

# Effect of Design Errors on Construction Costs of Building Projects in the Nigerian Built Environment

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**Key words:** Affordable housing; Capacity building; CPD; Education; e-Governance; Land management; Low cost technology; Professional practice; Quantity surveying; Real estate development; Building Construction Projects; Design errors; Cost impact

## SUMMARY

Design errors, construction mistakes and building failure continues to plague us into the 21st century even though they are avoidable. Understanding the mechanisms of failure in relation to the building process enables us to design and construct more durable buildings and structures. Increased durability results in reduced maintenance costs and longer service life of buildings and structures.

This research is designed to develop an increased awareness of the proper design and specification of materials and method of construction to produce durable buildings and structures. This research also provides many new insightful topics including the role of forensic investigations, current trends in Nigerian construction claims and the cost-effective remediation of errors and mistakes.

This research identifies and avoids common design errors and construction mistakes through intense

and interactive case studies.

The Census approach was used for this research work because it is suitable for obtaining answers from population that are known and reachable (Naoum, 1999). The target population that was used for this research is within the construction industry sector and also the numbers of registered Quantity Surveyors, Engineers and Architects in Abeokuta, Ogun State, Nigeria which was 51. This research work concluded that design errors arose by a wide range of factors and the most occurred factors according to this study were demand for speedy construction, lack of detailed drawings, engaging unqualified designers, increase complexity in project, poor supervision/coordination, poor workmanship, inadequate training, lack of systemic knowledge, errors in calculations and the use of newly introduced materials with corresponding Relative Important Index for the variables. The study recommended that there should be proper provision of comprehensive information and employing of the right procurement method which would aid in minimizing design errors resulting to cost overrun in building. Also, the construction stakeholders should provide adequate/comprehensive information required, in order to foster a well presented and detailed working drawings which will be used to produce accurate construction contract sum, which will

eventually

be in line with the completion cost as prepared in the final account. Finally, only qualified and certified professionals/designers with updated skills and appreciable experience should be engaged on building projects so as to mitigate design errors and its effect on construction costs of building projects in the Nigerian Built Environment.

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