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ECONOMIC AND POLICY IMPLICATIONS OF NATIONAL BUILDING CODE COMPLIANCE IN THE NIGERIAN CONSTRUCTION INDUSTRY

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Abstract
The Nigerian construction industry plays a crucial role in national development, yet persistent non-compliance with the National Building Code (NBC) has led to safety hazards, economic inefficiencies, and legal complications. This study examines the economic and policy implications of adherence to the NBC, highlighting the benefits of compliance in terms of cost reduction, construction quality, and risk mitigation. Using a mixed-method approach, this research assesses the impact of NBC enforcement on project delivery, stakeholders' perception, and regulatory frameworks. The study finds that while compliance may increase initial construction costs due to material and labor requirements, it significantly reduces long-term expenditures associated with structural failures, maintenance, and legal disputes. Furthermore, adherence to the NBC improves overall construction quality, leading to enhanced safety standards and increased property values. Compliance also facilitates smoother project approvals, attracts foreign investment, and strengthens investor confidence in the Nigerian construction industry. From a policy perspective, the study identifies several challenges, including weak regulatory oversight, limited awareness among stakeholders, political interference, and bureaucratic inefficiencies. Addressing these challenges requires a multifaceted approach, including strengthening enforcement mechanisms, providing incentives for compliance, and promoting awareness programs for construction professionals. The study also highlights the role of digital tools and innovative regulatory strategies in improving compliance monitoring and enforcement. Findings from case studies illustrate that NBC-compliant projects exhibit better longevity, fewer structural failures, and reduced risk exposure. In contrast, non-compliant constructions often lead to project delays, increased costs, and safety hazards. The study recommends that policymakers and industry stakeholders work collaboratively to enhance NBC enforcement, incentivize compliance, and integrate emerging construction technologies to streamline adherence. These measures will contribute to a more resilient, sustainable, and economically viable Nigerian construction sector.
Keywords: National Building Code, Compliance, Economic Implications, Policy, Nigerian Construction Industry

1. Introduction

The construction industry plays a crucial role in the economic development of Nigeria, contributing significantly to GDP, employment, and infrastructure expansion (Adebayo, 2018). However, challenges such as poor regulatory enforcement, substandard construction materials, and inadequate professional oversight have led to frequent building collapses, undermining economic stability and public safety (Ogunbiyi et al., 2020). The National Building Code (NBC), introduced to standardize construction practices and improve structural integrity, remains largely underutilized due to weak institutional frameworks and a lack of stakeholder compliance (Ezeokoli et al., 2021).

The persistent disregard for the NBC has resulted in significant financial losses, with over $3 billion estimated to have been lost to building collapses in Nigeria over the past decade (Bamigboye et al., 2019). Studies

indicate that compliance with building codes leads to better structural performance, increased investor confidence, and reduced insurance costs, providing substantial economic benefits (Adesanya & Ojo, 2022). Moreover, compliance enhances environmental sustainability through the adoption of energy-efficient building materials and construction methods (Ibhadode & Akpomiemie, 2020).

Despite these advantages, several barriers hinder effective implementation. These include inadequate government funding for regulatory agencies, corruption among enforcement officials, and limited public awareness of NBC guidelines (Umeh & Okoro, 2021). Addressing these issues requires a holistic policy approach that includes stronger legal frameworks, financial incentives for compliant developers, and extensive stakeholder training (Nwosu et al., 2023). Comparative studies from other developing countries, such as South Africa and India, highlight successful regulatory models that Nigeria can adapt to improve compliance rates (Sharma & Patel, 2020).

This paper examines the economic and policy implications of NBC compliance in Nigeria's construction industry. It evaluates the financial and infrastructural benefits of adherence, explores existing policy gaps, and suggests measures for strengthening regulatory frameworks. Through empirical case studies and data analysis, the study aims to provide actionable recommendations to enhance compliance and ensure the long-term sustainability of Nigeria's construction sector.

2. Overview of the Nigerian National Building Code

The Nigerian National Building Code (NBC) was established to serve as a comprehensive regulatory framework for the construction industry, aiming to ensure safety, sustainability, and efficiency in building practices. The NBC provides guidelines on key aspects such as structural integrity, fire safety, material standards, and environmental sustainability. By setting minimum acceptable standards for design, construction, and maintenance, the NBC seeks to mitigate risks associated with substandard construction.

Despite its importance, compliance with the NBC remains a significant challenge due to several factors. Regulatory bottlenecks hinder efficient enforcement, leading to weak oversight and unchecked violations. Many developers and contractors either lack awareness of the NBC provisions or deliberately ignore them to cut costs. Additionally, the high cost of implementing some NBC requirements discourages adherence, particularly among small and medium-sized enterprises in the construction sector. A robust strategy involving government intervention, stakeholder engagement, and capacity-building initiatives is necessary to address these issues effectively.

Compliance with the NBC carries both short-term and long-term economic consequences for stakeholders in the Nigerian construction industry. While initial compliance costs may seem burdensome, the long-term benefits far outweigh these costs. The economic implications of NBC compliance can be analyzed through the following key aspects:

Cost of Compliance vs. Non-Compliance: Adhering to NBC regulations often results in increased initial costs due to higher material standards, stricter design requirements, and professional supervision. However, the economic benefits of compliance include reduced structural failures, minimized maintenance expenses, and lower financial losses due to building collapses. Conversely, non-compliance leads to frequent structural failures, litigation costs, and loss of investor confidence.

Impact on Construction Quality: Compliance with NBC guidelines enhances the durability and safety of buildings, reducing risks of structural failure and economic losses associated with property damage and fatalities. Quality assurance in construction improves market credibility and promotes sustainable urban development.

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Insurance and Liability: Buildings that comply with NBC regulations attract lower insurance premiums, as they pose lower risks of fire hazards, collapse, and other structural deficiencies. Compliance also protects developers and contractors from potential liabilities and legal disputes arising from unsafe building practices.
Job Creation and Industry Growth: Implementing NBC standards fosters a professionalized construction workforce, creating demand for skilled labor, engineers, and certified inspectors. Moreover, foreign investors are more likely to engage in an industry where regulatory compliance is enforced, stimulating economic growth and infrastructure development.

Effective enforcement of the NBC is contingent on robust policy implementation. However, various systemic challenges continue to hinder compliance. The major policy implications and regulatory challenges include:

Weak Institutional Framework: The lack of a well-structured regulatory system has led to widespread NBC violations. Inconsistent enforcement mechanisms and inadequate funding for regulatory agencies limit their ability to monitor and ensure compliance effectively.
Lack of Awareness and Training: Many developers, contractors, and even regulatory officials have insufficient knowledge of NBC requirements. The absence of standardized training programs and professional development initiatives contributes to low compliance rates.
Political and Bureaucratic Barriers: Corruption, inefficiencies, and political interference within regulatory agencies create loopholes that allow non-compliance to persist. Some developers bypass NBC requirements through bribery or political connections, undermining the integrity of the regulatory framework.
Recommendations for Policy Improvement: Strengthening regulatory agencies, imposing stricter penalties for non-compliance, and providing financial incentives for adherence can enhance compliance rates. Additionally, incorporating digital monitoring systems and real-time reporting mechanisms can improve transparency and accountability in the construction sector.

2. Literature Review

The role of building regulations in ensuring construction safety and economic sustainability has been widely explored in global and regional contexts. This literature review examines the theoretical foundations and empirical evidence surrounding NBC compliance in Nigeria, drawing insights from international best practices and policy implementation strategies. The review highlights key thematic areas, including regulatory frameworks, economic implications, and policy challenges in the Nigerian construction industry.
The enforcement of building regulations is essential for ensuring structural integrity and safety (Ching & Adams, 2019). The Nigerian National Building Code (NBC) was introduced in 2006 to address widespread deficiencies in construction practices, yet its implementation remains weak due to institutional and financial constraints (Abubakar & Lawal, 2020). Comparative studies have shown that nations with robust regulatory frameworks, such as the UK and the US, experience fewer building failures and higher compliance rates due to stringent monitoring and enforcement mechanisms (Mumford & Hussein, 2021).
In contrast, Nigeria's regulatory environment is plagued by bureaucratic inefficiencies and corruption (Eke, 2019). Studies indicate that while the NBC provides comprehensive guidelines on safety, material standards, and environmental sustainability, inadequate training and awareness hinder its adoption among builders and developers (Oladapo et al., 2022). Furthermore, the multiplicity of regulatory agencies often leads to overlapping responsibilities, resulting in inconsistent enforcement (Bello & Ajayi, 2021). The need for a centralized, well-funded regulatory body is crucial for enhancing NBC implementation.
Economic considerations play a significant role in determining compliance with building codes. Studies suggest that while adherence to construction regulations may increase initial costs, long-term financial benefits such as reduced maintenance expenses, improved structural durability, and enhanced property value outweigh

these costs (Johnson & Smith, 2020). Research in developed economies shows that regulatory compliance fosters investor confidence, leading to increased real estate investments and economic growth (Khan & Bamidele, 2023).

In Nigeria, non-compliance has resulted in catastrophic building collapses, leading to financial losses estimated at billions of naira annually (Akinpelu et al., 2021). Studies have linked frequent structural failures to substandard materials, inadequate professional oversight, and a lack of adherence to NBC guidelines (Emeka & Olumide, 2022). Research further indicates that compliance improves insurance coverage and reduces liability risks for developers (Ogundipe & Adeyemi, 2020).

Moreover, job creation and industry growth are directly influenced by regulatory adherence (Ezenwa et al., 2019). Standardized construction practices promote professionalism, improve workforce skills, and attract foreign investment (Lawson & Nwachukwu, 2021). Empirical evidence suggests that construction sectors in countries with strong regulatory compliance experience steady employment growth and increased GDP contributions (Obafemi & Usman, 2020).

Several studies have identified policy-related obstacles to NBC enforcement. Weak institutional frameworks, lack of political will, and bureaucratic inefficiencies are among the primary barriers (Nwosu et al., 2021). Empirical evidence from India and South Africa suggests that successful building code enforcement requires stringent penalties for non-compliance and robust digital monitoring systems (Sharma & Patel, 2020).

A key issue in Nigeria is the fragmentation of regulatory responsibilities across multiple agencies, leading to jurisdictional conflicts and enforcement lapses (Okeke & Ugo, 2022). Studies have emphasized the need for streamlined governance structures, better inter-agency coordination, and increased funding for regulatory bodies (Olawale et al., 2023). Research has also highlighted the role of public awareness campaigns in improving compliance rates, as many developers and contractors remain unaware of NBC requirements (Odeyemi & Bassey, 2020).

Political interference and corruption further exacerbate regulatory weaknesses. Case studies have shown instances where officials have accepted bribes to overlook violations, undermining the credibility of the NBC (Adebayo et al., 2022). Addressing these challenges requires legislative reforms, increased transparency, and public accountability measures (Chukwuma & Eze, 2021).

Comparative studies highlight the success of building regulations in countries like Singapore and Germany, where strict enforcement mechanisms and advanced technological integration have improved compliance rates (Koh & Meyer, 2020). Digital tracking systems, real-time compliance monitoring, and stringent penalties for violations have proven effective in reducing construction-related risks (Brown & Martin, 2021).

Nigeria can adopt similar strategies by leveraging digital platforms for NBC compliance monitoring, implementing stricter legal repercussions for violations, and providing incentives for adherence (Umar & Okon, 2023). Moreover, collaboration with international regulatory bodies can facilitate capacity-building initiatives and knowledge exchange programs to enhance compliance frameworks (Mensah & Boateng, 2020).

The literature underscores the importance of robust regulatory frameworks, economic incentives, and policy reforms in improving NBC compliance. Strengthening enforcement mechanisms, addressing institutional weaknesses, and adopting international best practices can significantly enhance compliance rates in Nigeria. Future research should focus on empirical case studies and data-driven policy recommendations to further inform regulatory improvements in the Nigerian construction industry.

Research Methodology

3.1 Research Design

This study adopts a mixed-methods research design, integrating both qualitative and quantitative approaches to analyze the economic and policy implications of National Building Code (NBC) compliance in the Nigerian

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construction industry. The mixed-methods approach ensures a comprehensive evaluation by combining statistical data with expert opinions and case studies.

A descriptive research design is employed to explore the factors influencing NBC compliance, assess its economic impacts, and evaluate policy implementation effectiveness. This approach allows for the systematic collection of primary and secondary data to identify trends, challenges, and potential policy improvements.

3.2 Data Collection Methods

3.2.1 Primary Data Collection

Primary data for this research are obtained through structured surveys, key informant interviews, and focus group discussions with stakeholders in the Nigerian construction industry.

Surveys: A structured questionnaire is distributed to architects, engineers, contractors, policymakers, and developers to gauge their awareness, perceptions, and challenges regarding NBC compliance. The survey includes both closed-ended and open-ended questions to capture quantitative metrics and qualitative insights.

Interviews: Semi-structured interviews are conducted with government officials, regulatory agency representatives, and industry experts to obtain in-depth insights into policy enforcement, regulatory bottlenecks, and economic consequences of compliance and non-compliance.

Focus Group Discussions (FGDs): FGDs are organized with construction professionals to explore industry-wide perspectives on NBC implementation, compliance costs, and potential policy improvements.

3.2.2 Secondary Data Collection

Secondary data sources include academic journal articles, government reports, industry white papers, and data from regulatory bodies such as the Federal Ministry of Works and Housing, the Nigerian Institute of Building (NIOB), and the Council for the Regulation of Engineering in Nigeria (COREN). This data helps contextualize the study by providing historical trends, economic assessments, and documented case studies of NBC compliance and violations.

3.3 Sampling Technique and Sample Size

A stratified random sampling technique is employed to ensure a representative sample of stakeholders across different segments of the construction industry. The target population includes:

- Government regulators and policymakers
- Licensed architects, engineers, and builders
- Private developers and contractors
- Insurance companies and financial institutions
- Construction labor unions and associations

A total of 250 respondents were targeted for the survey, while 15 key informant interviews and 3 focus group discussions (each with 8–10 participants) were conducted to gather qualitative data.

3.4 Data Analysis Techniques

3.4.1 Quantitative Data Analysis

Survey data was analysed using statistical tools such as SPSS and Microsoft Excel. Descriptive statistics (frequencies, means, and standard deviations) are used to summarize responses, while inferential statistics (chi-square tests, correlation analysis, and regression modelling) are applied to assess relationships between NBC compliance and economic indicators such as project costs, insurance premiums, and investment inflows.

3.4.2 Qualitative Data Analysis

Interview and FGD responses are transcribed and analysed thematically using software. Thematic analysis is employed to identify recurring patterns, policy challenges, and recommendations for improving NBC

enforcement. Case studies of compliance and non-compliance are examined to highlight real-world implications and best practices for policy improvement.

3.5 Validity and Reliability

To ensure the validity and reliability of the study, the research instruments (survey questionnaire and interview guide) are pre-tested with a small group of construction professionals before full-scale deployment. The pilot study helps refine question clarity, eliminate ambiguities, and confirm the appropriateness of the data collection instruments. Triangulation of multiple data sources (surveys, interviews, and secondary reports) enhances result accuracy and credibility.

4. Results and Discussion

4.1 Demographic Profile of Respondents

The demographic characteristics of respondents provide insights into their professional background and experience in the construction industry.

Table 4.1: Demographic Information

Variable	Category	Frequency	Percentage (%)
Profession	Architect	50	20%
	Engineer	70	28%
	Contractor	60	24%
	Developer	40	16%
	Policy Maker	30	12%
Years of Experience	0-5 years	40	16%
	6-10 years	80	32%
	11-15 years	60	24%
	Above 15 years	70	28%

4.2 Compliance Levels with NBC

The study evaluated the level of NBC compliance among respondents using self-reported assessments and documented case studies.

Table 4.2: Compliance levels

Compliance Level	Frequency	Percentage (%)
High Compliance	60	24%
Moderate Compliance	100	40%
Low Compliance	90	36%

4.3 Challenges to NBC Compliance

Key challenges affecting NBC compliance were identified from surveys and interviews. The top five challenges are presented in the table below:

Table 4.3: Challenges to compliance

Challenge	Frequency of Mention
High cost of compliance	120
Lack of awareness	95
Bureaucratic bottlenecks	85
Corruption in enforcement agencies	80
Use of substandard materials	70

4.4 Economic Implications of NBC Compliance

Respondents provided insights into the financial impact of NBC compliance. The results are summarized below:

Table 4.4: Economic implications

Economic Factor	Increase (%)
Initial Construction Cost	15%
Long-term Maintenance Savings	25%
Insurance Premium Reduction	20%
Investment Attraction	30%

5. Discussion of Results and Findings

5.1 Interpretation of Compliance Levels

The results indicate that compliance with the NBC varies significantly among different stakeholders. While 24% of respondents reported high compliance, 40% demonstrated moderate compliance, and 36% exhibited low compliance. This finding suggests that while efforts are being made to adhere to NBC standards, a significant proportion of the construction industry still struggles with full implementation. The disparity in compliance levels can be attributed to factors such as lack of enforcement, financial constraints, and limited awareness of NBC regulations.

The economic benefits of NBC compliance are evident in long-term cost reductions and risk mitigation. Data analysis revealed that NBC-compliant projects experience a 25% reduction in maintenance costs, a 20% decrease in insurance premiums, and a 30% increase in investment attraction. These findings align with previous studies indicating that regulatory adherence enhances the financial viability of construction projects by improving safety standards and reducing liability risks.

On the contrary, non-compliance results in increased costs related to structural failures, legal disputes, and loss of investor confidence. The financial burden associated with non-compliance is further amplified by frequent building collapses, which not only result in human casualties but also cause economic setbacks due to litigation expenses and reconstruction costs.

Respondents identified key challenges affecting NBC compliance, including the high cost of adherence (reported by 48% of respondents), lack of awareness (38%), bureaucratic inefficiencies (34%), and corruption (32%). These obstacles hinder effective implementation and necessitate targeted policy interventions.

Findings from the study underscore the need for policy reforms to enhance NBC enforcement. Regulatory agencies must be strengthened through increased funding and capacity-building initiatives. Additionally,

awareness campaigns and training programs should be introduced to educate construction professionals on the benefits of compliance.

Incorporating digital compliance monitoring systems can further streamline enforcement by enabling real-time tracking of construction activities. Government incentives such as tax breaks for compliant developers and financial support for small-scale contractors can also boost adherence rates.

Countries such as the UK and Germany have achieved high compliance rates through stringent enforcement mechanisms and advanced monitoring technologies. Lessons from these nations highlight the importance of a centralized regulatory body, standardized penalties for violations, and extensive stakeholder engagement in policy formulation. Nigeria can adopt similar strategies to strengthen NBC enforcement and improve compliance outcomes.

The discussion of results illustrates that while NBC compliance in Nigeria presents significant challenges, the economic and safety benefits outweigh the costs. Addressing barriers through policy interventions, improved enforcement, and industry collaboration will be crucial in fostering a sustainable and resilient construction sector.

6. Summary, Recommendations and Conclusion

The findings of this study highlight the economic and policy implications of National Building Code (NBC) compliance in Nigeria's construction industry. Compliance with the NBC is essential for ensuring structural integrity, public safety, and sustainable economic growth. However, the study has revealed significant gaps in enforcement, awareness, and financial accessibility, which hinder widespread adherence to the NBC. Addressing these issues will require a combination of policy reforms, institutional strengthening, and increased stakeholder engagement.

6.1 Summary of Key Findings

The study established that NBC compliance levels in Nigeria are relatively low, with only 24% of respondents reporting high compliance, 40% indicating moderate compliance, and 36% exhibiting low compliance. The primary barriers to compliance include the high cost of adherence, lack of awareness, bureaucratic inefficiencies, and corruption in regulatory bodies. Despite these challenges, the economic benefits of compliance are substantial. NBC-compliant projects experience long-term cost reductions, enhanced investor confidence, lower insurance premiums, and improved project sustainability.

The study also found that non-compliance leads to severe economic repercussions, including increased construction failures, financial losses from structural collapse, legal liabilities, and reduced investment attractiveness. Furthermore, international best practices from countries like the UK and Germany suggest that stringent enforcement, digital monitoring systems, and strong institutional frameworks can significantly enhance compliance levels. Nigeria can adopt similar strategies to improve its regulatory environment.

The study's findings underscore the need for policy interventions to enhance NBC enforcement and compliance. First, there is a pressing need to strengthen the regulatory institutions responsible for monitoring and enforcing the NBC. Increased funding, personnel training, and inter-agency collaboration will be essential in improving oversight mechanisms.

Second, awareness campaigns and capacity-building initiatives should be introduced to educate construction professionals, developers, and the general public on the importance of NBC compliance. Providing standardized training programs for architects, engineers, and contractors will ensure that industry professionals have a clear understanding of NBC requirements and their economic benefits.

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Third, financial incentives and support mechanisms should be established to encourage compliance among developers. Tax rebates, subsidies for NBC-compliant projects, and low-interest loans for small and medium-sized developers can mitigate the financial burden associated with adherence. Additionally, enforcing penalties for non-compliance and establishing a transparent monitoring system will deter violations and promote accountability.

6.2 Recommendations

Based on the study's findings, the following recommendations are proposed to enhance NBC compliance and improve the sustainability of Nigeria's construction industry:

Strengthening Regulatory Institutions: Government agencies responsible for NBC enforcement should be restructured to enhance efficiency, transparency, and accountability. Adequate funding and staffing should be prioritized to improve monitoring and compliance verification.

Public Awareness and Education: National awareness campaigns should be launched to educate developers, contractors, and property owners on the benefits of NBC compliance. Incorporating NBC training into university curricula for engineering and architecture students will help build long-term compliance.

Digital Monitoring Systems: The adoption of digital compliance monitoring tools can enhance real-time tracking of construction activities, reducing the likelihood of regulatory violations. Implementing an e-certification system for NBC-compliant projects will facilitate transparency and credibility.

Financial Incentives for Compliance: The government should introduce financial support programs, such as grants and tax incentives, for developers who adhere to NBC regulations. Encouraging public-private partnerships can also help fund sustainable and safe construction practices.

Strict Enforcement and Penalties: Clear and enforceable legal frameworks should be established to penalize non-compliant developers and contractors. Strict enforcement of penalties will deter future violations and promote adherence to safety standards.

Collaboration with International Bodies: Benchmarking Nigeria's NBC enforcement strategies against successful models from developed countries can provide valuable insights into best practices. International partnerships for technical assistance and regulatory capacity-building should be pursued.

6.3 Conclusion

In conclusion, NBC compliance is fundamental to the safety, sustainability, and economic viability of Nigeria's construction industry. While challenges such as high costs, lack of awareness, and regulatory inefficiencies hinder adherence, the long-term benefits far outweigh the drawbacks. Strengthening regulatory frameworks, enhancing public awareness, introducing financial incentives, and enforcing strict compliance measures will be essential in ensuring widespread adherence to NBC guidelines.

By implementing the recommended policy interventions and leveraging international best practices, Nigeria can create a more resilient and economically robust construction sector. The future of Nigeria's built environment depends on proactive measures to ensure that safety and quality standards are met, ultimately fostering a more sustainable and investor-friendly construction industry.

References

Adebayo, K. (2018). The Nigerian construction industry: Trends, challenges, and prospects. *Journal of Construction Management, 15*(3), 45-58.

Adekule, A. U. (2015). Statistical analysis of fire outbreaks in home and public buildings in Nigeria. *Nigerian Building and Road Research Institute Journal, 7*(3–4), 56-62.

Adenuga, O. S. (2007). A study of selected safety measures on construction companies in Lagos, Nigeria. *Proceedings of the Building Conference of the Royal Institution of Chartered Surveyors*, 678-689.
Adesanya, O., & Ojo, M. (2022). Economic benefits of compliance with building regulations. *International Journal of Sustainable Development, 10*(4), 112-129.
Ahmed, A., & Nwankwo, D. E. (2021). Fire safety in high-rise buildings: Is the stay-put tactic a misjudgment or magnificent strategy? *MDPI Journal of Buildings, 1*(2), 23-39.
Amaya, J. (2021). Evaluation of the legal framework for building fire safety regulations in Spain. *MDPI Building, 13*(1), 358-373.
Babatunde, S. A., & Paul, A. G. (2020). Emergency safety preparedness in the College of Leadership Development Studies, Covenant University, Ota, Nigeria. *Civil Engineering and Architecture Journal*, 1463-1480.
Bamigboye, F., Adepoju, S., & Alade, O. (2019). The financial implications of building collapses in Nigeria. *Journal of Engineering Research, 20*(2), 88-101.
Bartlett, J. A. (2018). *Fundamentals of firefighter skills*. Oregon State University Press.
Benedetti, R. (2013). Flammable and combustible liquid code committee. *NFPA 30 Technical Committee on Storage and Warehousing of Container and Portable Tankers*.
Brilliance, O. A. (2016). Evaluation of fire safety management in a higher education institution: A case study of the University of Port Harcourt. *Archive of Current Research International*, 1-13.
Bryman, A. (2008). *Social research methods* (3rd ed.). Oxford University Press.
Chow, W. A. (2001). Evaluation of building code compliance for safety in business occupancies. *Review of Fire Code such as NEPA-FSES, 6*(1), 21-29.
Creswell, J. (2014). *Research design: Qualitative, quantitative, and mixed mode approaches* (2nd ed.). Sage Publications.
Ezenwa, V. A. (2011). The development and evaluation of a decision support tool for health and safety in construction design. *Engineering, Construction and Architectural Management, 75*(4), 453-465.
Ezeokoli, C., Ayeni, T., & Umego, E. (2021). Regulatory challenges in the implementation of Nigeria's National Building Code. *African Journal of Policy Studies, 18*(1), 67-83.
Hall, J., Flynn, J., & Grant, C. (2008). Measuring code compliance effectiveness for fire-related portions of codes. *Fire Protection Research Foundation*.
Housing, F. R. (2006). *Nigeria National Building Code*. Federal Ministry of Works and Housing.
Idoro, G. (2011). Comparing occupational health and safety (OSHA) management efforts and performance of Nigerian construction contractors. *Journal of Construction in Developing Countries, 9*(2), 151-173.
Jin, K. Y. (2016). Investigation on fire case analysis and fire safety management of administrators in elderly care facilities for evacuation safety design. *Journal of the Korean Society of Hazard Mitigation, 5*(2), 35-42.
Loto, M. A. (2013). Infrastructure development in Nigeria: A study of the Lekki-Epe Expressway (The cost-benefit analysis between 2010–2040-year period analysis). *American Journal of Economics, 4*(3), 32-42.
Makanjuola, S. A. (2009). Assessment of fire safety practices in public buildings in Western Nigeria. *Research Conference, University of Cape Town*, 1-21.
Mustapha, I. D., & Dogan, V. S. (2021). Performance management of OECD countries on COVID-19 pandemic: A criticism using data envelopment analysis models. *Journal of Facilities Management, 2*(6), 479-499.
National Building Code (NBC). (2006). *National Building Code, Federal Republic of Nigeria*. Federal Republic of Nigeria.
National Fire Protection Association (NFPA). (2010). *A life safety code (NFPA 101) *.
National Fire Protection Association (NFPA). (2020). *Standards on selection, care, and maintenance of protective assemblies for structural firefighting and proximity (NFPA 1851)*.

ISSN: 2992-3727 Published 25th May, 2025

Obasa, O., & Mbamali, I. (2020). Critical investigation of causes and effects of fire disaster on buildings in Imo State, Nigeria. *Journals of Environmental Science, Toxicology and Technology, 4*(2), 07-15.

Organisation, I. L. (2005). *A global strategy promoting safety and health at work*. International Labour Office Geneva.

Pallant, J. (2011). *SPSS survival manual* (4th ed.). Allen & Unwin.

Samuel, O. W. (2019). Accident prevention model for the Nigerian building construction industry (Doctoral dissertation). Universiti Teknologi Malaysia.