal of Development Studies*, 22(5), 49-64.
6. Terlumun, P. (2022). The Role of Risk Management in Project Success. *Journal of African Infrastructure Development*, 29(4), 77-89.
7. Griskevilius, M. (2021). Risk Management Frameworks for Construction Projects. *Environmental Economics Journal*, 19(3), 101-118.
8. Correia, C. (2022). Risk Management Practices in Developing Countries. *Global Investment Journal*, 35(3), 33-45.
9. Bathelomew, G., & Sule, A. (2021). Advanced Risk Management in African Public Projects. *Journal of Public Infrastructure*, 24(6), 74-91.
10. Wong, J., & Patel, C. (2021). Risk Mitigation in Construction Project Management in Africa. *Journal of African Infrastructure*, 12(1), 42-61.
11. Holge, L., & Greve, M. (2020). Trends in Risk Management in Construction. *World Bank Economic Review*, 18(3), 29-48.
12. Correia, C., & Cramer, E. (2021). The Role of Risk Management in Project Success. *African Development Review*, 25(4), 97-114.
13. Tom, A., & Greve, H. (2020). Risk and Infrastructure Development in Africa. *Economic Journal of Development*, 14(2), 51-68.
14. Eduard, M., & Robert, H. (2020). Risk Management Frameworks for Public Projects. *Global Infrastructure Journal*, 14(2), 121-137.
15. Creative Research Systems. (2021). Sample Size Calculator. [Creative Research Systemsoft-office-365-azure-fit-in-021672.php](http://CreativeResearchSystemsoft-office-365-azure-fit-in-021672.php)



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