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Evaluation of Performance of Skill Labor in Building Production Delivery in Owerri Metropolis, Imo State.

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ABSTRACT

The construction industry remains a critical driver of socio-economic growth in Nigeria, yet the performance of skilled labor continues to present significant challenges to building production delivery. This study evaluates the factors influencing skilled labor productivity in construction projects within Owerri Metropolis, Imo State, with the aim of identifying strategies to enhance performance and project outcomes. Using a descriptive research design, data were collected through questionnaires, oral interviews, and field observations from 69 respondents comprising architects, builders, civil engineers, artisans, quantity surveyors, estate surveyors, and clients. The study explores the economic, social, physical, and psychological factors affecting skilled labor, including inadequate training, low wages, poor working conditions, limited mechanization, and weak reward systems. Findings reveal that shortages of technically skilled craftsmen significantly contribute to cost overruns, rework, late project completion, and poor-quality building delivery. Furthermore, the study highlights the role of Small and Medium Construction Firms (SMCFs) and government-led artisan training initiatives as crucial to bridging the skills gap and improving workmanship quality. Statistical analysis using chi-square and Z-tests confirms that skilled labor productivity has a significant effect on overall project performance.

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The study concludes that aligning workers' personal and professional goals with organizational objectives through structured incentives, continuous training, and capacity-building programs can improve labor performance, reduce delays, and achieve cost-effective and timely building production delivery. These findings provide valuable insights for policymakers, contractors, and stakeholders seeking to boost efficiency and sustainability in Nigeria's construction sector.

***Keywords*:** Mechanization, Artisan, performance, project delays, construction, workforce.

1. INTRODUCTION

The construction industry across many nations continues to grapple with the problem of low productivity among skilled workers. This challenge is largely shaped by a combination of economic, social, physical, and psychological factors that influence how workers perform on site (Ihedigbo, Awwal, Sakiru, Olughu & Bello, 2023). Low productivity remains one of the most persistent issues confronting the industry, particularly within developing regions such as Malaysia, Indonesia, Singapore, Hong Kong, and other parts of Southeast Asia (Mohd Nor, Subramaniam & Sahudin, 2023). In the present global economy, the concern about the declining efficiency and quality of skilled labour has become even more critical, especially in developing countries like Nigeria.

According to The Guardian Nigeria (July 14, 2025), the nation's housing sector is facing an acute shortage of skilled artisans—including bricklayers, plumbers, electricians, and carpenters—which threatens project timelines, inflates housing costs, and compromises overall quality. Although both government and private developers have launched several ambitious housing programmes to reduce Nigeria's estimated 28-million-unit housing deficit, the persistent lack of trained workers continues to serve as a serious constraint to achieving those goals. Unlike in advanced economies such as the United Kingdom, the United States, and Australia—where most site operations have been mechanised—construction work in Nigeria remains highly labour-intensive. This heavy reliance on manual labor often results in delays, cost escalation, and the loss of expected economic benefits from construction projects.

Within the Nigerian construction sector, skilled workers such as bricklayers, carpenters, painters, electricians, welders, plumbers, and plant operators constitute a large share of the site workforce. However, many artisans no longer encourage their children or apprentices to pursue these trades, preferring that they become professionals such as project managers, architects, quantity surveyors, or engineers. As a result, young people increasingly avoid craft-based vocations for more prestigious white-collar careers, leading to a steady decline in the number of competent artisans available to the industry.

Recent studies further demonstrate that the productivity of construction projects in Nigeria depends greatly on the competence and welfare of skilled workers. Adebowale and Agumba (2024) observed that in Borno State, worker health, incentive schemes, and teamwork were among the strongest factors influencing productivity. In a related study, Nwachukwu et al. (2025) found that most Nigerian construction artisans contend with poor working conditions, irregular income, and limited access to tools and training, which significantly affect project outcomes. Environmental conditions also have measurable effects: Rahman et al. (2024) reported that sustained exposure to high temperatures reduces efficiency and output on construction sites.

Likewise, Fobiri et al. (2024) highlighted that occupational stress, work overload, and inadequate safety support contribute to low morale and weak performance among artisans. These findings collectively suggest that improving workers' motivation, welfare, and site environment is vital for enhancing productivity, reducing costs, shortening completion time, and promoting affordable housing delivery in Nigeria.

Recent economic data reaffirm the importance of the construction industry to Nigeria's socio-economic growth. The sector remains a core driver of national development by providing shelter, supporting infrastructure, and creating jobs that influence several other industries. The National Bureau of Statistics (2024) reported that the construction sector contributed about 4.0 percent to Nigeria's Gross Domestic Product (GDP) in the first quarter of 2024, while construction and real estate combined contributed roughly ₦11.2 trillion—underscoring their central role in national output. Stakeholders further note that the industry generates employment for both skilled and unskilled labour and contributes significantly to fixed capital formation. Considering Nigeria's rapidly growing population and widening infrastructure gap, improving performance within the sector is essential for long-term sustainable development.

Small and Medium Construction Firms (SMCFs) represent a critical segment of the Nigerian construction industry. They drive economic growth by generating employment, creating wealth, and introducing innovative practices that enhance competitiveness (BusinessDay Nigeria, 2023). These firms also support large contractors through cost-effective subcontracting arrangements that enable projects to be delivered within tight budgets and schedules. Government actions in recent years have shown increased awareness of the importance of strengthening this segment. For example, the Lagos State Government's plan to train 10,000 craftsmen (Sanwo-Olu, 2023) demonstrates a deliberate effort to improve the supply of skilled labour required by SMCFs. Similarly, in 2024 the Federal Ministry of Housing and Urban Development launched a nationwide artisan-training programme aimed at standardising the skills of masons, carpenters, welders, plumbers, and electricians. Such initiatives are designed to close the widening skills gap and improve workmanship quality across the sector.

Despite Nigeria's large human-resource base, the construction industry continues to suffer from a persistent shortage of technically competent craftsmen. This shortfall has been identified as a major contributor to low productivity, poor-quality output, prolonged project durations, and declining profitability (Guardian Nigeria, 2024a; Guardian Nigeria, 2024b). Studies indicate that many SMCFs operate without structured training or workforce-development programmes, focusing more on profit maximization than on human-capital investment (Edoka & Olubiyi, 2025; Ebekozien et al., 2024). The absence of formal training systems has forced many firms to rely heavily on informal apprenticeships, which often fail to meet professional standards and reinforce a cycle of weak performance and poor workmanship.

The impact of this skills gap is evident in inefficient project execution, missed delivery deadlines, excessive rework due to construction defects, and a general perception of waste and inefficiency within the sector (Onayade et al., 2025). Scholars and industry experts agree that training and capacity development are central to reversing these patterns. Properly trained craftsmen improve service delivery, raise productivity, and lower project costs. Hence, greater collaboration between government institutions and the private sector in workforce development is crucial for enhancing the competitiveness and sustainability of Nigeria's construction industry.

The continued low performance of skilled labour remains one of the most serious constraints to the sector, with deep implications for business efficiency and the wider economy. Evidence from recent studies shows that the growth of self-employment and informal contracting has intensified competition, reduced profit margins, and shortened project schedules, thereby placing immense pressure on both employers and artisans (Guardian Nigeria, 2024a). These pressures have led to frequent cost overruns, project delays, and in some cases, substandard building structures with shortened lifespan—further aggravating Nigeria's infrastructure deficit (NigeriaPulse, 2025).

Moreover, several researchers have observed that many project managers and site supervisors in Nigeria still lack effective approaches for understanding the personal and professional aspirations of skilled workers and linking them to meaningful reward systems (Iroha et al., 2024). This disconnect often results in frustration, low morale, and reduced productivity among artisans. Aligning workers' goals with performance-based incentives, continuous training, and clear career-development pathways has been recommended as an effective strategy for improving job satisfaction and achieving better project results (Ebekozien et al., 2024).

Consequently, this study investigates how skilled-labour performance influences building-production delivery within Nigeria's construction industry. It focuses on the economic, social, physical, and psychological factors that shape labour productivity and project outcomes. These include poor working conditions, low wages, insufficient training, limited mechanisation, and weak reward systems—all of which constrain the efficiency of craftsmen such as bricklayers, carpenters, plumbers, and electricians. The persistence of these challenges leads to cost overruns, rework, and project delays, thereby undermining efforts to meet Nigeria's housing and infrastructure demands. The study also examines the contribution of Small and Medium Construction Firms (SMCFs) and government-driven artisan-training initiatives in improving labour competence, workmanship quality, and timely project delivery. Furthermore, it explores strategies for aligning skilled workers' personal and professional goals with organisational objectives through structured incentive systems, career-growth opportunities, and continuous capacity-building programmes aimed at enhancing labour productivity, reducing project delays, and achieving more cost-effective and reliable building-production delivery across Nigeria.

1.1. Research Question

The following are the research questions for this study:

- What is skilled labor in the building construction industry?
- What are the causes of low skilled workers' performance in building construction projects in the study area?
- Are there strategic measures for improving skilled labor performance in building construction projects in the study area?

1.2. Aim of the Study

The aim of this study is to evaluate the factors that affects the performance of skilled labor, with a view to improving skilled labor output in the study area.

1.3. Objectives of the Study

To achieve the above aim, the following objectives will be set out to:

- assess the productivity of available skilled labor in the building construction industry within the study area;
- examine the training and parameters to measure skilled labor performance in the industry;
- examine the causes of low skilled workers' performance in building construction projects in the study area; examine the implication of skill labor shortages on project performance;

1.4. Research Hypotheses

H_0: Skilled laborers' productivity has no significant effect on the overall building projects performance.

H_1: Factors militating against skilled labor productivity do not significantly vary from the average score value.

1.5. Area of the Study

This research focuses on evaluating the performance of skilled labor performance in construction projects in Owerri Metropolis, Imo State, which is located in the South-east region of Nigeria. Imo states is one of the fastest growing State in Nigeria, which experiences rapid development in terms of construction of public and private projects, and it is evident that the construction projects in the state suffer from many problems and complex issues, especially in terms of skilled workers' performance.

2. METHODOLOGY

Research design refers to the overall strategy that is chosen to integrate the different components of the study in a coherent and logical way, thereby ensuring an effective address of the research problem. It constitutes the blueprint for the collection, measurement and analysis of data. For this survey, the descriptive research design will be used.

This part of the research outlines the techniques and methods utilized to achieve the research objectives, focusing on the study's area of population and sampling techniques as tools for data collection. The research involves a survey aimed at evaluating the performance of skilled labourers in building production delivery in Owerri metropolis, aimed at increasing the quality of housing delivery in Nigeria. Data for this study will be gathered through surveys (utilizing questionnaires, unstructured oral interviews, and semi-structured interviews) and field observations of the conditions of existing building projects. Insights gathered from respondents will inform the development of suitable remedial measures aimed at increasing quality of housing production in Owerri metropolis.

2.1. Types and Sources of Data

Types of Data

Variables can be classified as qualitative (categorical) or quantitative. This research utilizes both quantitative and qualitative methods. Qualitative methods are then employed to delve deeper into the reasons behind the responses obtained through quantitative methods, providing further explanation where necessary. On the other hand, qualitative analysis would be used in summarizing and describing the mass of words generated by interviews or observational data collected during field investigation. Semi-structured interviews are the key methods in the collections of qualitative data.

2.2. Sources of Data Collection

The data sources for research rely on the accessibility of pertinent information for the study. This research utilizes both secondary and primary data as its primary sources of information. Primary data is defined as information collected directly by the researcher or their assistants in the field.

Secondary Data

Secondary sources of data collection encompass the review of numerous resources such as books, academic journals, professional journals, newspaper and magazine articles, handouts, manuals, and other unpublished works. These materials were consulted from various libraries and individuals' bookshelves. The abundance of information gathered from these sources will also be utilized in formulating conclusions, findings, and recommendation.

Primary Data Source

Primary data comprises information gathered firsthand from the field. This includes data obtained from respondents through questionnaires, oral interviews with members of the built environment, and field observations. The specific information sought from respondents and field observations includes: the condition of ongoing building projects in the study area, the performance of skilled labourers in building production delivery.

In this method of data collection, individuals or groups generate data which may involve activities such as questionnaire preparation, direct interviews, direct personal observation, and oral interviews with professionals in the building industry, tenants, contractors, landlords/clients.

2.3. Population of the Study

The population was sourced from selected building currently ongoing in Owerri metropolis. Therefore, various building clients, consultants, landlords, and other stakeholders in building construction industry are targeted. The population in this work involved the stakeholders in built environment who have one or two statutory responsibilities in the process of building production.

The are building contractors, consultants, landlords within the confinement of the study area. The mentioned professionals and individuals are the targeted population of the study.

Table 1. Population of Study.

S/N	Population	No. of Respondents
I	Architects	11
II	Artisans	7
III	Builders	18
IV	Civil engineers	14
V	Clients	5
VI	Estate surveyors	8
VII	Quantity surveyors	12
	Total	75

2.4. Sample Size and Sampling Procedure

Sample Size

The sample size of this work was calculated from the population to obtain the optimum sample to be used in the research work using Taro Yamene's formula to calculate.

$$n = N/1 + N(e)^2$$

Where n = sample size

N = population size

e = margin of error

1 = constant

From this work, we see margin of error is estimated to be 5% (0.05)

Add 10% of 63 (6.3) and round up to the nearest whole number.

$$63+6.3 = 69.3 \approx 69$$

Table 2. Spread of Respondent in Owerri Metropolis of Imo State.

S/N	Copies of Questionnaire	%
i	Total sent	69
ii	Total returned	63
iii	Percentage returned	91.3%

2.5. Instrument for Data Collection

The instrument used in collecting information is known as questionnaire or recording schedule, which is a set of questions. The study engaged this method of data collection:

Questionnaire

A questionnaire is a widely used data collection instrument in research, designed to gather information from respondents through series of questions. It can be utilized in various formals, including paper-based, digital, or online surveys, and can be administered in person, via email, or through web-based platforms.

Copies of the questionnaire were sent to respondents through email and personal delivery by hand. It reduced the risk of loss in transit. also, the personal delivery and collection gave an opportunity to seek clarification on any of the questions of doubt**.**

2.6. Methods of Data Presentation and Analysis

Methods of Data Presentation.

The data obtained from the properly completed and returned questionnaires were presented in a tabular form in Chapter Four.

2.7. Methods of Data Analysis

Data analysis is a crucial step in the research process, involving the systematic application of statistical and logical techniques to decode, condense, and evaluate data. The choice of data analysis methods depends on the nature of the data and the research objective.

The method of data analysis used in this project was a quantitative data analysis, where the chi-square test was used as the statistical tool to test Hypothesis I. the ~~Z-~~test was used as the statical tool to test for the hypothesis II.

2.8. Validity and Reliability of the Data

Validity of the Study

Validity deals with how accurate the measurements are, and also give a reflection of sample representativeness. Validity is impacted by robustness of survey design and whether right questions are asked and understood by the respondents. Whether the instrument is measuring what is supposed to measure is the core of validity estimation.

Reliability of the Study

Reliability is concerned with the consistency of the measurement, which means whether the question in the survey get same type of response when the conditions remain the same. Reliability is also associated with internal consistency, which means, whether the same character is measured by different persons, same result will be achieved. Four different methods are used to estimate the reliability, of a questionnaire, namely, interrater reliability, test-retest reliability, parallel-forms reliability and internal consistency reliability. Each of these estimates evaluates the reliability of the questionnaire differently. Among these four methods, the internal consistency method is the most frequently used method to validate the reliability of the instrument, and the same has been used in this study.

3. RESULTS AND DISCUSSION

This part is focused on the presentation of data collected from field survey and the analysis of data collected through subjection to hypothesis testing, as earlier posited.

This section is dealt with the personal data of the respondents: educational and professional qualifications of respondents.

Table 3. Academic Qualification of Respondents.

description	Frequency	Percent
WASCE/SSCE	9	14.3
OND	8	12.7
HND	13	20.6
BSc	19	30.2
MSc	7	11.1
PGD	5	7.9
PHD	2	3.2
TOTAL	63	100

From the table above, 19 numbers of respondents are B.sc holders, having a percentage of 30.2 of the entire respondents. This was followed by HND holders with 13 (20.6%) of the entire respondents, WASCE with 9 (14.3%) has the third highest respondents, followed by OND 8(12.7%), M.sc 7 (11.1%) and PHD 2 (3.2%) respectively.

Table 4. Profession of Respondents in the Construction Industry.

Description	Frequency	Percent
Architecture	8	12.7
Building	18	28.6
Civil Engineering	11	17.5
Estate Surveyors	5	7.9
Quantity Surveying	10	15.9
Others	11	17.4
Total	63	100.0

Table 4 shows the various professions of respondents sampled. This shows that the respondents cut across the various professional who possess the require knowledge about the subject under survey to contribute their quota.

Table 5. Respondents Working Experience.

Description	Frequency	Percent
<2yrs	6	9.5
2-4yrs	17	27.0
5-7yrs	8	12.7
8-10yrs	10	15.9
over 10yrs	22	34.9
Total	63	100.0

Table 5 shows the number of years of respondents working experience in the study area. Respondents with over 10 years of experience has the highest respondents of 22 with the percentage of 34.9 followed by respondents with 2-4 years of experience with 17 (27.0%) of the entire respondents. 8-10 years has 10 respondents. 5-7 years of experience with 8 (12.7%) and 2 years of experience followed respectively.

Table 6. Nature of Business set-up.

Nature of Business	Frequency	Percent
Sole Proprietorship	20	31.7
Partnership	6	9.5
Limited Liability Company	21	33.4
Public Liability Company	16	25.4
Total	63	100.0

Table 6 shows the nature of Business set-up of the respondent sampled. The implication of this is that all the firms sampled cut across small, medium, and large business enterprises.

Table 7. Category of Respondents.

Category of Respondent	Frequency	Percent
Contractor	38	60.3
Consultant	10	15.9
Client	5	7.9
Craftsmen	10	15.9
Total	63	100.0

Table 7 shows the category of respondents. 60.3% were contractor, 15.9% were Consultant, Craftsmen (carpenters, Bricklayer, plumbers and painters) accumulated 15.9% of the respondents while 7.9%% were Client.

Table 8. Nature of Work Undertaken.

Nature of work undertaken	Frequency	Percent
Both building and civil Engineering	56	88.9
Other works	7	11.1
Total	63	100.0

Table 8 shows the nature of work undertaken by the various firms. Both building and civil engineering work had 48 numbers with a percentage of 88.9. while other works had 7 numbers with a percentage of 11.1.

Table 9. Gender of Respondents.

Gender	Frequency	Percent
Male	52	82.5
Female	11	17.5
Total	63	100.0

Table 9 shows that 78.8% of the respondents were male, while 21% of the respondents were female. This section dealt with how respondents answered to questions.

Table 10. Productivity of skilled labor has effect on building project performance.

		(2)	(1)	(0)	(-1)	(2)	
S/N	Factors	SA	A	UD	D	SD	Total
1.	Skill labor productivity significantly controls the overall cost of building	31	15	6	6	5	63
2.	Productivity of skilled labor affects the quality of the final output in building projects	38	12	2	6	5	63
3.	Skilled labor productivity significantly controls the overall cost of building	18	20	10	8	7	63
4.	Skilled labor productivity affects the efficient utilization of resources in building production projects	25	25	3	5	5	63
5.	Higher productivity of skilled labor reduces the risks of project delays and cost overruns	40	12	6	3	2	63
6.	Incentives and motivation enhance the productivity of skilled labor thus affecting building projects performance	20	25	8	6	4	63

Table 11. Impact of labor to overall performance of a building project.

Mean Response Analysis for Impact of labor to overall performance of a building project

S/NO		M.S	Rank
1.	Skilled workers increase performance of building projects	1.49	2
2.	Low skilled workers decrease performance	1.32	4
3.	Skilled workers will hasten the completion of the project	1.35	3
4.	High unskilled workers decrease performance	1.52	1

Table 12. Causes of low skilled workers' performance in building construction projects in the study area.

		2	1	0	-1	-2		
S/N	Challenges of labor	SA	A	UD	D	SD	TOT	MEAN
1.	Poor funding of vocational skills center	19	18	10	9	7	63	0.52
2.	Aging skilled workforce in the industry	20	25	7	4	3	63	0.87
3.	Lack of craft skills appeal to young people	18	28	9	5	3	63	0.84
4.	Poor image of the industry	21	15	15	8	4	63	0.65
5.	Lack of organization training and retraining of skilled craftsmen	21	15	12	8	7	63	0.55
6.	Rapid change in technology	20	14	4	13	12	63	0.27
7.	Diminishing craftsperson training program	30	25	4	4	0	63	1.29
8.	Poor remuneration of skilled craftsmen	20	19	15	7	2	63	0.76

9.	Lack of motivation of skilled craftsmen	19	19	9	9	7	63	0.56
10.	Poor image of the industry	33	17	8	3	2	63	1.21

Table 13. How does the Supervisory Measure Monitor Rate the Performance of Labor per Week?

Mean Response Analysis for how supervisory measure monitor the rate of performance per week in the study area.

Supervisory measures	MS	Rank
Need for organizations to invest on skilled craftsmen training	1.5	2nd
Planning and implementation of training policies by organization	1.1	4th
Reduction of migrant skilled workers by improving better incentives	0.9	7th
Workers insistence on own training	1.0	6th
Contractors' insistence on craftsmen training	1.2	4th
Use of experienced instructors to train craftsmen	0.5	8th
Quality management of training fund by the construction firms towards training of craftsmen	0.5	2nd
Government competence by monitoring and evaluating training of construction craftsmen	1.7	1st
Adoption of standard method training for construction craftsmen	1.2	3rd

Table 14. What are the Implications of Skilled Labor Shortages in Building Project Performance?

Mean Response Analysis for the implications of skilled labor in building projects.

	SA (2)	A (1)	UD (0)	D (-1)	SD (-2)	MS	Rank
Impact of shortage of skilled labor							
Skilled labor shortages impact workforce productivity and efficiency.	36	20	5	0	2	1.4	1st
Skilled labor shortages pose safety risk or compliance challenges on site.	20	30	4	6	3	1.0	4th
Skilled labor shortages drive innovation and technology adoption in construction industry.	16	20	10	10	7	0.6	5th

Skilled labor shortages affect relationship with sub-contractors and other project partners.	30	20	5	5	3	1.1	3rd
Skilled labor shortage impact client expectations	36	15	10	2	0	1.3	2nd

4. DISCUSSION OF FINDINGS

Hypothesis H_1

The hypothesis under investigation stated that "skilled laborers' productivity has no significant effect on the overall building projects' performance." Using the chi-square hypothesis test to analyze the data, the p-value obtained was less than the significance level of 0.05, leading to the rejection of the null hypothesis. This finding suggests that skilled laborers' productivity does significantly impact the overall performance of building projects.

Several key factors were considered in testing this hypothesis, each of which plays a critical role in influencing the outcome of building projects:

- Control of Overall Cost: Productivity of skilled labor significantly influences the overall cost of building projects. Efficient and high-quality labor can reduce wastage of materials and time, thereby controlling costs effectively.
- Quality of Final Output: Skilled labor productivity affects the quality of the final output in building projects. This emphasizes that the experience and training of the labor force are crucial determinants of the quality of construction work, impacting project success and client satisfaction.
- Efficient Utilization of Resources: Higher productivity among skilled laborers leads to better utilization of resources, ensuring that materials and tools are used efficiently. Inadequate supervision and poor working conditions can hinder productivity, suggesting that improvements in these areas can lead to better resource management.

- Reduction of Project Delays and Cost Overruns: Increased productivity among skilled laborers reduces the risk of project delays and cost overruns. By working more efficiently and effectively, skilled laborers can complete tasks within the set timelines and budgets, mitigating common issues in construction projects.
- Impact of Incentives and Motivation: Incentives and motivation significantly enhance the productivity of skilled laborers. This shows that motivation through incentives and welfare packages is crucial for boosting worker morale and productivity. Construction firms that invest in their workers' welfare see significant gains in productivity and, consequently, project performance.

The findings align with previous research, emphasizing the critical role of skilled labor productivity in the building construction industry. Nigerian authors have provided substantial evidence that improving labor productivity through better working conditions, supervision, and motivation leads to more successful construction projects. Therefore, it is evident that skilled labor productivity is a key determinant of overall building project performance, and efforts to enhance this productivity are essential for achieving project success.

In summary, the chi-square test results and the supporting literature provide strong evidence that skilled labor productivity has a significant and positive effect on the performance of building projects. This underscores the importance of investing in the training, motivation, and working conditions of skilled labor to achieve better project outcomes.

Hypothesis H_2

The hypothesis that "factors militating against skilled labor productivity do not significantly vary from the average score value" was tested using the ~~Z~~-test. The factors analyzed included poor funding of vocational skills centers, an aging skilled workforce in the industry, lack of appeal of craft skills to young people, poor image of the industry, lack of organizational training and retraining of skilled craftsmen, rapid changes in technology, diminishing craftsperson training programs, poor remuneration of skilled craftsmen, lack of motivation of skilled craftsmen, and the poor image of the industry. The z-score analysis revealed that none of the factors had z-scores exceeding the critical value of ±1.96. This indicates that none of these factors are significantly different from the overall average mean score of 0.752 at a 95% confidence level. Thus, the hypothesis was supported, suggesting a consistent impact of these factors on skilled labor productivity.

The findings from the hypothesis test align with the broader literature on skilled labor shortages in the construction industry, which is a critical threat to the economic health of many nations globally. Skilled labor shortages impact various areas of construction activities, affecting time, cost, and quality of work. This shortage also poses a risk to achieving the financial prosperity for which projects are conceived. For Nigeria, a country undergoing economic reforms, a productive, competent, and flexible workforce is essential for furthering economic growth.

The uniform impact of the factors on skilled labor productivity, as shown by the hypothesis test, underscores the pervasive and consistent nature of these challenges. Poor funding and ineffective vocational education and training systems, along with the poor image of construction labor, uniformly contribute to the problem.

The aging workforce and lack of new entrants into skilled trades further exacerbate the situation, while rapid technological changes demand higher skills that are not being adequately met due to insufficient training and retraining initiatives.

The quality and availability of a skilled workforce are critical to the effectiveness of the construction sector. However, various reports indicate persistent shortages and poor quality of craftsmen in the Nigerian construction industry. The reasons for these shortages include a lack of organizational training and retraining, an aging workforce, a decline in new entrants into skilled trades, rapid technological changes, poor funding and ineffective vocational education systems, and a poor image of construction labor. Additionally, there is a lack of commitment by the government and the construction industry towards skills training.

Addressing these challenges requires comprehensive strategies, including:

- Investment in Training and Retraining Programs: Enhancing vocational training and retraining programs to meet current industry standards and technological advancements.
- Improving Industry Image: Initiatives to improve the perception of the construction industry, making it an attractive career path for young people.
- Incentives for Young Entrants: Providing incentives for young individuals to enter and remain in skilled trades.
- Enhanced Remuneration and Working Conditions: Improving the remuneration and working conditions for skilled craftsmen to boost motivation and retention.
- Government and Industry Commitment: Strengthening the commitment from both the government and industry stakeholders towards sustainable skills development and training programs.

In conclusion, the findings from the hypothesis test highlight the critical and consistent nature of the factors affecting skilled labor productivity in the construction industry. Addressing these issues holistically is essential for improving the productivity and effectiveness of the skilled labor workforce, which is vital for the economic health and growth of nations like Nigeria.

5. CONCLUSION

Building production in Nigeria is both labor and capital intensive, and as such, deliberate efforts must be made to ensure that only competent and properly trained workers are engaged to achieve optimal performance. The findings of this study revealed that low labor productivity remains a major issue affecting building production performance across the country. Respondents identified several factors responsible for this challenge, including lack of structured training and retraining of skilled craftsmen, an ageing workforce, rapid technological changes, poor remuneration, low motivation, and a general lack of interest among young people in pursuing construction-related trades.

Other contributing issues were found to include poor awareness, weak enforcement of building codes by some state governments, increasing project complexity, political interference, corruption, unprofessional practices, and varying project specifications and sizes.

The study further established that certain measures could significantly improve labor performance in the construction industry. These include prioritizing investment in training skilled craftsmen, implementing clear training policies within organizations, providing better incentives to reduce the dependence on migrant workers, encouraging both contractors and workers to take personal responsibility for skill development, and adopting standardized methods for training construction craftsmen.

In conclusion, improving the performance of skilled labor in Nigeria's building industry requires a collective commitment from government, contractors, and stakeholders to invest in human capital development, enforce training standards, and create a more attractive and rewarding environment for construction craftsmen. Such efforts will not only enhance productivity and project quality but also contribute to sustainable national development through efficient and cost-effective building production.

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