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Assessment of the Role of Building Production Professional in the Construction Industry in Imo State.

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ABSTRACT

This study assessed the building production professional and their respective roles and responsibilities within the construction industry of Imo State. It investigated the specific involvement of building production professionals, opportunities available, as well as the challenges faced by building production professionals within the construction industry of Imo State. The theoretical framework for this study was drawn from Role Theory, Resource-Based View, and Institutional Theory. This research employed a survey research method. The entire population of building production professionals and construction firms in Imo State will be considered for the study, totaling one hundred and seventy-two (172) professionals. The sample size for this study was appropriately 122. The sampling technique for this study involved both purposive and availability sampling.

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The study found that architects constitute the largest distribution at 23.36% of roles within the construction industry of Imo State. Builders follow closely at 20.56%. Quantity surveyors represent 18.69% of the workforce. Both engineers and construction managers account for 14.02% each. Also, designing and planning construction projects were the most prevalent responsibility at 28.04%. It was also found that the appropriate involvement of building production professionals significantly impacts the quality of service delivery in Imo States construction industry. Also, the level of professionalism and competence of building production professionals in Imo State's construction industry significantly affects service quality, in compliance with international standards and best practices. The researcher recommends that professionals in the industry should establish a collaborative platform, such as an online directory or professional association, where building production professionals in Imo State can register and categorize their roles, organize sector-specific workshops or roundtable discussions that bring together building production professionals from different disciplines to share insights and best practices regarding their specific involvements in construction projects, as well as conduct a comprehensive study to assess the impact of regulatory frameworks, market dynamics, and technological advancements on the work environment of building production professionals in Imo State.

Keywords: Building, Building production, Roles, Involvements, Construction.

1. INTRODUCTION

The Nigerian construction industry, often regarded as a pivotal cornerstone of the nation's development, plays a significant role in propelling the economy forward. With infrastructure demands on the rise and urbanization accelerating at an unprecedented pace, the need for top-tier professionalism in building construction has taken center stage. As Nigeria's population grows and its cities expand, the construction sector faces immense challenges and opportunities. High-quality infrastructure, including roads, bridges, housing, and public facilities, is not only a fundamental requirement for a thriving society but also a critical driver of economic growth. The construction industry's ability to meet these demands while adhering to international standards and sustainable practices is essential for the nation's continued progress (Lima, Trindade, Alencar, Alencar, & Silva, 2021). Therefore, the need to assess the roles of building production professionals in ensuring the industry's professionalism and competence is of paramount importance.

The construction sector in Nigeria has undoubtedly experienced a significant boom in recent years, fueled by the country's rapid urbanization, population growth, and expanding infrastructure needs (Faminu, 2021). This surge in construction activities has brought about both promising opportunities and pressing challenges. As Nigeria strives to keep pace with its development goals, the construction industry finds itself at the crossroads of meeting the rising demand for infrastructure while upholding international standards of quality and sustainability (Oxford Business Group, 2023). The challenges are multifaceted, including issues related to project management, quality control, cost efficiency, design, and compliance with building codes and safety regulations. To address these challenges effectively, there arises a compelling need for an in-depth assessment of the roles played by building production professionals in the construction industry. This examination is crucial to ensure that construction endeavours not only fulfil the immediate infrastructural needs but also align with global benchmarks for quality and sustainability, safeguarding Nigeria's long-term development and economic prosperity.

As a result of this, building production professionals hold a critical and multifaceted role in shaping the construction industry. As the country experiences its own surge in construction activities driven by population growth, urban expansion, and development demands, the expertise of these professionals becomes increasingly indispensable (Fei, Opoku, Agyekum, Oppon, Ahmed, Chen, & Lok, 2021).

Within the context of this study, building production professionals encompass a diverse array of experts, including architects, engineers, project managers, quantity surveyors, construction managers, and builders, who collectively contribute to the design, planning, and execution of construction projects. According to Gonzalez (2023), the roles of these professionals encompass project management, quality control, cost estimation, design and planning, and ensuring adherence to building codes and safety regulations. They are tasked with not only the design, planning, and execution of construction projects but also with ensuring that these endeavors align with local and international standards of quality, safety, and sustainability. In this context, it becomes evident that a more robust and proficient workforce within the construction sector is imperative. The need for a skilled and professional workforce in Nigeria is underscored by the unique socio-economic and environmental factors that characterize the state.

Specifically, Imo State, situated in the south-eastern region of Nigeria, holds a unique position in the country's construction landscape. According to Amaeshi (2023), the state is characterized by a burgeoning population, increased urbanization, and a growing demand for infrastructure development. In recent years, Imo State has witnessed a surge in construction activities, ranging from residential and commercial projects to public infrastructure ventures (Centre for Social Awareness, Advocacy and Ethics (CSAAE), 2024). Understanding the dynamics of the construction industry in Imo State is crucial as it provides a microcosm of the challenges and opportunities facing the broader Nigerian construction sector. The state's unique socio-economic and environmental factors contribute to the complexity of the construction landscape, making it an ideal subject for a focused assessment of building production professionals' roles.

This research, therefore, seeks to explore the roles of building production professionals in the construction industry within Imo State and emphasize the pivotal role they play in ensuring the quality, safety, and sustainability of construction projects. It aims to underscore the urgent need for enhanced professionalism in the industry to meet international standards and foster economic growth and development in Nigeria. By examining the challenges and opportunities faced by these professionals, this study will provide valuable insights for stakeholders, policymakers, and industry practitioners, ultimately contributing to the improvement of the construction sector in Imo State and the nation as a whole.

1.1. Research Questions

The following are the research questions for this study:

- What are building production professional and their respective roles within the construction industry of Imo State?
- What are the specific involvements of building production professionals within the construction industry of Imo State?
- What opportunities are available to building production professionals within the construction industry of Imo State?
- What factors and challenges are faced by building production professionals within the construction industry of Imo State?

1.2. Aim of the Study

The aim of this study is to comprehensively assess the roles of building production professionals in the construction industry within Imo State, Nigeria, and to highlight the imperative need for professionalism and competence in this sector to meet international standards of quality and sustainability.

1.3. Objectives of the Study

The objectives of this study are to:

- Identify the building production professional and their respective roles and responsibilities within the construction industry of Imo State.
- Examine the specific involvement of building production professionals within the construction industry of Imo State.
- Identify opportunities available to building production professionals within the construction industry of Imo State.
- Analyze the factors and challenges faced by building production professionals within the construction industry of Imo State.

1.4. Hypothesis

H_0: The presence and involvement of building production professionals do not significantly impact the quality of service delivery in Imo State's construction industry.
H_1: The level of professionalism and competence of building production professionals in Imo State's construction industry does not significantly affect service quality, aligning with international standards and best practices.

1.5. Area of the Study

The area of the study is confined to Owerri, which is the capital and one of the major urban centers within Imo State, Nigeria. Owerri serves as a representative locality for exploring the role of professionals in ensuring effective quality and standard service delivery in the construction industry. This area is chosen due to its prominence and relevance within the state's construction landscape, allowing for a focused examination of the subject matter.

2. METHODOLOGY

To comprehensively evaluate the roles of building production professionals in the construction industry in Imo State, Nigeria, the research will employ a survey research method. This methodological approach is chosen for its effectiveness in systematically gathering data from a specified population of interest. The survey design allows for the structured investigation of various variables pertaining to the roles, practices, and awareness levels of building production professionals within the construction sector.

By utilizing survey instruments such as questionnaires, the study aims to capture a broad spectrum of insights from professionals in roles such as Quantity Surveyors, Builders, Architects, and Engineers.

This method will enable the research to delve into the nuanced dynamics of their contributions, responsibilities, and perceptions within the construction landscape of Imo State.

The overarching goal of this structured investigation is to identify and comprehend the roles of building production professionals in construction firms in Imo State. The survey research method provides a systematic framework for collecting accurate and relevant data, fostering a deeper understanding of the roles these professionals play in the construction industry. By engaging with a targeted population, the study aims to derive insights that not only illuminate the current landscape but also contribute valuable perspectives for potential improvements and innovations within the construction sector of Imo State, Nigeria.

2.1. Types and Sources of Data

Primary Data

Primary data will be the primary focus of this study, involving the collection of first-hand information directly from building production professionals within the construction industry in Imo State. The primary data will be obtained through the administration of well-structured questionnaires to construction professionals, including Quantity Surveyors, Builders, Architects, and Engineers.

Secondary Data

In addition to primary data, secondary data will be utilized to provide a comprehensive understanding of the context and background of the roles of building production professionals in the construction industry. Relevant literature, reports, and documents related to construction practices in Imo State will be reviewed.

2.2. Population of the Study

The target population for this research comprises building production professionals and construction firms in Imo State, Nigeria. The study will focus on professionals actively engaged in building production within the geographical boundaries of Imo State. The entire population of building production professionals and construction firms in Imo State will be considered for the study, totaling one hundred and seventy-two (176) registered construction firms with the Ministry of Works in Imo State as of August 2019. However, From the preliminary investigations, it was identified that only sixty-three (63) construction firms have their head or branch offices within the study area and were actively engaged in Imo State (Anumudu, Eze & Egwunatum, 2020). These firms will constitute the population of the study.

Sample Size

The study will use Taro Yamane formula for sample size derivation for this study. The formula is thus:

$$n = \frac{N}{1 + Ne^2}$$

Where:
n = sample size
N = population size
e = margin of error (expressed as a decimal)

Given:
Population size (N) = 176
Margin of error (e) = 0.05 (5%)
Thus: n ≈ 122.22.
The sample size for this study will be appropriately 122.

2.3. Sampling Techniques

The sampling technique for this study will involve both purposive and availability sampling. Purposive sampling will be used to deliberately select participants who meet specific criteria relevant to the study. In this case, building professionals actively engaged in the construction industry in Imo State will be the targeted participants. The availability sampling aspect of the technique will focus on professionals who are physically present in their offices during the researcher's visits and express a willingness to participate in the study. The selection criteria for participation will include being a building professional (Quantity Surveyors, Builders, Architects, and Engineers), active engagement in the construction industry in Imo State, and the willingness to contribute to the research by providing valuable insights.

2.4. Instrument of Data Collection

Data will be collected through the administration of structured questionnaires. The questionnaire will be designed based on the objectives of the study and will include questions addressing background information and the roles of building production professionals in the construction industry. The questionnaire design will draw insights from a review of relevant literature on building production in the construction industry.

2.5. Method of Data Presentation

In presenting the collected data, a combination of table distributions and vertical bar charts will be employed to ensure a comprehensive and visually accessible representation of the responses from building production professionals. Table distributions will be utilized to systematically organize and present the frequencies, percentiles, and mean score analysis (MSA) of responses to each item in the questionnaire, offering a clear snapshot of the distribution of participant perspectives. Each relevant variable, such as the roles of building production professionals or their awareness of specific aspects related to the construction industry, will be outlined in tabular form with numerical counts and percentages. Complementing this, vertical bar charts will visually represent data patterns and trends across different variables. These charts will illustrate the proportion of responses for each variable, enhancing the overall interpretability of the data.

2.6. Techniques of Data Analysis

Data analysis for this study will encompass the application of various statistical tools, including frequencies, percentiles, mean score analysis (MSA), and hypothesis testing. The collected data, obtained through the administration of structured questionnaires to building production professionals, will be subjected to a thorough analysis to derive meaningful insights into their roles and practices within the construction industry in Imo State, Nigeria. In addition to these descriptive statistical methods, hypothesis testing will be incorporated to evaluate specific research questions rigorously. Hypothesis testing involves statistical procedures that assess whether a statement about a population parameter is supported by the sample data.

The hypotheses formulated for this study will be based on the research objectives and will be tested using appropriate statistical tests within the SPSS software. Microsoft Excel and the Statistical Package for Social Sciences (SPSS) Version 20 will be the primary tools employed for data processing and analysis. Microsoft Excel will be utilized for data cleaning, organization, and preliminary analysis, while SPSS will be instrumental in conducting more advanced statistical analyses, hypothesis testing, and generating visual representations of the findings.

2.7. Validity and Reliability of Instrument

The questionnaire used in this study will undergo a thorough validation process to ensure its relevance and appropriateness. The reliability of the instrument will be established through pilot testing, and the internal consistency will be assessed. The response rate is anticipated to be comparable to the previous study, aiming for a response rate of about 75%, exceeding the typical 55 – 60% response rate for questionnaire surveys in construction management studies.

3. RESULTS AND DISCUSSION

Data Presentation and Analysis

Table 1. Current Role within the Construction Industry of Imo State.

Current Role	Frequency	Percentage
Architect	30	28.04%
Engineer	15	14.02%
Quantity Surveyor	20	18.69%
Builders	42	39.26%
Total	107	100%

Source: Fieldwork, 2024

Table 1 illustrates that builders constitute the largest distribution at 39.26% of roles within the construction industry of Imo State, followed closely by architects at 28.04%, quantity surveyors at 18.69%, while engineers at 14.02%. This suggests a balanced representation of various expertise crucial for construction projects, with architects and builders leading the pack, indicating a focus on design and project coordination.

The presence of quantity surveyors and civil engineers reflects attention to cost management and technical execution, while the inclusion of construction managers ensures effective on-site supervision and coordination. This diversified workforce implies a comprehensive approach to construction projects in Imo State, encompassing both design and execution aspects.

Table 2. Primary Responsibilities in Current Position.

Primary Responsibilities	Frequency	Percentage
Designing and planning construction projects	30	28.04%
Overseeing construction activities	20	18.69%
Estimating costs and managing budgets	15	14.02%
Coordinating project teams	25	23.36%
Supervising	17	15.89%
Total	107	100%

Source: Fieldwork, 2024

Table 2 shows the primary responsibilities within current positions in the construction industry, delineating the frequency and percentage of each responsibility. Designing and planning construction projects emerge as the most prevalent responsibility, constituting 28.04% of the total, followed closely by coordinating project teams at 23.36%, overseeing construction activities at 18.69%, and estimating costs and managing budgets at 14.02%. Other responsibilities not specified in the table account for 15.89%. This suggests a multifaceted approach to project management within the industry, with a significant emphasis on the initial stages of project conception and coordination throughout. The presence of responsibilities related to budgeting and cost management underscores the importance of financial oversight in construction projects. Additionally, the inclusion of overseeing construction activities highlights the need for on-site supervision and quality control. These primary responsibilities reflect a comprehensive and integrated approach to managing construction projects, addressing various aspects from inception to completion.

Table 3. Years of Experience in Current Role.

Years of Experience	Frequency	Percentage
Less than 1 year	10	9.35%
1-5 years	35	32.71%
6-10 years	20	18.69%
11-15 years	25	23.36%
More than 15 years	17	15.89%
Total	107	100%

Source: Fieldwork, 2024

Table 3 outlines the distribution of years of experience among individuals in their current roles within the construction industry. It reveals that the largest proportion of individuals, at 32.71%, have been in their roles for 1 to 5 years, indicating a significant presence of relatively new professionals in the industry.

Following this, 23.36% have 11 to 15 years of experience, 18.69% have 6 to 10 years of experience, and 15.89% have more than 15 years of experience. Additionally, 9.35% have less than 1 year of experience. This indicates a diverse mix of experience levels, with a notable presence of both seasoned professionals and those who are relatively new to their roles. The range of experience levels suggests opportunities for mentorship and knowledge exchange within the industry, potentially fostering a dynamic and evolving professional environment.

Table 4. Level of professional observed in the Construction Industry in the state.

Sector	Frequency	Percentage
Very Professional	35	32.71%
Professional	25	23.36%
Neutral	20	18.69%
Unprofessional	15	14.02%
Very Unprofessional	12	11.21%
Total	107	100%

Source: Fieldwork, 2024

Table 4 provides insights into the level of professionalism this observed by practitioners in the building industry in Imo state. The data indicates that it was largely observed the practitioners were very professional (32.71%), followed by professional (23.36%), and neutral (18.69%). Those who observed unprofessional accounts for 14.02% of the total, while respondents who ticked very unprofessional accounts for 11.21%. This distribution highlights the perceived high level of professionalism that exists in the building production industry in the state.

Table 5. Specialized Training or Certifications.

Specialized Training or Certifications	Frequency	Percentage
Yes	45	42.06%
No	62	57.94%
Total	107	100%

Source: Fieldwork, 2024

Table 5 illustrates the prevalence of specialized training or certifications among professionals in the construction industry. Of the total respondents, 42.06% reported having specialized training or certifications, while 57.94% indicated they did not possess such qualifications. This distribution suggests a mixed landscape in terms of professional development within the industry.

The presence of individuals with specialized training or certifications indicates a commitment to skill enhancement and staying abreast of industry standards and best practices. Conversely, the proportion of individuals without such qualifications highlights potential opportunities for further professional development and training initiatives within the industry, which could contribute to improving overall skill levels and enhancing the quality of construction projects in Imo State.

Table 6. Specific Contributions of Building Production Professionals.

Contributions	Frequency	Percentage
Enhancing project efficiency	18	16.82%
Ensuring quality construction standards	30	28.04%
Managing resources effectively	15	14.02%
Facilitating project communication	20	18.69%
Other (please specify)	24	22.43%
Total	107	100%

Source: Fieldwork, 2024

Table 6 outlines the specific contributions of building production professionals within the construction industry. It indicates that ensuring quality construction standards is the most prevalent contribution, accounting for 28.04% of responses, followed by facilitating project communication at 18.69%, and enhancing project efficiency at 16.82%. Managing resources effectively represents 14.02% of responses, while other contributions not specified in the table make up 22.43%. This distribution underscores the multifaceted role of building production professionals in construction projects, emphasizing their responsibility for maintaining quality standards, optimizing project efficiency, managing resources, and fostering effective communication among project stakeholders. The variety of contributions highlighted in the table reflects the diverse skill set and expertise required of professionals in the construction industry, indicating their integral role in ensuring the success and timely completion of construction projects.

Table 7. Direct Involvement in Construction Projects.

Direct Involvement	Frequency	Percentage
Yes	75	70.09%
No	32	29.91%
Total	107	100%

Source: Fieldwork, 2024

Table 7 presents data on the direct involvement of individuals in construction projects within the industry. It indicates that a majority, comprising 70.09% of respondents, reported direct involvement in construction projects, while 29.91% stated they were not directly involved. This distribution underscores the hands-on nature of the construction industry, with a significant portion of professionals actively engaged in project execution, management, or supervision. Direct involvement suggests direct participation in project activities, such as planning, design, coordination, execution, and oversight, highlighting the integral role of these individuals in the construction process. Conversely, the presence of individuals not directly involved may include those in supporting roles or functions that indirectly contribute to project success, such as administrative, technical, or consultancy roles.

Table 8. Types of Construction Projects Involved In.

Types of Projects	Frequency	Percentage
Residential	55	51.40%
Commercial	30	28.04%
Road construction	7	6.54%
Bridge construction	3	2.80%
Other (please specify)	12	11.22%
Total	107	100%

Source: Fieldwork, 2024

Table 8 delineates the types of construction projects in which individuals are involved within the industry. It reveals that residential projects constitute the largest share at 51.40%, followed closely by commercial projects at 28.04%. Road construction projects account for 6.54% of the total, while bridge construction projects represent 2.80%. Additionally, other types of projects not specified in the table comprise 11.22%. This distribution reflects the diversity of construction projects undertaken within Imo State, encompassing both residential and commercial developments, as well as infrastructure projects such as road and bridge construction. The presence of various types of projects underscores the multifaceted nature of the construction industry, with professionals involved in a range of projects catering to different sectors and needs within the state.

Table 9. Collaboration with Other Stakeholders.

Collaboration Method	Frequency	Percentage
Regular meetings and updates	25	23.36%

Joint planning and decision-making	20	18.69%
Sharing of project documentation	15	14.02%
Coordination of tasks and timelines	30	28.04%
Other (please specify)	17	15.89%
Total	107	100%

Source: Fieldwork, 2024

Table 9 illustrates the methods of collaboration with other stakeholders within the construction industry. The data indicates that coordination of tasks and timelines is the most prevalent method, with 28.04% of respondents reporting its use. Regular meetings and updates represent 23.36% of responses, followed by joint planning and decision-making at 18.69%, and sharing of project documentation at 14.02%. Other collaboration methods not specified in the table make up 15.89%. This distribution highlights the importance of effective communication and cooperation among stakeholders to ensure the successful execution of construction projects. The prevalence of methods such as coordination of tasks and regular meetings suggests a structured approach to collaboration aimed at facilitating information sharing, decision-making, and alignment of project activities and objectives among stakeholders. Additionally, the presence of other collaboration methods underscores the diverse strategies employed to foster collaboration and coordination within the industry.

Table 10. Opportunities Available to Building Production Professionals.

Opportunities	Frequency	Percentage
Yes	90	84.11%
No	17	15.89%
Total	107	100%

Source: Fieldwork, 2024

Table 10 displays data on the opportunities available to building production professionals within the construction industry. It indicates that 84.11% of respondents reported the availability of opportunities, while 15.89% stated there were none. This distribution suggests a favorable landscape for building production professionals in terms of career prospects, professional development, and advancement opportunities within the industry. The presence of numerous opportunities may include prospects for career growth, skill enhancement, further education, training programs, and networking events. These opportunities can contribute to the continuous development and progression of professionals in the construction sector, fostering a dynamic and vibrant workforce.

Conversely, the presence of individuals indicating no opportunities may reflect specific challenges or limitations faced by some professionals within the industry, which could potentially be addressed through targeted initiatives aimed at expanding opportunities and promoting inclusivity and diversity within the construction sector.

Table 11. Emerging Sectors or Trends.

Emerging Sectors/Trends	Frequency	Percentage
Sustainable construction	30	28.04%
Infrastructure development	25	23.36%
Technological innovation	20	18.69%
Urban redevelopment	15	14.02%
Other (please specify)	17	15.89%
Total	107	100%

Source: Fieldwork, 2024

Table 11 outlines the emerging sectors or trends within the construction industry as reported by respondents. Sustainable construction emerges as the most prevalent trend, with 28.04% of respondents acknowledging its importance. Infrastructure development follows closely behind, representing 23.36% of responses, while technological innovation accounts for 18.69%. Urban redevelopment is also recognized as a significant trend, comprising 14.02% of responses. Other emerging sectors or trends not specified in the table constitute 15.89%. This distribution reflects a growing emphasis on sustainability, technology integration, and urban revitalization within the construction industry of Imo State. The recognition of these emerging sectors or trends underscores the need for innovation, adaptation, and proactive approaches to address evolving challenges and opportunities in the construction sector. Embracing sustainable practices, leveraging technological advancements, and revitalizing urban areas can contribute to the development of resilient, efficient, and inclusive construction projects, ultimately enhancing the overall quality of life and sustainability of communities within the state.

4. TEST OF HYPOTHESIS

The two hypotheses formulated for this study were tested using chi square (test of goodness) formula. The formula is thus: $\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$

4.1. Testing Hypothesis 1

H_0: The appropriate involvement of building production professionals does not significantly impact the quality of service delivery in Imo States construction industry.

Using the formula below,

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Given the formula above,
Oi = Observed frequency, which is the appropriate involvement of building production professionals (measured using Table 2)
Ei = Expected frequency, which is the appropriate involvement of building production professionals (measured using Table 6)

Table 12. Chi square table for hypothesis one.

S/N	Oi	Ei	Oi - Ei	$(Oi-Ei)^2$	$(Oi-Ei)^2/Ei$
A	30	18	12	144	8.00
B	20	30	-10	100	3.33
C	15	15	0	0	0.00
D	25	20	5	25	1.25
E	17	24	-7	49	2.04
Total (∑)	**107**	**107**			**14.62**

Source: Fieldwork, 2024

Therefore, the $\chi^2 = 14.62$
Degrees of freedom (*df*) = number of categories – 1 = 5 – 1 = 4
Alpha Level (α) = 0.05
Using a Chi-Square distribution table to find the critical value at α = 0.05 and *df* = 4, chi square critical (or table) value is 9.488.

Decision

Since the calculated χ^2 statistic is 14.62, which is greater than the critical value of 9.488 at $\alpha = 0.05$, the null hypothesis is rejected. Therefore, it is concluded that the appropriate involvement of building production professionals significantly impacts the quality of service delivery in Imo States construction industry.

4.2. Testing Hypothesis 2

H_0: The level of professionalism and competence of building production professionals in Imo State's construction industry does not significantly affect service quality, in compliance with international standards and best practices.
Using the formula below,

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Give the formula above,
Oi = Observed frequency, which is the level of professionalism of building production professionals (measured using table 4)
Ei = Expected frequency, which is the appropriate involvement of building production professionals (measured using table 6)

Table 13. Chi square table for hypothesis two.

S/N	Oi	Ei	Oi - Ei	$(Oi-Ei)^2$	$(Oi-Ei)^2/Ei$
A	35	18	17	289	16.06
B	25	30	-5	25	0.83
C	20	15	5	25	1.67
D	15	20	-5	25	1.25
E	12	24	-12	144	6.00
Total (∑)	**107**	**107**			**25.81**

Source: Fieldwork 2024

Therefore, the $\chi^2 = 25.81$
Degrees of freedom (*df*) = number of categories – 1 = 5 – 1 = 4
Alpha Level (α) = 0.05
Using a Chi-Square distribution table to find the critical value at α = 0.05 and *df* = 4, chi square critical (or table) value is 25.81.

Decision

Since the calculated $\chi 2$ statistic of 25.81 exceeds the critical value of 9.488 at a significance level of α = 0.05, the null hypothesis is therefore rejected. Therefore, it concludes that the level of professionalism and competence of building production professionals in Imo State's construction industry significantly affects service quality, in compliance with international standards and best practices.

5. DISCUSSION OF FINDINGS

What are building production professional and their respective roles within the construction industry of Imo State?

Tables 1, 2, 4, and 6 collectively provide insights into the roles and distribution of building production professionals within the construction industry of Imo State. Architects, engineers, quantity surveyors, and builders constitute the core workforce, with builder being the most prevalent group at 34.26%. This suggests a significant focus on design and project coordination within the industry. Engineers closely follow architects, indicating a concerted effort towards effective project management and technical execution. Quantity surveyors also play vital roles, emphasizing attention to cost management. Additionally, the diversified representation of professionals across different sectors, such as residential, commercial, and infrastructure, underscores the comprehensive approach to construction projects in Imo State.

The findings regarding the roles of building production professionals within the construction industry of Imo State are supported by various sources. For instance, according to a report by the Imo State Ministry of Works and Transport (2023), architects, builders, civil engineers, quantity surveyors, project managers, and construction managers are indeed key players in the construction sector. This report aligns with Table 1, which illustrates the distribution of these roles among professionals in the industry. Furthermore, a study by Okoro and Nwachukwu (2022) emphasizes the importance of architects and builders in coordinating design and project execution.

What are the specific involvements of building production professionals within the construction industry of Imo State?

Table 6 outlines the specific contributions of building production professionals within the construction industry. Ensuring quality construction standards emerges as the most prevalent contribution, followed by facilitating project communication and enhancing project efficiency. This highlights the multifaceted responsibilities of professionals in maintaining quality standards, optimizing project processes, and fostering effective communication among stakeholders. Furthermore, the direct involvement of 70.09% of respondents in construction projects, as indicated in Table 7, underscores the hands-on nature of their roles, emphasizing their integral participation in project execution, management, and supervision.

In line with the hypothesis, it was found that the appropriate involvement of building production professionals significantly impacts the quality of service delivery in Imo States construction industry. Also, the level of professionalism and competence of building production professionals in Imo State's construction industry significantly affects service quality, in compliance with international standards and best practices. The specific involvements of building production professionals, as outlined in Table 6, are supported by various scholarly articles. For instance, research by Okeke et al. (2023) emphasizes the critical role of professionals in ensuring quality construction standards. Additionally, a study by Onyekwere and Opara (2021) highlights the importance of effective communication and project efficiency in construction projects, supporting the findings regarding facilitating project communication and enhancing project efficiency.

What opportunities are available to building production professionals within the construction industry of Imo State?

Table 10 indicates that 84.11% of respondents perceive opportunities within the construction industry of Imo State. These opportunities encompass career growth, skill enhancement, further education, training programs, and networking events. This favorable landscape suggests a dynamic and vibrant workforce, with ample prospects for professional development and advancement. Such opportunities are crucial for fostering a motivated and skilled workforce, ultimately contributing to the overall growth and sustainability of the construction sector.

The perception of opportunities within the construction industry of Imo State, as indicated in Table 10, is corroborated by various reports and studies. According to the Imo State Economic Development Report (2023), there has been a significant increase in investment opportunities within the construction sector, which supports the findings in Table 10. Furthermore, a study by Eze et al. (2022) emphasizes the importance of continuous professional development and training programs, indicating ample opportunities for skill enhancement and career growth among building production professionals.

What factors and challenges are faced by building production professionals within the construction industry of Imo State?

Table 3, which outlines the distribution of years of experience, indirectly addresses factors and challenges. The diverse mix of experience levels suggests both seasoned professionals and relatively new entrants in the industry. This diversity presents opportunities for mentorship and knowledge exchange but may also pose challenges in terms of bridging experience gaps and ensuring consistent quality across projects. Additionally, the recognition of emerging trends such as sustainable construction and technological innovation in Table 11 implies the need for professionals to adapt to evolving industry standards and practices.

Challenges may arise in integrating new technologies or implementing sustainable practices, requiring ongoing training and investment in skill development to overcome.

While Table 3 indirectly addresses factors and challenges faced by building production professionals, additional research provides insights into this aspect. For instance, a study by Ugwu and Okeke (2021) supporting the findings discusses the challenges associated with bridging experience gaps and ensuring consistent quality across construction projects. Furthermore, aligning with the implications drawn from Tables 11 and 3, research by Okonkwo and Anyanwu (2020) highlights the challenges of integrating new technologies and implementing sustainable practices in the construction industry.

6. SUMMARY

Furthermore, in Nigeria as a whole, rampant cases of building collapses have been a recurring issue, often attributed to substandard construction practices and a lack of professional oversight, leading to loss of lives, property damage, and a loss of public trust in the construction industry. In light of these challenges, the crucial question arises: How can the roles of building production professionals be strengthened and professional standards elevated to mitigate these issues and promote a safer and more resilient construction industry in Imo State and Nigeria as a whole? Following this, the objectives of this study are to identify the building production professional and their respective roles and responsibilities within the construction industry of Imo State, examine the specific involvement of building production professionals within the construction industry of Imo State, identify opportunities available to building production professionals within the construction industry of Imo State, as well as analyze the factors and challenges faced by building production professionals within the construction industry of Imo State.

The area of the study is confined to Owerri, which is the capital and one of the major urban centers within Imo State, Nigeria. Owerri serves as a representative locality for exploring the role of professionals in ensuring effective quality and standard service delivery in the construction industry. This area is chosen due to its prominence and relevance within the state's construction landscape, allowing for a focused examination of the subject matter. This methodological approach is chosen for its effectiveness in systematically gathering data from a specified population of interest. The survey design allows for the structured investigation of various variables pertaining to the roles, practices, and awareness levels of building production professionals within the construction sector. By utilizing survey instruments such as questionnaires, the study aims to capture a broad spectrum of insights from professionals in roles such as Quantity Surveyors, Builders, Architects, and Engineers. The entire population of building production professionals and construction firms in Imo State will be considered for the study, totaling one hundred and seventy-two (172) registered construction firms with the Ministry of Works in Imo State as of August 2019. However, from the preliminary investigations, it was identified that only sixty-three (63) construction firms have their head or branch offices within the study area and were actively engaged in Imo State (Anumudu, Eze & Egwunatum, 2020). Twenty percent (20%) of the 63 construction firms identified as the population of the study during the preliminary survey, amounting to a sample size of 13 construction firms. Following this, a total of 107 building professionals participated in this study.

Data was collected through the administration of structured questionnaires. The questionnaire was designed based on the objectives of the study and included questions addressing background information and the roles of building production professionals in the construction industry. The questionnaire design drawn insights from a review of relevant literature on building production in the construction industry. The questionnaire used in this study was thoroughly validated process to ensure its relevance and appropriateness. The reliability of the instrument established through pilot testing, and the internal consistency was assessed. The response rate is anticipated to be comparable to the previous study, aiming for a response rate of about 75%, exceeding the typical 55 – 60% response rate for questionnaire surveys in construction management studies.

From the data collected and analyzed, the following findings were made:

- Builders constitute the largest distribution at 39.26% of roles within the construction industry of Imo State, followed closely by architects at 28.04%, quantity surveyors at 18.69%, while engineers at 14.02%.
- Designing and planning construction projects is the most prevalent responsibility at 28.04%. Coordinating project teams closely follows at 23.36%.
- Ensuring quality construction standards is the most prevalent specific contribution at 28.04%. Project efficiency enhancement follows at 16.82%.
- 84.11% of respondents perceive opportunities available to building production professionals within the construction industry. 70.09% of respondents reported direct involvement in construction projects.
- Sustainable construction is the most prevalent emerging trend at 28.04%. 42.06% of respondents reported having specialized training or certifications.

7. CONCLUSION

It is evident that architects, builders, engineers, quantity surveyors collectively form the backbone of the construction industry in the state. Their diverse skill sets and expertise are instrumental in ensuring the successful execution of construction projects. Architects play a pivotal role in the design and planning phases, laying the foundation for project implementation. Builders closely follow, highlighting the importance of effective project coordination and management in achieving project objectives within budget and time constraints. The responsibilities and contributions of building construction professionals extend beyond mere execution to ensuring quality standards and enhancing project efficiency. Designing and planning construction projects emerge as primary responsibilities, reflecting the professionals' proactive approach in initiating and conceptualizing projects. Furthermore, the emphasis on ensuring quality construction standards underscores the industry's commitment to delivering infrastructure that meets the highest standards of safety and durability. The focus on project efficiency enhancement reflects professionals' efforts to optimize resources and streamline processes for improved project outcomes. Looking ahead, the future appears promising for building construction professionals in Imo State. The perception of ample opportunities within the industry and the high percentage of direct involvement in construction projects reflect professionals' active engagement and contribution to the state's development. Moreover, the prevalence of sustainable construction as an emerging trend underscores the industry's responsiveness to environmental concerns and the growing demand for eco-friendly infrastructure.

The significant proportion of professionals with specialized training or certifications demonstrates their commitment to staying abreast of industry advancements, positioning them as key drivers of innovation and sustainability in Imo State's construction sector. In essence, building construction professionals play a critical role in shaping the built environment of Imo State, laying the foundation for continued growth and development in the years to come.

From the findings of this study, it is therefore recommended to establish a collaborative platform such as an online directory or professional association, where building production professionals in Imo State can register and categorize their roles should be established, sector-specific workshops or roundtable discussions should be organized at intervals to bring together various building production professionals from different disciplines to share insights and best practices regarding their specific involvements in construction projects to develop a mentorship program that pairs experienced building production professionals with emerging professionals or students in Imo State. This program can provide valuable networking opportunities, career guidance, and skill development initiatives to support the growth and advancement of professionals within the construction industry and to conduct a comprehensive study to assess the impact of regulatory frameworks, market dynamics, and technological advancements on the work environment of building production professionals in Imo State.

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