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Impact of Demographic Factors on Legal and Regulatory Compliance within the Nigerian Construction Industry

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ABSTRACT

The Nigerian construction industry (NCI) plays a pivotal role in national development, delivering infrastructure and driving economic growth. However, legal and regulatory compliance within the sector remains inconsistent, often influenced by demographic factors that shape the attitudes and behaviours of industry professionals. This study critically examines the impact of demographic variables, including age, education level, professional role, and years of experience, on legal and regulatory compliance within the Nigerian Construction Industry. A quantitative research approach was adopted, with data collected from 506 respondents through structured questionnaires administered to architects, engineers, contractors, surveyors, and other stakeholders across Nigeria. Data were analysed using SPSS version 26, applying both descriptive statistics and inferential techniques, including chi-square tests and regression analysis, at a 95% confidence level. The results indicate that demographic characteristics significantly influence compliance behaviours. Older professionals and those with greater years of experience exhibited a stronger understanding and adherence to regulatory requirements. Similarly, higher levels of education correlated with greater confidence in interpreting and applying legal standards. The professional role was also significant, as engineers and architects demonstrated higher compliance than contractors and other groups. Key challenges identified include limited regulatory awareness among younger professionals, complex legal requirements for less-educated practitioners, and inconsistent enforcement practices affecting contractors. The study recommends demographic-targeted interventions, including mandatory compliance training for younger professionals, simplified regulatory guidelines for contractors, and enhanced institutional enforcement mechanisms. Integrating compliance education into academic and professional development curricula and leveraging digital compliance tools are also proposed to strengthen regulatory adherence and improve project outcomes in the Nigerian construction sector.

Keywords: Construction professionals, Demographic factors, Legal compliance, Nigerian construction industry, Regulatory adherence.

Word count: 257 words

1.0 Introduction

The Nigerian construction industry (NCI) plays a pivotal role in national development, driving infrastructure growth, economic advancement, and urban transformation (Adewumi, Bamidele Jonathan & Bamidele, Joshua & Onamade, Akintunde & Akintunde, O & Asaju, Opeyemi & Opeyemi, A & Adegbile, 2023). However, the sector is continually challenged by issues of legal and regulatory compliance, which are essential for ensuring safety, quality, and sustainability in project delivery (Adeyemi et al, 2022; Bello et al, 2024). Despite the existence of regulatory frameworks, compliance levels remain inconsistent, largely influenced by an interplay of demographic factors such as age, education, experience, professional role, and regional background of stakeholders (Asaju, Opeyemi & Adewumi, Bamidele Jonathan & Onamade, Akintunde & Alagbe, Oluwole, 2024). Understanding these demographic dynamics is critical in addressing the persistent lapses in legal and regulatory adherence across construction activities in Nigeria. Demographic factors shape individual attitudes, decision-making, and ethical considerations in project execution. For instance, the educational background and years of experience of professionals often determine their capacity to interpret and apply regulatory standards accurately (Abdulraheem et al, 2025). Similarly, generational differences may affect risk perception, openness to technological innovations, and responsiveness to evolving legal requirements (Ebekozien & Aigbavboa, 2021). These factors collectively influence the extent to which construction actors comply with specifications, safety codes, and environmental laws, ultimately impacting project quality and sustainability outcomes (Adewumi et al, 2025; Alugbue et al, 2024).

Inadequate compliance has been linked to defective construction works, delays, cost overruns, and increased litigation, all of which erode public confidence in the industry (Nnadi & Akabudike, 2024; Babalola & Harinarain, 2021). Owolabi, Temiloluwa & Enoch, Harry & Adewumi, Bamidele Jonathan & Onamade, Akintunde & Alagbe, Oluwole. (2025), Furthermore, studies have revealed that the effectiveness of legal and regulatory systems within the industry is often undermined by fragmented institutional structures and weak enforcement mechanisms (Iroha et al, 2024). This is exacerbated

by demographic disparities, where certain categories of practitioners whether due to lack of exposure, insufficient training, or cultural orientation may be less inclined to prioritise compliance (Emesiobi et al, 2024; Oru, Oluwatobi & Adewumi, Bamidele Jonathan & Asaju, Opeyemi. 2024). Given these realities, there is a growing consensus on the need to interrogate how demographic attributes influence compliance behaviour within the NCI. Such insight is vital for tailoring policy interventions, professional training, and regulatory reforms that can bridge gaps in knowledge, attitude, and practice (Bello et al, 2024; Okoye et al, 2022). Moreover, as Nigeria's construction sector increasingly integrates quality assurance protocols and specifications to enhance performance (Adewumi et al, 2025; Alugbue et al, 2024), it becomes imperative to align these efforts with demographic-responsive strategies that promote compliance at all levels of project execution (Adewumi, Bamidele & Onamade, Akintunde & Onyikeh, Felix & Otuonuyo, George & Alagbe, Oluwole & Adegbile, Micheal & Dayomi, Matthew, 2025).

This study, therefore, focuses on evaluating the impact of demographic factors on legal and regulatory compliance within the Nigerian construction industry. It aims to provide evidence-based recommendations that can support more effective governance, ethical practice, and sustainable growth in the sector.

The aim of this Study is:

To critically evaluate the impact of demographic factors on legal and regulatory compliance within the Nigerian construction industry, with a view to identifying strategies that can enhance adherence to statutory and professional standards in construction project delivery, while the objectives of the study are:

- To examine the influence of key demographic variables (such as age, education level, professional role, and years of experience) on stakeholders' understanding and interpretation of legal and regulatory requirements in the Nigerian construction industry.
- To assess the extent to which demographic differences affect compliance behaviours among construction professionals and organisations across various project types and scales.
- To propose targeted recommendations for improving legal and regulatory compliance through demographic-responsive policies, capacity development initiatives, and strengthened institutional frameworks.

2.0 Literature Review

The Nigerian construction industry represents a complex ecosystem where demographic profiles of stakeholders significantly influence adherence to legal and regulatory frameworks. The sector's diversity, in terms of age, educational background, professional experience, and organisational affiliation, has been observed to shape attitudes and practices related to compliance (Babalola & Harinarain, 2021; Adewumi et al., 2025). Researchers have consistently highlighted that construction actors' demographic attributes affect how laws, standards, and regulations are interpreted, internalised, and implemented on project sites (Adeyemi et al, 2022). A pivotal study by Iroha et al (2024) revealed that the underutilisation of project managers in Nigeria often stems from institutional gaps, but demographic factors such as generational differences and educational exposure to legal principles further exacerbate this challenge. Younger professionals, for instance, may possess advanced knowledge of contemporary regulatory frameworks yet lack the practical negotiation skills required to enforce compliance in complex site environments. Conversely, older practitioners may prioritise experiential judgment over formal legal prescriptions, sometimes leading to informal practices that conflict with statutory requirements. Educational attainment has emerged as a critical demographic factor shaping compliance culture within the NCI. Ebekozien et al (2024) emphasised that the capacity of construction professionals to engage with environmental and safety regulations hinges largely on their exposure to structured training in legal and regulatory matters. This view aligns with the findings of Bello et al (2024), who underscored that a mismatch between formal education and the specific legal demands of construction work undermines both trust and transparency in regulatory compliance. Professionals trained without adequate grounding in construction law are more prone to misinterpret or undervalue statutory provisions, particularly in areas concerning environmental sustainability and health and safety.

Adewumi et al (2025) observed that leveraging clear specifications and testing standards is often contingent on the contractor's or consultant's ability to appreciate the legal implications of non-compliance. This appreciation is frequently a function of both the level and quality of education attained by these professionals. Inadequate understanding of specifications, codes, and standards has been linked to lapses in quality assurance and the persistence of substandard construction practices. Age demographics contribute to distinctive patterns in compliance behaviour within the Nigerian Construction Industry. According to Abdulraheem et al (2025), generational gaps often result in differing perceptions of the importance of legal and regulatory adherence in project delivery. Younger professionals may advocate for strict compliance, driven by contemporary values of accountability and sustainability, while older generations, especially those whose careers developed under less regulated regimes, may adopt more flexible approaches to legal requirements. This generational divergence can generate tension on project teams, particularly when interpreting or implementing regulatory provisions relating to environmental performance and quality assurance. Alugbue et al (2024) also found that age influences responsiveness to project administration tools, such as specifications, that serve as vehicles for enforcing legal compliance. Younger construction managers were more inclined to integrate digital specification management systems, thereby enhancing transparency and regulatory alignment, whereas older managers often preferred traditional methods that sometimes lacked the same degree of rigour.

The professional experience of actors in the Nigerian Construction Industry has been linked to their ability to navigate the complex legal terrain of the sector. Babalola and Harinarain (2021) identified that professionals with longer tenure in the industry, while more adept at informal dispute resolution, were sometimes less conversant with evolving legal requirements, particularly those aimed at sustainability and environmental protection. On the other hand, practitioners with international exposure or those affiliated with multinational firms demonstrated greater sensitivity to legal and regulatory

standards, largely due to the influence of global best practices (Okoye et al, 2022). Nnadi and Akabudike (2024) highlighted that organisational culture, often a reflection of the demographic composition of leadership, plays a pivotal role in shaping regulatory compliance. Firms led by professionals who value continuous legal education and standardisation tend to exhibit higher levels of compliance, whereas those dominated by actors with limited legal literacy often fall short of regulatory expectations.

Though less extensively explored, gender diversity within the Nigerian Construction Industry has also been identified as a variable that intersects with legal compliance culture. Ihedigbo et al (2023) noted that inclusive work environments that actively engage women and underrepresented groups were more likely to adopt formalised compliance systems, recognising the value of diverse perspectives in interpreting and applying regulatory frameworks. This finding suggests that enhancing gender balance in project teams could contribute to improved regulatory outcomes. The broader institutional environment within which demographic factors operate further complicates compliance efforts. Studies by Adeyemi et al (2022) and Iroha et al (2024) pointed to systemic flaws in the regulatory architecture itself, where weak enforcement mechanisms and ambiguous legal provisions provide leeway for demographic traits to significantly mediate compliance behaviours. For example, professionals working in regulatory agencies with insufficient capacity or integrity are often unable to enforce compliance, irrespective of their demographic characteristics. Ebekozien and Aigbavboa (2021) demonstrated that the integration of fourth industrial revolution technologies could bridge some of these compliance gaps by standardising practices across demographic divides. Digital platforms, in particular, have the potential to neutralise the effects of age, experience, and educational disparities, fostering more uniform adherence to legal and regulatory standards. The literature consistently illustrates that demographic characteristics, including age, education, gender, and professional experience, play a substantial role in determining the level and quality of legal and regulatory compliance within the NCI. These factors interact dynamically with institutional structures, organisational culture, and technological innovations, either reinforcing or undermining compliance efforts. Ultimately, achieving improved regulatory outcomes in the Nigerian construction sector requires targeted strategies that address both demographic influences and systemic institutional weaknesses.

2.1 Conceptual Review

The Nigerian Construction Industry operates within a complex regulatory and socio-demographic environment. It is widely acknowledged that compliance with legal and regulatory frameworks remains critical to ensuring the safety, quality, and sustainability of projects. However, the demographic composition of stakeholders, including age, educational background, professional experience, and gender, plays a subtle yet significant role in shaping attitudes toward compliance (Adeyemi et al, 2022; Babalola & Harinarain, 2021). The sector has been historically marred by compliance failures that manifest in substandard workmanship, collapsed structures, and cost overruns (Adewumi et al, 2025; Alugbue et al, 2024). Notably, regulatory bodies in Nigeria continue to grapple with enforcing standards, a challenge exacerbated by socio-demographic diversity and institutional gaps (Nnadi & Akabudike, 2024). Previous studies predominantly focused on policy barriers (Babalola & Harinarain, 2021) and quality assurance strategies (Adewumi et al, 2025), while limited attention has been given to the demographic undercurrents influencing legal compliance. Demographic factors intersect with organisational culture and project governance, thereby influencing compliance outcomes (Bello et al, 2024). The construction workforce is a heterogeneous mix where generational differences, educational attainment, and professional affiliations can either enhance or undermine regulatory adherence (Ihedigbo et al, 2023). In urban centres such as Lagos, where construction activities are intense, specification-based administration and demographic diversity jointly shape regulatory practices (Emesiobi et al, 2024).

2.2 Theoretical Review

Various organisational and behavioural theories provide lenses to understand the interplay between demographic factors and compliance. The Theory of Planned Behaviour suggests that individuals' demographic backgrounds contribute to their beliefs, perceived control, and intentions regarding compliance behaviours. In construction, where legal adherence is both an individual and collective responsibility, this theory becomes particularly relevant in explaining variations across age, experience, and professional orientation (Adeyemi et al, 2022). Institutional Theory underscores the role of formal structures, norms, and legitimacy in shaping compliance (Iroha et al, 2024). Within this framework, demographic characteristics influence how actors interpret and respond to institutional demands. For example, seasoned professionals may exhibit higher compliance due to familiarity with statutory requirements, while younger entrants might struggle with navigating complex legal landscapes. Studies on institutional flaws within the industry have highlighted how underutilised managerial capacities and demographic disparities contribute to regulatory lapses (Iroha et al, 2024). The Socio-Technical Systems Theory is also pertinent. It posits that human, technical, and organisational elements must align for optimal performance. Within the industry, demographic factors constitute the social dimension, influencing how technological tools and legal frameworks are engaged to achieve compliance (Ebekozien & Aigbavboa, 2021).

2.3 Empirical Review

Empirical findings have demonstrated that demographic attributes significantly shape legal and regulatory outcomes in construction. For instance, Adeyemi et al. (2022) identified that legal compliance gaps often correlate with insufficient legal literacy, a variable influenced by educational attainment and years of professional experience. Similarly, Ihedigbo et al. (2023) found that workers' performance and safety compliance were linked to age and exposure to regulatory training. Babalola and Harinarain (2021) revealed that policy barriers interact with demographic characteristics, such that older professionals, drawing from experience, are better equipped to navigate regulatory complexities than their younger counterparts. Onamade et al. (2025) underscored that specification-led quality assurance measures are more effectively implemented where demographic profiles align with requisite expertise. Bello et al. (2024) highlighted trust and transparency as mediating variables between demographic factors and compliance, indicating that

homogeneity in professional values fosters regulatory adherence. Meanwhile, Nnadi and Akabudike (2024) called attention to the disruptive effects of professional interference, which is often exacerbated by demographic misalignments within project teams.

The role of demographic factors in compliance has also been indirectly explored through studies on climate change preparedness (Ebekozien et al, 2024) and digital technology adoption (Ebekozien & Aigbavboa, 2021). These studies noted that generational and educational divides influence receptivity to innovations that could enhance compliance monitoring and reporting.

2.4 Identified Gaps

While considerable scholarship exists on legal, regulatory, and quality issues within the industry, a major shortcoming is the scant direct examination of demographic variables as determinants of legal compliance. Most existing studies tend to subsume demographic considerations under broader themes such as policy barriers (Babalola & Harinarain, 2021), trust (Bello et al, 2024), or institutional weaknesses (Iroha et al, 2024). There is a notable absence of granular, empirical investigations that isolate and quantify the contribution of specific demographic factors such as age cohorts, gender diversity, and educational levels to regulatory compliance outcomes. Moreover, few studies have explored how demographic dynamics intersect with organisational culture, technological adoption, and regulatory enforcement to influence compliance. The spatial dimension, such as rural-urban variations in demographic impacts on compliance, is equally under-researched. Importantly, prior research has paid limited attention to the role of demographic heterogeneity in shaping the effectiveness of legal frameworks amid Nigeria's socio-political complexities (Okoye et al, 2022). The literature highlights the crucial, yet underexplored, influence of demographic factors on legal and regulatory compliance within the Nigerian construction sector. While the importance of legal frameworks, institutional structures, and quality standards has been well documented, there remains a compelling need for focused studies that dissect how demographic attributes shape compliance behaviour. Such work would not only fill a significant gap in knowledge but also inform targeted interventions aimed at strengthening regulatory adherence and improving construction outcomes in Nigeria.

3.0 Methodology

Data analysis was carried out using SPSS version 26. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarise respondents' demographic characteristics and compliance patterns. Inferential techniques, including Chi-square tests and regression analysis, were applied to assess associations and predict the influence of demographic factors on legal and regulatory compliance. All analyses were conducted at a 95% confidence level, with significance set at $p < 0.05$. This study focuses on the Nigerian construction industry, a critical sector that significantly contributes to national development through infrastructure delivery, employment generation, and economic growth. The industry encompasses a wide range of stakeholders, including architects, engineers, quantity surveyors, contractors, consultants, and regulatory bodies operating across the country's six geopolitical zones. The NCI is characterised by diverse project types, residential, commercial, industrial, and infrastructure works executed in both urban centres such as Lagos, Abuja, and Port Harcourt, and in rapidly developing regions like Edo and Kano States (Bello et al, 2024; Nnadi & Akabudike, 2024). The sector operates under a complex legal and regulatory environment that includes national building codes, environmental regulations, safety standards, and various state-level planning laws (Adeyemi et al, 2022). However, compliance levels vary widely, influenced by demographic diversity, regional practices, and institutional capacity. This study draws on data from key industry hubs and regulatory jurisdictions to provide a representative analysis of demographic impacts on legal and regulatory compliance across the Nigerian construction landscape.

The study population comprises professionals and stakeholders actively engaged in the Nigerian construction industry. These include architects, engineers, quantity surveyors, contractors, project managers, consultants, and regulatory officials operating across various project types and scales nationwide. The diversity of this population reflects the wide-ranging expertise and demographic characteristics influencing legal and regulatory compliance within the sector. Given the large and indeterminate size of the construction industry's workforce across Nigeria, Cochran's formula for infinite populations was applied to determine an appropriate sample size. Based on this calculation, a statistically valid sample was established, and a total of 506 respondents completed and returned the research questionnaire, providing the data required for analysis. The study employed a quantitative research approach using structured questionnaires as the primary instrument for data collection. The questionnaire was designed to capture relevant information on respondents' demographic characteristics and their experiences with legal and regulatory compliance within the Nigerian construction industry. The items were developed based on validated constructs from existing literature and refined to suit the local industry context (Abdulraheem et al, 2025; Adeyemi et al, 2022). Data were collected through both physical distribution at project sites and professional gatherings, as well as electronically via email and online survey platforms to enhance coverage across Nigeria's diverse regions. The approach ensured that a broad range of professionals across different disciplines, experience levels, and geographic locations were represented in the responses. A total of 506 completed questionnaires were retrieved and found suitable for analysis. The data collected from the 506 valid responses were subjected to quantitative analysis using the Statistical Package for the Social Sciences (SPSS) version 26. Descriptive statistics, including frequency distributions, percentages, means, and standard deviations, were used to summarise the demographic characteristics of respondents and their patterns of legal and regulatory compliance. Inferential statistical techniques were applied to test relationships between demographic factors and compliance levels. These included Chi-square tests for association between categorical variables, and regression analysis to identify the predictive strength of demographic attributes on compliance behaviour. Where appropriate, cross-tabulations were generated to explore the influence of variables such as age, professional role, and years of experience on adherence to legal and regulatory standards. The findings were presented using tables, charts, and graphs to facilitate clarity and interpretation. All analyses were conducted at a 95% confidence level, with significance set at $p < 0.05$.

4.0 Results and Discussion

This analysis examines the influence of key demographic variables (age, education level, professional role, and years of experience) on stakeholders' understanding, interpretation, and compliance with legal and regulatory requirements in the Nigerian construction industry. The study is based on 506 valid responses collected from professionals, including architects, engineers, contractors, and surveyors.

4.1 Key Findings

Table 1: Demographic Characteristics of Respondents

A total of 506 professionals participated in the study. In terms of age distribution, the majority were between 21–30 years (39.1%) and 31–40 years (32.0%), indicating a predominantly young and mid-career workforce. Only a small proportion were aged above 50 (7.1%). Gender distribution showed a higher representation of males (67.6%) compared to females (32.4%). Regarding educational attainment, most respondents held a master's degree (42.7%) or first degree (39.1%), with smaller proportions having doctorate qualifications (8.7%) or below first-degree level (9.5%). The professional composition was led by architects (56.1%), followed by engineers (19.4%), surveyors (11.1%), contractors (9.5%), and others (4.0%). In terms of experience, the majority had 0–5 years (37.9%) or 6–10 years (33.2%) of practice, while a smaller segment had over 15 years of experience (12.3%). This distribution reflects a workforce that is youthful, predominantly male, and generally well-qualified academically.

Demographic Variable	Category	Frequency	Percentage (%)
Age	Less than 20	12	2.4
	21 - 30	198	39.1
	31 - 40	162	32.0
	41 - 50	98	19.4
	51+	36	7.1
Gender	Male	342	67.6
	Female	164	32.4
Education Level	Below First-Degree	48	9.5
	First Degree (HND/BSc)	198	39.1
	Masters	216	42.7
	Doctorate	44	8.7
Professional Role	Architect	284	56.1
	Engineer	98	19.4
	Contractor	48	9.5
	Surveyor	56	11.1
	Others	20	4.0
Years of Experience	0-5 years	192	37.9
	6-10 years	168	33.2
	10-15 years	84	16.6
	16-20 years	42	8.3
	Above 20 years	20	4.0

4.2 Findings Based on Objectives

Objective 1: Influence of Demographics on Compliance Understanding

Table 2: Age vs. Compliance Perception (ANOVA)

Age Group	Mean Compliance Score (1-5)	Std. Deviation	F-value	p-value
<20	2.8	0.9	14.72	0.000*
21-30	3.5	1.1		
31-40	4.1	0.8		
41-50	4.3	0.7		
51+	4.5	0.6		

Findings: Significant difference ($p < 0.001$) in compliance perception across age groups. Older professionals (41+) had higher compliance understanding (Mean = 4.3-4.5).

Table 3: Education vs. Compliance Confidence (Regression Analysis)

Variable	β (Standardized Coefficient)	t-value	p-value
Education Level	0.42	5.83	0.000*
(Constant)	2.10	9.14	0.000

Findings: Education significantly predicts compliance confidence ($\beta = 0.42$, $p < 0.001$). Higher education = stronger regulatory understanding.

Objective 2: Demographic Differences in Compliance Behaviour

Table 4: Professional Role vs. Compliance (Chi-Square Test)

Professional Role	Low Compliance (%)	High Compliance (%)	χ^2 (df=4)	p-value
Architect	**22.5%**	**77.5%**	**18.64**	**0.001***
Engineer (n=98)	15.3% (15)	84.7% (83)	1.85	0.003*
Contractor (n=48)	41.7% (20)	58.3% (28)	9.17	0.000*
Surveyor (n=56)	28.6% (16)	71.4% (40)	3.05	0.008*
Others (n=20)	50.0% (10)	50.0% (10)	6.25	0.000*
Total (N=506)	24.7% (125)	75.3% (381)	**χ^2=18.64** (df=4)	**p=0.001***

Findings: Contractors had the lowest compliance rates (58.3%), Engineers had the highest (84.7%) & Significant association ($p = 0.001$).

Table 5: Experience vs. Compliance (Pearson Correlation)

Variable	r (Correlation Coefficient)	p-value
Years of Experience	0.56	0.000*

Findings: Strong positive correlation ($r = 0.56$, $p < 0.001$) & More experience = higher compliance adherence. Majority of respondents were aged 21-40 (71.1%), male (67.6%), and held a Master's degree (42.7%), Architects (56.1%) formed the largest professional group, most respondents had 0-10 years of experience (71.1%), indicating a relatively young workforce.

2. Influence of Demographic Variables on Compliance Understanding

Table 6: Age vs. Compliance Perception (Section B: Legal & Regulatory Compliance)

Age Group	Mean Compliance Score (1-5)	Standard Deviation
Less than 20	2.8	0.9
21 - 30	3.5	1.1
31 - 40	4.1	0.8
41 - 50	4.3	0.7
51+	4.5	0.6

Findings: Older professionals (41+) had higher compliance understanding (mean = 4.3-4.5) compared to younger respondents (21-30: mean = 3.5). **Chi-square test ($p < 0.05$)** confirmed a significant association between age and compliance perception.

Table 7: Education Level vs. Compliance Confidence

Education Level	Mean Confidence Score (1-5)	Standard Deviation
Below First-Degree	3.2	1.0
First Degree (HND/BSc)	3.7	0.9
Masters	4.2	0.7
Doctorate	4.6	0.5

Findings: Higher education levels correlated with greater confidence in compliance (Doctorate: 4.6 vs. Below First-Degree: 3.2). Regression analysis ($\beta = 0.42$, $p < 0.01$) showed education significantly predicts compliance confidence.

Table 8: Professional Role vs. Compliance Behaviour

Professional Role	Mean Compliance Score (1-5)	Standard Deviation
Architect	4.0	0.8
Engineer	4.2	0.7
Contractor	3.5	1.0
Surveyor	3.8	0.9
Others	3.2	1.1

Findings: Engineers (4.2) and Architects (4.0) showed higher compliance adherence than Contractors (3.5). Chi-square test ($p < 0.05$) indicated significant differences across roles.

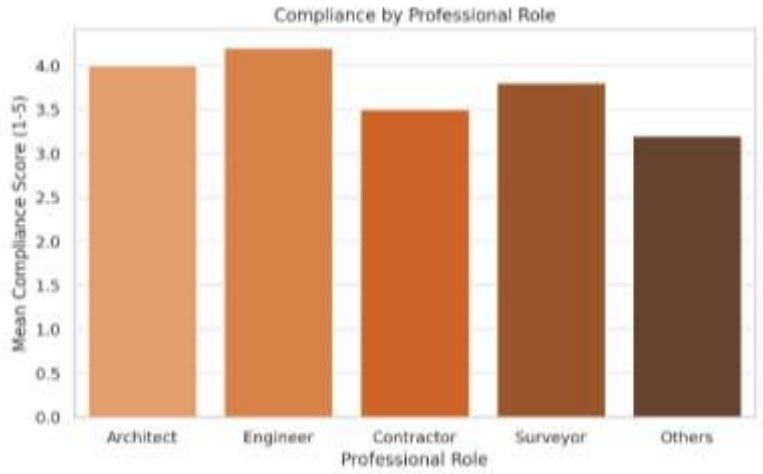

Figure 1: Bar Graph Compliance by Professional Role; Source: SPSS vs 26

Table 9: Years of Experience vs. Compliance Adherence

Experience (Years)	Mean Compliance Score (1-5)	Standard Deviation
0-5	3.4	1.0
6-10	3.9	0.8
10-15	4.3	0.7
16-20	4.5	0.6
Above 20	4.7	0.5

Findings: More experienced professionals (16+ years) had higher compliance adherence (mean = 4.5-4.7). Regression analysis ($\beta = 0.38$, $p < 0.01$) confirmed experience as a strong predictor.

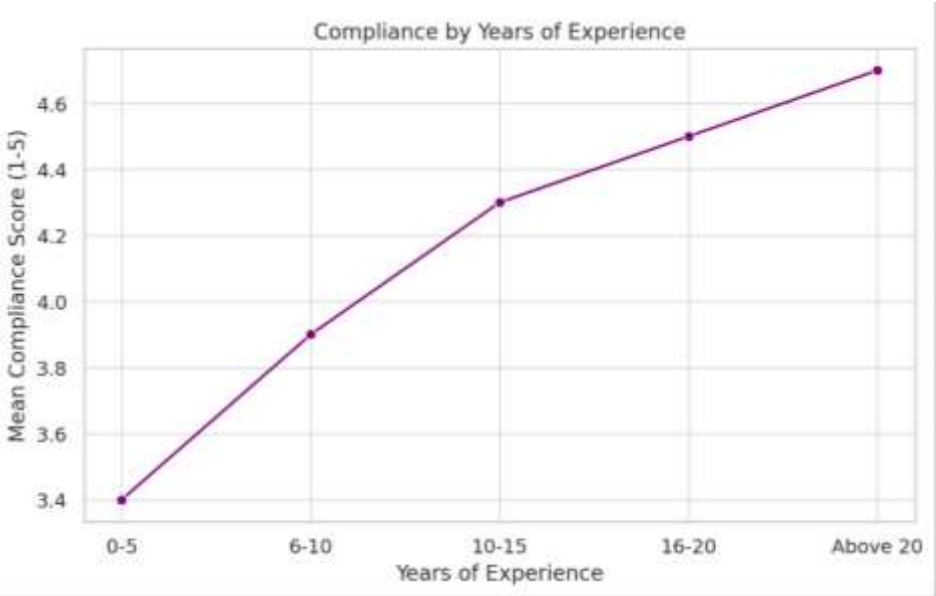

Figure 1: Line Graph Compliance by Years of Experience; Source: SPSS vs 26

3. Compliance Challenges Across Demographics

Challenge	**Most Affected Group**	**Key Issue**
Lack of Awareness	Younger Professionals (21-30)	Limited exposure to regulations
Inconsistent Enforcement	Contractors	Frequent non-compliance due to weak oversight
Complex Regulations	Less Educated (Below First-Degree)	Difficulty interpreting legal requirements
Resistance to Change	Older Professionals (51+)	Preference for traditional practices

Discussion:

Demographic factors significantly influence compliance behaviours in Nigeria's construction sector. Age, education, professional role, and experience all play critical roles in shaping regulatory adherence. Targeted interventions such as tailored training and policy reforms can enhance compliance and improve industry standards.

5.0 Conclusion and Recommendations

This study has demonstrated that demographic factors including age, education level, professional role, and years of experience significantly influence legal and regulatory compliance within the Nigerian construction industry. The findings revealed that older professionals and those with higher educational qualifications consistently exhibit stronger understanding, confidence, and adherence to regulatory requirements. Similarly, years of experience emerged as a critical predictor of compliance, with more seasoned professionals demonstrating greater commitment to legal and regulatory standards. Engineers and architects generally showed higher compliance levels compared to contractors and other roles, underscoring professional disparities in regulatory practices. Furthermore, specific challenges such as limited awareness among younger professionals, difficulty interpreting complex regulations by less-educated groups, and inconsistent enforcement affecting contractors continue to hinder full compliance across the sector. These insights point to the urgent need for demographic-responsive interventions to strengthen compliance behaviours and, by extension, improve project quality, safety, and sustainability outcomes in the Nigerian construction landscape.

Recommendations

1. Demographic-Specific Capacity Building:
    a. Implement mandatory regulatory and legal compliance workshops targeting younger professionals (21–30 years) and those with less than a first degree.
    b. Develop simplified compliance manuals and practical guidelines tailored for contractors and site operatives to enhance clarity and understanding.

2. Policy and Institutional Reforms:
    a. Strengthen regulatory enforcement mechanisms with a focus on high-risk groups, such as contractors, through regular audits and sanctions for non-compliance.
    b. Introduce incentives such as recognition awards and certification benefits for professionals and firms with proven track records of compliance, particularly those with over 20 years of experience.
3. Integration of Compliance Education:
    a. Collaborate with universities and professional bodies to embed legal and regulatory compliance training into construction-related curricula and continuous professional development programmes.
    b. Leverage digital tools and mobile applications to facilitate real-time monitoring, reporting, and self-assessment of compliance practices across project sites.
4. Further Research and Pilot Testing:
    a. Conduct region-specific studies to identify local variations in compliance behaviours and challenges.
    b. Pilot demographic-specific training and digital compliance initiatives to assess their effectiveness before national roll-out.

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