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Influence of Informal Construction Practices on Architectural Documentation in Abia State, Nigeria

Okor Michael Uduma

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Department of Architecture, Abia State University, Uturu, Nigeria. Email: michael.okor@abiastateuniversity.edu.ng

ABSTRACT

Despite the significant contribution of the construction industry to Nigeria's Gross Domestic Product (GDP), the sector continues to experience persistent challenges, including poor construction quality and recurrent building failures. These challenges have been partly attributed to the prevalence of informal construction practices, which undermine architectural documentation. This study investigates the influence of informal construction practices on architectural documentation in Abia State, Nigeria. A mixed-methods research design was adopted, integrating quantitative and qualitative approaches. Data were collected from 150 respondents—comprising architects, contractors, and clients-using structured questionnaires and semi-structured interviews. Quantitative data were analyzed using descriptive and inferential statistics, while qualitative data were examined through thematic analysis. The findings reveal that informal construction practices, particularly unauthorized design changes, inadequate site supervision, and poor record-keeping, are moderately prevalent. Architectural documentation was perceived as moderately adequate; however, significant deficiencies persist. The results further indicate a statistically significant relationship between informal construction practices and architectural documentation ($r = 0.65$, $p < 0.05$), with regression analysis confirming that informal practices significantly predict variations in documentation quality ($\beta = 0.401$, $p < 0.05$). Qualitative findings highlight weak regulatory enforcement, corruption, poor site management, and inadequate documentation systems as major challenges. The study concludes that informal construction practices significantly undermine the accuracy, completeness, and reliability of architectural documentation. It is recommended that regulatory enforcement be strengthened, documentation processes standardized, and capacity-building initiatives implemented for construction stakeholders. Additionally, improved site supervision and anti-corruption measures are essential for enhancing compliance and improving overall construction quality.

Keywords: Informal construction practices, architectural documentation, building quality, regulatory frameworks, professional accountability, construction industry.

INTRODUCTION

The construction industry remains a critical driver of economic growth and infrastructural development in Nigeria, contributing approximately 14.4% to the national Gross Domestic Product (GDP) in 2022 (National Bureau of Statistics, 2022). Despite this contribution, the sector continues to face persistent challenges, including substandard construction quality, inadequate maintenance culture, and recurring incidents of building collapse (Ekanem and Ogunlana, 2022). These challenges have raised concerns regarding the effectiveness of regulatory frameworks and professional practices within the built environment.

One of the underlying factors contributing to these systemic issues is the widespread adoption of informal construction practices. Informal construction practices refer to building processes that occur outside established regulatory, professional, and documentation frameworks, often characterized by the absence of approved design drawings, permits, and professional supervision. Such practices undermine the integrity of architectural documentation, which serves as a critical tool for design communication, regulatory compliance, construction control, and facility management.

Architectural documentation—including architectural drawings, specifications, approvals, and as-built records—is essential for ensuring that construction projects adhere to design intent, safety standards, and legal requirements. However, in many parts of Nigeria, particularly at the subnational level, construction activities frequently proceed with incomplete, outdated, or entirely absent documentation (Ogunmakin and Aje, 2022). This situation is further exacerbated by weak enforcement of building regulations and the proliferation of informal settlements.

In Abia State, the prevalence of informal construction practices presents significant challenges to effective architectural documentation and urban development. Rapid urbanization in key cities such as Aba and Umuahia has intensified the demand for housing and commercial infrastructure, often leading to unauthorized developments and undocumented structural modifications. Buildings are frequently altered during

or after construction without corresponding updates to official records, thereby creating discrepancies between approved designs and actual structures. This not only compromises structural integrity but also complicates regulatory oversight, urban planning, and service delivery.

Although existing studies have examined construction defects and regulatory compliance in Nigeria, limited attention has been given to the specific relationship between informal construction practices and the quality of architectural documentation at the state level. This gap is particularly significant in rapidly developing regions such as Abia State, where informal practices are deeply embedded in the construction process.

Against this backdrop, this study investigates the influence of informal construction practices on architectural documentation in Abia State, Nigeria. Specifically, the study aims to: 1, Identify the prevalent informal construction practices in Abia State; 2, Examine their impact on the accuracy and completeness of architectural documentation; 3, Assess the level of compliance with regulatory and professional standards; and 4, Determine the factors driving informal construction practices, with a view to proposing strategies for improving documentation and construction quality.

LITERATURE REVIEW

Theoretical Framework

This study is anchored on Institutional Theory and the Theory of Planned Behavior, which together provide a comprehensive explanation of how structural and individual factors shape construction practices and documentation processes ((North, 1990; Ajzen, 2021).

Institutional Theory posits that human behavior and organizational practices are influenced by both formal rules (such as laws, regulations, and policies) and informal constraints (including norms, traditions, and cultural practices) (North, 1990). Within the construction industry, this theory explains how weak regulatory enforcement, entrenched informal norms, and institutional inefficiencies enable the persistence of informal construction practices (Ogunmakin and Aje, 2022). In the context of Abia State, the theory is particularly relevant in explaining why construction activities often proceed without adherence to approved architectural documentation, despite the existence of regulatory frameworks.

Complementing this perspective, the Theory of Planned Behavior explains behavior at the individual level by emphasizing three determinants: attitudes, subjective norms, and perceived behavioral control (Ajzen, 2021). Applied to construction practices, this theory suggests that builders, contractors, and property owners may engage in informal practices based on their beliefs about cost savings, social acceptance of non-compliance, and perceived ability to bypass regulatory requirements.

Together, these frameworks highlight the interaction between institutional weaknesses and individual decision-making, providing a robust lens for understanding how informal construction practices emerge and how they ultimately affect architectural documentation.

Concept of Informal Construction Practices

Informal construction practices refer to building activities carried out outside formal regulatory and professional frameworks, often characterized by the absence of approved designs, permits, and professional supervision. In Nigeria, such practices are widespread and have been linked to systemic challenges within the construction sector (Ekanem and Ogunlana, 2022).

These practices commonly include unauthorized design modifications, inadequate site supervision, use of unqualified personnel, and poor record-keeping. In Abia State, rapid urbanization and housing demand have further intensified reliance on informal construction processes, particularly in urban centers such as Aba and Umuahia. The prevalence of these practices undermines standard construction procedures and compromises the integrity of architectural documentation.

Architectural Documentation in Construction Projects

Architectural documentation constitutes a critical component of the construction process, encompassing design drawings, technical specifications, approval documents, and as-built records. It serves as a basis for communication among stakeholders, ensures regulatory compliance, and facilitates quality control throughout the project lifecycle.

However, in environments characterized by informality, architectural documentation is often incomplete, outdated, or entirely absent. This creates discrepancies between approved designs and actual construction outcomes, making it difficult to enforce standards, monitor project execution, and ensure building safety (Ogunmakin and Aje, 2022).

Factors Contributing to Informal Construction Practices

The persistence of informal construction practices in Nigeria has been attributed to several interrelated factors. Weak regulatory enforcement remains a major challenge, as existing laws and policies are often inadequately implemented (Ekanem and Ogunlana, 2022, Singapore Building and Construction Authority (2022).

Corruption within the construction sector further exacerbates the problem, enabling unqualified contractors to undertake projects without adherence to professional standards (Okorie and Ogunlana, 2022). Additionally, economic pressures and the high cost of formal construction processes encourage individuals to adopt informal approaches as cost-saving measures.

A lack of awareness and limited access to professional services also contribute to the problem, particularly among low- and middle-income developers. These factors collectively create an environment in which informal construction practices thrive, with significant implications for documentation and quality assurance.

Impact of Informal Construction Practices on Architectural Documentation

Informal construction practices have profound effects on the accuracy and reliability of architectural documentation (Ekanem and Ogunlana, 2022). Unauthorized changes during construction often go undocumented, resulting in inconsistencies between planned and executed structures. Architectural documentation is a critical component of construction projects, providing a record of the design, specifications, and construction process (Ogunmakin and Aje, 2022, Abia State Government, 2025). Poor record-keeping further limits the availability of reliable project information, complicating maintenance, renovation, and regulatory inspection processes (Akinradewo et al., 2021, Adeyemi and Ojo, 2022 and Handy Services, 2026).

These documentation deficiencies contribute to broader issues such as structural failures, increased project costs, and delays.

They also hinder effective urban planning and infrastructure development, as accurate building data is essential for service delivery and policy implementation.

Empirical Studies

Empirical studies across Nigeria have consistently highlighted the prevalence and consequences of informal construction practices. For instance, Adeyemi and Ojo (2022) identified widespread informal practices in Lagos, linking them to building defects and maintenance challenges. Similarly, Okorie and Ogunlana (2022) found that weak regulatory enforcement and corruption were key drivers of informality in Abia State.
While these studies provide valuable insights into the causes and consequences of informal construction, they largely focus on general construction outcomes, with limited attention to the specific implications for architectural documentation.

Regulatory Framework in Nigeria

The Nigerian construction industry is regulated by professional bodies such as the Architects Registration Council of Nigeria and the Council for the Regulation of Engineering in Nigeria, which are responsible for enforcing standards and ensuring professional compliance (Federal Republic of Nigeria, 2020).
Despite the existence of these institutions, enforcement remains weak due to limited capacity, inadequate resources, and institutional inefficiencies (Ekanem and Ogunlana, 2022). However, many construction professionals in Nigeria lack the necessary skills and knowledge to adhere to professional standards and ethics (Ekanem and Ogunlana, 2022). A study by Okorie and Ogunlana (2022) found that many construction professionals in Abia State, Nigeria, lacked awareness of their professional responsibilities and obligations. As a result, many construction activities occur outside formal regulatory oversight, allowing informal practices to persist.

Research Gap

Although existing studies have examined informal construction practices in Nigeria, there is a notable lack of research focusing specifically on their impact on architectural documentation, particularly at the state level. In the case of Abia State, empirical evidence remains limited, despite the increasing prevalence of informal construction activities.
Furthermore, while previous research has explored the causes and general consequences of informality, there is insufficient attention to how these practices affect the accuracy, completeness, and reliability of architectural records. In addition, the potential role of emerging technologies, such as Building Information Modeling (BIM), in improving documentation and reducing informality has not been adequately explored.
This study addresses these gaps by providing an in-depth analysis of the influence of informal construction practices on architectural documentation in Abia State, Nigeria, with a view to informing policy and improving construction standards.

MATERIALS AND METHODS

This study adopted a mixed-methods research design, integrating quantitative and qualitative approaches to comprehensively examine the influence of informal construction practices on architectural documentation in Abia State, Nigeria. The mixed-methods approach enabled the triangulation of data and provided both breadth and depth in understanding the research problem (Creswell, 2021).

Research Design and Data Sources

A survey research design was employed for the quantitative component, targeting key stakeholders in the construction industry, including architects, contractors, and clients involved in building projects within Abia State. Primary data were collected through structured questionnaires and semi-structured interviews, while secondary data were obtained from relevant literature, government reports, and industry publications.

Sampling Technique and Sample Size

The study population comprised construction stakeholders actively engaged in projects within Abia State. A purposive sampling technique was used to select respondents based on their professional involvement and experience in construction activities.
A total of 150 respondents (Etikan, 2021) participated in the survey. This sample size was considered adequate for the study, given its mixed-methods orientation and the need to obtain diverse perspectives (Creswell, 2021). The sample included architects, contractors, and clients, ensuring representation across key categories of industry participants.

Data Collection Instruments

Questionnaire

Quantitative data were collected using a structured, self-administered questionnaire. The instrument consisted primarily of closed-ended questions measured on a 5-point Likert scale (ranging from strongly disagree to strongly agree), with a few open-ended questions included to capture additional insights. The questionnaire covered key variables such as: types of informal construction practices, level of compliance with documentation standards, factors influencing informality and impact on architectural documentation. The questionnaire was administered through a combination of online distribution and face-to-face engagement, enhancing response rates and inclusivity (Dillman, 2020).

Interviews

For the qualitative component, semi-structured interviews were conducted with a subset of participants selected from the survey respondents. These interviews provided in-depth insights into participants' experiences, perceptions, and challenges related to informal construction practices and documentation. All interviews were conducted face-to-face, audio-recorded with participants' consent, and subsequently transcribed verbatim to ensure accuracy.

Validity and Reliability

To ensure the robustness of the research instrument, a pilot study was conducted prior to the main data collection. The questionnaire was also subjected to expert review to assess content validity. Reliability was evaluated using Cronbach's alpha, which yielded a coefficient of 0.82, indicating a high level of internal consistency (Tavakol and Dennick, 2021).

Table 1: Demographic Profile of Respondents.

Characteristic	Frequency (ff)	Percentage (%)
Age		
18-24	30	20
25-44	90	60
45-64	24	16
65+	6	4
Gender		
Male	78	52
Female	72	48
Education		
Primary/Secondary	30	20
Tertiary	68	45
Postgraduate	37	25
Other	15	10
Occupation		
Public Sector	30	20
Private Sector	45	30
Trader	30	20
Student	30	20
Other	15	10

Table 2: Informal Construction Practices.

Statement	Mean	Std. Dev.
Unauthorized design changes are common	3.40	0.90
Inadequate site supervision is prevalent	3.20	0.85
Poor record-keeping is a major issue	3.10	0.80

Data Analysis Techniques

Quantitative data were analyzed using Statistical Package for the Social Sciences (SPSS) version 25. Both descriptive and inferential statistical techniques were employed. Descriptive statistics (such as frequencies, percentages, and mean scores) were used to summarize the data, while inferential statistics (including correlation and regression analysis) were applied to examine relationships between variables.
Qualitative data obtained from interviews were analyzed using thematic analysis, involving coding, categorization, and identification of recurring themes relevant to informal construction practices and architectural documentation.

Ethical Considerations

Ethical standards were strictly adhered to throughout the study. Participants were informed about the purpose of the research, and their informed consent was obtained prior to data collection. Confidentiality and anonymity were ensured, and participants were assured that their responses would be used solely for academic purposes.

RESULTS

Table 1 presents the demographic distribution of respondents. The majority (60%) were within the 25–44 age group, indicating that most participants are within the economically active population. Gender distribution was relatively balanced, with 52% male and 48% female respondents.
In terms of educational qualification, a substantial proportion possessed tertiary (45%) and postgraduate (25%) education, suggesting that respondents had a reasonable level of formal knowledge. Occupational distribution shows representation across private sector (30%), public sector (20%), traders (20%), students (20%), and others (10%).
Furthermore, there is an equal distribution among architects (33.3%), contractors (33.3%), and clients (33.3%), ensuring that the perspectives of key stakeholders in the construction industry were adequately captured.

Identification of Informal Construction Practices

The first objective sought to identify prevalent informal construction practices in Abia State. As shown in Table 2, respondents moderately agreed that informal practices are common within the construction sector. Unauthorized design changes recorded the highest mean score (M = 3.40, SD = 0.90), followed by inadequate site supervision (M = 3.20, SD = 0.85), and poor record-keeping (M = 3.10, SD = 0.80). These findings indicate that deviations from approved designs and weak supervision structures are key manifestations of informality. The relatively close mean values suggest that these practices often occur simultaneously rather than in isolation. Qualitative findings reinforce this result, with themes such as inadequate supervision (60) and lack of quality control (45) highlighting operational weaknesses at construction sites.

Assessment of Architectural Documentation

The second objective examined the state of architectural documentation. Results in Table 3 show that respondents generally rated documentation moderately high, with accuracy (M = 3.50, SD = 0.75), completeness (M = 3.40, SD = 0.80), and timeliness (M = 3.30, SD = 0.85). Although these values

Table 3: Architectural Documentation.

Statement	Mean	Std. Dev.
Documentation is accurate	3.50	0.75
Documentation is complete	3.40	0.80
Documentation is up-to-date	3.30	0.85

Table 4: Correlation Coefficient of Informal Construction Practices and Architectural Documentation.

Variable	Correlation coefficient (r)	p-value
Informal construction practices and architectural documentation	0.65	0.000

Table 5: Regression Analysis Output.

Variable	Coefficient (β)	Std. Error	t-value	p-value
Informal construction practices	0.401	0.051	7.86	0.000

Table 6: Analysis and Interpretation of Themes.

Themes	Sub-themes	Frequency
Poor site management	Inadequate supervision	60
Poor site management	Lack of quality control	45
Inadequate documentation	Incomplete records	75
Inadequate documentation	Inadequate drawings	50
Regulatory challenges	Weak enforcement	80
Regulatory challenges	Corruption	40

suggest a relatively positive perception, they do not indicate optimal performance, as scores remain only slightly above the midpoint. This implies that documentation practices are present but may not consistently meet professional or regulatory standards. Qualitative evidence supports this interpretation, as incomplete records (75) and inadequate drawings (50) emerged as dominant concerns. This indicates a gap between perceived adequacy and actual practice.

Influence of Informal Construction Practices on Architectural Documentation

To examine the relationship between informal construction practices and architectural documentation, both correlation and regression analyses were conducted.

Correlation Analysis

As presented in Table 4, a statistically significant relationship exists between informal construction practices and architectural documentation ($r = 0.65$, $p < 0.05$). This indicates a moderately strong association between the two variables.
Given that higher scores on informal practices represent increased levels of irregularities, this positive relationship suggests that changes in informal practices are strongly linked to variations in documentation outcomes.

Regression Analysis

The regression results in Table 5 show that informal construction practices significantly predict architectural documentation ($\beta = 0.401$, $t = 7.86$, $p < 0.05$). This indicates that informal practices account for a significant proportion of variation in documentation quality.
In practical terms, the findings suggest that as informal construction practices increase, they exert a measurable influence on architectural documentation. This aligns with qualitative findings, where weak enforcement (80) and corruption (40) were identified as systemic drivers affecting both construction practices and documentation processes.

Factors Contributing to Informal Construction Practices

The fourth objective focused on identifying factors responsible for informal construction practices. The thematic analysis (Table 6) revealed three major categories: Regulatory challenges (weak enforcement = 80; corruption = 40); Documentation deficiencies (incomplete records = 75; inadequate drawings = 50); Site management issues (inadequate supervision = 60; lack of quality control = 45).
These findings indicate that institutional weaknesses and operational inefficiencies are primary drivers of informality. Weak regulatory enforcement emerged as the most prominent factor, suggesting that the persistence of informal practices is strongly linked to governance and compliance issues.

Synthesis of Findings

The combined quantitative and qualitative results demonstrate that informal construction practices are moderately prevalent in Abia State and are significantly associated with architectural documentation outcomes. While documentation is perceived as relatively adequate, underlying deficiencies—particularly in record-keeping and updating—persist.
The results further show that regulatory and institutional challenges play a central role in shaping both construction

practices and documentation quality. This highlights the interconnected nature of enforcement, professional practice, and documentation systems within the construction industry.

DISCUSSION

The findings of this study confirm that informal construction practices remain a persistent feature of the construction industry in Abia State, Nigeria. The identification of unauthorized design changes, inadequate site supervision, and poor record-keeping as dominant practices aligns with previous studies, including Ogunsanya et al. (2022) and Olanrewaju et al. (2023), which emphasize the systemic nature of informality in developing construction environments.

A key finding of this study is the statistically significant relationship between informal construction practices and architectural documentation ($r = 0.65$, $p < 0.05$). While the relationship is positive in statistical terms, this reflects the measurement structure of the variables rather than an improvement effect. Specifically, higher scores on informal construction practices correspond to increased irregularities, which are associated with greater inconsistencies and deficiencies in architectural documentation. This interpretation is consistent with the findings of Ebekozien et al. (2022), who reported that informal practices undermine documentation reliability and regulatory compliance.

The regression results ($\beta = 0.401$, $p < 0.05$) further demonstrate that informal construction practices significantly predict variations in architectural documentation. This suggests that informality is not merely a parallel issue but a direct determinant of documentation quality. Similar conclusions have been drawn by Ibem et al. (2021), who linked inadequate documentation to project delays and cost overruns, and by Ayodele et al. (2022), who associated poor site practices with safety risks and reduced construction efficiency.

The qualitative findings provide deeper insight into the mechanisms underlying these relationships. Regulatory challenges, particularly weak enforcement, emerged as the most prominent issue, followed by inadequate documentation systems and poor site management practices. These findings corroborate Aigbavboa et al. (2021), who identified institutional weaknesses and governance deficits as central drivers of informality in the construction sector.

From a theoretical perspective, the results strongly support the assumptions of the Institutional Theory, which posits that weak formal institutions and entrenched informal norms shape organizational behavior. In this case, ineffective regulatory enforcement enables informal practices to persist, thereby compromising documentation standards. At the same time, the findings align with the Theory of Planned Behavior, as individual actors—such as contractors and clients—may engage in informal practices based on perceived benefits, social acceptance, and limited perceived consequences.

Overall, the study demonstrates that the interaction between institutional deficiencies and individual behavioral tendencies sustains informal construction practices and their negative implications for architectural documentation.

Conclusion

This study examined the influence of informal construction practices on architectural documentation in Abia State, Nigeria. The findings reveal that informal practices—particularly unauthorized design changes, inadequate site supervision, and poor record-keeping—are moderately prevalent and significantly influence documentation outcomes.

The study establishes that informal construction practices are a significant predictor of architectural documentation quality, with both quantitative and qualitative evidence indicating that increased informality is associated with deficiencies in documentation accuracy, completeness, and reliability. Regulatory weaknesses, poor site management, and documentation gaps were identified as key underlying drivers.

The implications of these findings are substantial. Poor architectural documentation not only affects project delivery and cost efficiency but also poses risks to building safety, regulatory compliance, and long-term infrastructure sustainability.

To address these challenges, a comprehensive approach is required. Strengthening regulatory enforcement mechanisms is critical to ensuring compliance with approved designs and documentation standards. In addition, the adoption of standardized documentation protocols and capacity-building initiatives for construction professionals can improve record-keeping and design adherence. Enhancing site supervision and quality control practices is also essential for minimizing deviations during project execution.

Furthermore, improving transparency and accountability within the regulatory system—particularly through anti-corruption measures-will help address systemic issues that enable informal practices. The integration of digital tools and technologies, such as Building Information Modeling (BIM), may also provide opportunities to improve documentation accuracy and reduce informality.

In conclusion, addressing informal construction practices is essential for improving architectural documentation and overall construction quality in Abia State. By strengthening institutional frameworks and influencing professional behavior, the construction industry can achieve safer, more efficient, and more sustainable built environments.

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