

The Severity of Skill Shortages in the Nigerian Building Construction Artisans

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doi: <https://doi.org/10.37745/ijcecem.14/vol12n395109>

Published December 15, 2024

Citation: Idris A.S., Mohammed I.Y., Kunya U.S., and Usman N. (2024) The Severity of Skill Shortages in the Nigerian Building Construction Artisans, *International Journal of Civil Engineering, Construction and Estate Management*,12(3),95-109

Abstract: *A number of issues arise from Nigeria's lack of a regulated and effective system for evaluating the credentials and abilities of artisans in the building sector, including ineffective verification, subjective evaluation, restricted accessibility, a lack of standardisation, and security issues. The study aimed to assess severity of skill shortages in the Nigerian building construction artisans. The study adopts descriptive survey design and quantitative approach was used as study approach, survey strategy was adopted and data were collected through questionnaire survey. The study also adopts simple random sampling technique and SPSS software version 22 was used for data analysis tools. A descriptive analysis type using mean ranking technique and (percentage) were used for the analysis. The study revealed that practicing building construction artisans in Nigeria lack the requisite anger management skills at their workplaces, delay in building projects delivery in Nigeria. Also, practicing building construction artisans in Nigeria lack the requisite health, safety and house-keeping skills at their workplaces and lack of institutionalization of the NSQ leads to skill shortages for the industry were the major points of consideration when looking at the skill shortages for the building construction delivery in Nigeria. Provision of adequate competency-based trainers was rated the most important strategy, suggesting that qualified trainers are essential for effective skill development. Periodic capacity building for practicing artisans, regular training and development programs for existing artisans was considered crucial for maintaining and enhancing their skills. Also, enactment of enabling legislation for the national building code enforcement and a strong regulatory framework is seen as necessary to ensure industry standards and compliance.*

Keywords: severity, skill shortages, building construction, artisans, effective system

INTRODUCTION

The Nigerian construction industry, a vital sector contributing significantly to the nation's GDP, is grappling with a severe shortage of skilled artisans. This dearth of skilled labor has far-reaching

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implications, from project delays and cost overruns to compromised quality and safety standards. The building sector is a vital component of any nation's economy, providing essential infrastructure and housing. However, the quality and efficiency of construction projects often hinge on the skills and expertise of the artisans involved (Orekan & Babatunde, 2020; Umar, 2023). Handley (2022) revealed that traditional methods of assessing artisan skills, such as practical examinations and certifications, can be time-consuming, subjective and prone to inconsistencies. In recent years, there has been a growing recognition of the potential of digital technologies to revolutionize various industries, including education and training. E-portfolios, a digital collection of an individual's work, have emerged as a promising tool for assessing and documenting learning outcomes and offer a comprehensive and transparent approach to evaluating the skills and competencies of trained artisans in construction industry (Tormala, 2021; Saarinen, Seitamaa-Hakkarainen & Hakkarainen, 2021). This shortage is attributed to various factors, including contribute to the shortage of skilled artisans in Nigeria, lack of vocational training, poor working conditions, limited opportunities, low wages and poor working conditions and social stigma (Elegbede & Akinbile, 2024; Habu & Oni, 2024). Bello and Muhammad (2021) revealed that various strategies can be implemented to bridge the skills shortages in the Nigerian construction sector. These strategies involves expanding access to quality vocational education and training (VET) programs, promoting apprenticeships, collaborating with industry partners, offering financial incentives and improving working conditions and wages to attract and retain skilled artisans.

However, Nigeria, as a rapidly developing nation, faces significant challenges in ensuring the quality and efficiency of its construction sector. One of the critical factors influencing the quality of construction projects is the competence of the workforce, particularly skilled artisans (Adagba, Ati & Makarfi, 2021; Ebekoziem, Aigbavboa, Aigbedion, Ogbaini & Aginah, 2023). Traditional assessment methods, often relying on paper-based portfolios and interviews, are time-consuming, subjective, and prone to errors (Jatau, 2021). The lack of a standardized and efficient system for assessing the skills and qualifications of building sector artisans in Nigeria presents several problems that include inefficient verification, subjectivity in assessment, limited accessibility, lack of standardization and security concerns (Dabok, 2022). In consideration of that, Ameh and Daniel (2017) display that strategies must be implemented to attract and train qualified individuals, improve working conditions, and create a supportive environment for the development of local talent.

In view of the problems identified, existing assessment methods often rely on traditional paper-based assessments or practical demonstrations, which can be subjective and time-consuming. Therefore, this study aims to address the identified research gaps by examine severity of skill shortages in the Nigerian building construction artisans.

Scope of the Study

The targeted respondents are: trained artisans; center trainers; master craftsmen; assessors; internal and external verifiers as the major stakeholders in the NSQ training, assessment and certification processes as recognized in the framework. Methodologically, the study is descriptive in nature as its involved distribution of questionnaire and historical data, accurate research designs are essential because they guide the methods and decisions that researchers must take during the study and determine the logic by which interpretations are made at the end of the study. The study is limited to the institutionalization of National Skill Qualifications (NSQs) for the building construction qualifications (trades), using NOS for the seven (7) Qualifications (trades). These trades are: masonry; carpentry and joiner; electrical installation; plumbing installation; welding and steel fabrication; tiling & decorative stone works; and painting & decoration that were developed, classified, validated and currently institutionalizing for the N-power build program in three (3) selected training centers one (1) from each of the three (3) senatorial zone of the seven (7) state (Kaduna, Kano, Kastina, Kebbi, Jigawa, Sokoto and Zamfara) of North-West Nigeria.

Significance

The expected findings of this study enhanced the production capacity of these trained and certified (competent) artisans in building production process, the study would evaluate the institutionalisation of the NSQs and how the NSQF stakeholders would collaborate to come out with some possible ways forward that would overcome the impediments affecting the NSQs delivery in the training, assessment and certification of building construction artisans in the study area; it would also help to bridge the skill shortages due to the institutionalisation of the NSQ in the study area.

LITERATURE REVIEW

The Nigerian Construction Industry

The overview of the previous research on the subject matter justifies the way research questions would be developed. This research reviews its literature relevant to the subject matter from journal articles, books and also available reports from bodies pertinent to this study. This research proposal is presented by having a befitting and concrete literature review, which was collected from scholars' write up on the subject matter. The chapter provided an overview and discusses literature on building construction industry, enhancing the concept in skills development, the skills gap of the artisans for sustainable NSQ delivery system in Nigeria, the skill shortages for delivery of the NSQ in Nigeria, the strategies to bridge the skill gaps for enhancing NSQ delivery in Nigeria, the level of satisfaction of the stakeholders with the NSQ artisans practice in Nigeria, simulate E-assessment platform for assessment of the trained artisans in Nigeria, the impact of NSQ for enhancing construction delivery in Nigeria, performance management policies and roles of various stake holders on the NSQ delivery and so on.

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Construction encompasses all civil engineering works and all types of new building projects as well as the maintenance and repairs of existing facilities and/or structures. The construction industry the world over is often perceived to be the life wire of its respective economy as it cuts across all aspects of human activities (Ameh *et al.*, 2013). Moreover, Radosavljeic *et al.*, (2012) distinct construction as a series of activities undertaken by construction companies that produce and modify buildings and infrastructures. Construction can simply refer to an act of building or erecting structured products to a prepared shape and size using appropriate machineries materials and human resources. The Nigerian construction industry remains the position of occupying a very important place in the nation's economy despite its challenges than other service industries.

Skills Development in Nigeria

Skills development in recent years has attracted a lot of attention from the Nigerian government. Policy makers have come to this realization that for Nigeria to attain a level of high economic growth there is need for highly skilled workers. Therefore, is important for a considerable investment in skills development at various levels. To achieve any competitive advantage, a highly skilled workforce and system equipped for the education and training of this workforce must be set in place and constantly developed in line with the changing society to enter the labor market. These imperatives run along side's current changing pattern of the economic growth, globalization, mass migration, environmental changes and the era of sustainable development.

The limited and often skewed access to trainings and qualification also creates an uneven distribution of skills. Cultural or tribal barriers, gender barriers, rent-seeking and discrimination against any group causes these disparities. Weak coordination of the system is also a major issue that affects the quality of useful skills developed (Abubakar, 2011). The limited and complete lack of communication between education /training providers, industry, Government and civil societies continually grows the chasm of the difference in the quality and type of skills emphasized with the skills required. Weakness in linking skill supply and demand causes a duplication and negligence of effort. These policies emanate from an understanding of the need for highly skilled workforce and concurrent necessity to increase the standard of living. These skills development policies are partially different from generally educational or labor policies because they not only include young people who have completed their education but also adult workers, school drop –outs and disadvantaged groups (CORBON, 2018).

Sustainability concept in skills development

Sustainability is the process of maintaining change in a balanced fashion, in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations (Kulas *et al.*, 2013). Sustainability is most often defined as meeting the needs of the present without compromising the ability of future generations to meet theirs. E-assessment simply means electronic assessment. Kulas *et al.*, (2013), e-assessment is seen as the

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end- to- end electronic assessment process where ICT is used for the presentation of assessment activities, and the recording of responses. It means that all aspects of assessment, from the planning, setting of the papers examinations, marking, recording and the statistical analysis are done electronically. Pill (2014) confirms this by pointing out that the design of the system goes through the complete process of examinations-proposition, composing papers, signing up, examining, batching, statistics and analysis. E-assessment includes the end-to-end assessment processes from the perspectives of the learners, teachers, learning establishments or institutions, awarding bodies and regulators, and the general public.

E- assessment is sustainable due its stability and speed of the on-line assessment system: the e-assessment or on- line assessment system is stable while setting up tests; it is stable while students complete a test (even with large number of students); answers can be saved in real time (if there is power failure, the answers must be saved up to that point); the speed of delivery of test from the server to work station is acceptable; the speed of presenting each question per work station is acceptable and the speed of presenting videos and graphics per work station is acceptable (Kulas *et al.*, 2013). The assessment system should indicate what the trainees answered as well as the correct answer, extra time can be set for trainees to work through the feedback after test completion and score per question can be displayed in the feedback.

The Builder and Trade Skill Requirements for Building Works

Section 2.26 of the National Building Code (NBTE, 2013) defines BUILDING WORKS to mean the erection, construction, alteration, repair, demolition and removal of a building or structure and shall include work in construction with material, change of use or improvement to a building, Section 13.12.4 stipulates that “the management of the execution of the building works including the supervision of artisans and tradesmen shall be carried out by a registered builder. The management of the production of Building no doubt is statutorily the responsibility of Registered Builders (NBTE, 2013). Activities of the process are carried out by trades’ craftsmen but must be under the supervision of the Registered Builder. At any production stage of a building, multiple trades are involved. The basic skills available and often deployed in the building process are: Carpenters/Joiners; Glaziers; Tilers; Electricians; Plumbers; Painters; Masons etc. workmanship may be contributory to building failure and collapse which are attributable to competency deficiencies within the major building trade skills. Presumably, these deficiencies are indicators of skills gap in the sector. Reasons that have been given for the skilled labor shortage include lack of training, an aging workforce, poor image of the sector’s workers resulting in low appeal to many especially the youths. The Professional Builder has the role of generating appropriately, the sets of competency standards that are to be attained by artisans since he directly manages the workforce on site and knows what standard is expected for each job component.

Basics technical skills need in building sector

Adavbiele (2013) generated a long list of technical skills needs in the Nigerian building construction sector. The skills are: Ability to read and interpret building drawings (manual and computer); surveying, landscaping and site preparation skills; foundation skills; ability to use plants and equipment for construction; ability to use diverse tools for practical works; brick and block laying skills; roofing skills (especially with advent of new roofing material and technologies); masonry skills in building; concreting and reinforcement skills; carpentry and joinery skills; final finishes skills; plumbing skills; ability to organize laboratory/workshop practical; structural construction skills and entrepreneurial skills.

Measurement of Skill Shortages

The skill shortages need to be measured in order to understand the scale of the gaps and to suggest solution in rectifying the gaps in order not to have effects or cause problems for the industry. Different tools are available for measurement of skill shortages within the industry. These include employer opinion surveys, the labor supply/demand tool using qualification or educational level as proxy, and hybrid approaches which are the combination of employer's opinion survey and labor supply demand indicator and the shared classification system (Aring, 2012; Clark, 2013). The main parts of the employer's survey consist of different forms of skills gap they came across in their proposed skilled workers, types and areas of weakness of the employees, employer's benchmark and ranking table for the employees, using employer surveys to assess skill shortages is employed across industry sectors like, construction, manufacturing, healthcare and energy (Aring, 2012; Clark, 2013). The features of labor supply/demand tool consist of using economic theory schematic diagram, plotting demand against supply, where data will be collected from Federal ministry of education to represent demand axis and National occupational employment to represent supply axis, the labor supply/demand tool is employed in construction and housing industry (Aring, 2012; Clark, 2013). According to Aslan (2016), there is the availability of data to implement employer's survey tool if it is requested for use in the whole world. The data for implementing the labor supply/demand tool are also readily available in UK as a developed country. In developed countries, databases exist in orderly and they are functional when compared to a developing country like Nigeria; where databases are non-functional or crashed. Electronic recording (e-record) keeping is new to sub-Saharan Africa and there are issues of management of records in educational ministries, universities and nearly all parasternal. Majority of government ministries do not have records retention schedule and workers are not vast in electronic record keeping (Asogwa, 2012; Umar, 2023). education that could contribute to the economic development and social status in Nigeria are the products of TVET. TVET according to the Federal government of Nigeria is described as institution of learning that trains artisans, to improve the technical challenges faced by the construction industry.

Skill Shortages in Building Construction Trades

Skill shortages occur when the demands for workers for a particular occupation (trade) is greater than the supply of personnel who are qualified, available, and willing to work under existing market conditions, and if the supply is greater than demand then there is a surplus. Medugu et al., (2011) stated that, a shortage may be evident only in particular specialization in an occupation, it does not have to be across the whole occupation. In addition, it may also be restricted to particular locations. Medugu et al. 2011 further stated that overtime the market might adjust in a number of ways, including price and or quality adjustment, and the imbalance clears. In practical work, shortages have always been interpreted or even defined directly in terms of difficulties in filling vacancies.

Ajagbe, Ismail and Choi (2011) suggested that employers may report shortages of particular workers, or difficulties in filling vacancies, either because there are not enough of them or else those who are available do not possess skills deemed necessary by employers, such as computer literacy. Shortage of the first type is quantitative while those of the second type are qualitative. In competitive labor market employers accept candidates whose skills do not match the ideal. However, from the perspectives of the employers, shortages occur but from the perspective of the market the positions were filled and hence no shortage exists skills shortages in Nigeria are characterized by; few applicants possess the right skills; few applicants possess the experience that the company believes the position warrants; few applicants possess the qualifications that the employers believe they need; legion of Artisans and craftsmen from neighboring countries on our building projects; because Nigerian Artisans and craftsmen lack the necessary knowledge, skills and experience required to undertake their duties competently; apparently, deficiencies exist between the skills of vocational workers and those required to meet the needs and expectations of employers in the Building sector and the construction industry (Building sector) is growing but it seems the stock of competent skilled construction workers has dwindled (Odusami, 2011).

METHODOLOGY

This study was descriptive in nature as its involved distribution of questionnaire and historical data, accurate research designs are essential because they guide the methods and decisions that researchers must take during the study and determine the logic by which interpretations are made at the end of the study. Quantitative approach inquires explanation and a prediction that was generalise to other persons and places it contains careful sampling techniques was adopted. This study adopted one research strategy which was survey approach. In this study NSQ Stakeholders were taking as the sample and the target population of respondents within the study area (North-West) 750 NSQ stakeholders was used as the population. Therefore, according to Krejcie and Morgam (1970) the sample of this population is 254. The respondents were stratified according to their different roles in the NSQ training and assessment delivery, which are Building construction professionals, trainers, work supervisors, assessors, internal verifiers and external verifiers as the

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major stakeholders in the NSQ delivery. A structured questionnaire was used as the primary measuring instrument in this research; the questionnaire was designed to achieve the study objective. The data analysis used was 22 Statistical Package of Social Science (SPSS) versions and descriptive statistics using mean ranking was adopted to analysed the result of skill shortages for the building construction delivery in Nigeria.

Table 1: Research Population (Artisans, Trainers & NSQ Stakeholders)

State	Trained Artisans	Centre Trainers	Master Craftsperson	NSQ Assessors	Internal Verifiers	External Verifiers	Total
Kebbi	65	3	6	3	2	1	80
Kastina	86	4	8	4	3	1	106
Kano	112	5	10	5	4	1	137
Kaduna	110	5	10	5	4	1	135
Jigawa	86	4	8	4	3	1	106
Sokoto	86	4	8	4	3	1	106
Zamfara	65	3	6	3	2	1	80
Total	610	28	56	28	21	7	750

CORBON, 2021

RESULT AND FINDING

Socio-Demographic Characteristics of the Respondents

These characteristics provide important information about the population being studied and can be used to understand the context of their responses.

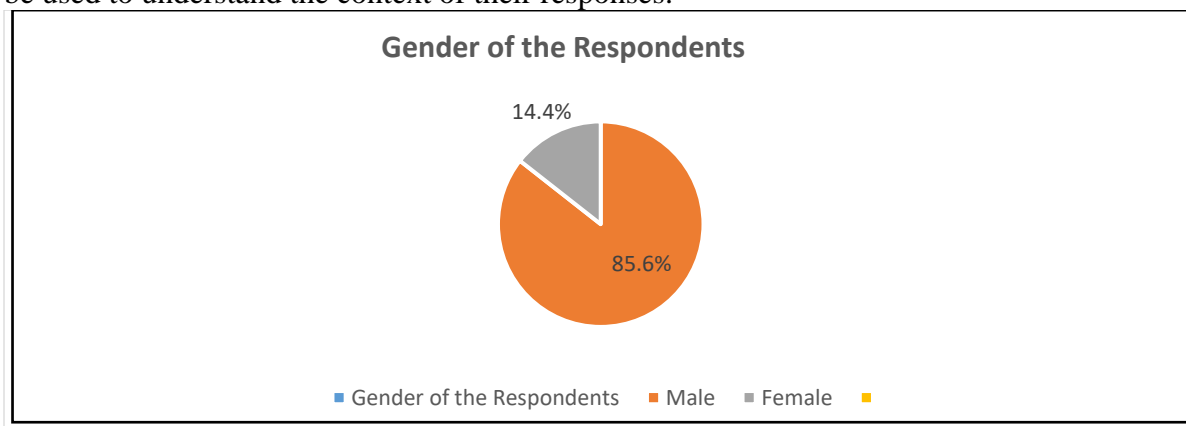


Figure 1: Gender of the Respondents

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Figure 5 shows the distribution of the respondents based on gender. It is indicated that 196 respondents which is equivalent to 85.6% were male while 33 respondents which is equivalent to 14.4% were female. This indicated that males participated more than females in the study.

Table 2: Respondents Working Experience in the Building Construction Industry

S/N	Year of Experience	Frequency	Percentage (%)
1.	1 - 5 Years	28	12.2
2.	6- 10 Years	25	10.9
3.	11 - 15 Years	34	14.8
4.	16 - 20 Years	135	59.0
5.	Above 20 Years	07	3.1
	Total	229	100

Table 2 indicated the distribution of the respondents based on year of experience. 28 respondents which represents 12.2% had 1 to 5 years of experience in construction industry, 25 respondents which represents 10.9% had 6 – 10 years of experience in the industry, 34 respondents which represent 14.8% had 11 – 15 years of experience, 135 respondents which represent 59% had 16 – 20 years of experience while 07 respondents which represent 3.1% had more than 20 years of experience. Therefore, this shows that, the majority of the respondents had 16 – 20 years of experience in Building construction industry.

Table 3: Age of the Respondents

S/N	Age Range	Frequency	Percentage (%)
1.	21 - 25 Years	03	1.3
2.	26 - 30 Years	30	13.1
3.	31 - 35 Years	16	7.0
4.	36 - 40 Years	36	15.7
5.	40 Years and above	144	62.9
	Total	229	100

Table 3 indicated the distribution of the respondents based on their age range. It is show that, 03 respondents which represent 1.3% are in the range between 21 to 25 years, 30 respondents which represent 13.1% fall between age of 26 to 30 years, 16 respondents which represents 7% are those between the age of 31 to 35 years. These are the set of the respondents that participated less the study. The above table further shows that, 36 respondents which represents 15.7% fall between the range of 36 to 40 years while 144 respondents which represent 62.9% are between range of 40 years and above. Therefore, this clearly shows that, the majority of the respondents are between the age of 40 years and above which good for the analysis because they have enough experience in construction industry.

The Severity of Skill Shortages in the Nigerian Building Construction Artisans

Descriptive statistics using mean ranking was adopted to present the result of skill shortages for the building construction delivery in Nigeria as shown in Table 4

Table 4: Skill Shortages for the Building Construction Delivery in Nigeria

S/N	Items	Mean	SD	Rank
1.	Practicing Building Construction Artisans in Nigeria Lack the Requisite Anger Management Skills at their Workplaces	4.8	0.4227	1 st
2.	Delay in building projects delivery in Nigeria.	4.4	0.8559	2 nd
3.	Practicing building construction artisans in Nigeria lack the requisite Health, Safety & House-keeping skills at their workplaces	4.2	0.3207	3 rd
4.	Lack of institutionalization of the NSQ leads to skill shortages for the industry	4.1	0.8234	4 th
5.	Practicing building construction artisans in Nigeria lack the requisite communication skills at their workplaces	4.1	0.2176	4 th
6.	There is a skills shortage in the plumbing installation qualification (trade).	3.9	0.2846	6 th
7.	There is skills shortage in the tiling & decorative stone works qualification (trade).	3.9	0.3274	6 th
8.	Poor Attention to the Industry's Labor Markets Requirements.	3.9	0.3951	6 th
9.	Practicing building construction artisans in Nigeria lack the requisite team work skills at their workplaces	3.9	0.7689	6 th
10.	Lack of the Readiness to Adopt Appropriate IT Facilities by Practicing Construction Artisans.	3.8	0.4001	10 th
11.	Practicing building construction artisans in Nigeria lack reading and interpreting skills for e-working drawings.	3.7	0.2656	11 th
12.	Skill shortages have caused unemployment for the industry.	3.6	0.1822	12 th
13.	There is a skills shortage in the masonry qualification (trade).	3.6	0.0434	12 th
14.	There is a skills shortage in the carpentry & joinery qualification (trade).	3.5	0.3784	14 th
15.	Skill shortages due to weak National skills policy of the industry.	3.5	0.2478	14 th
16.	Insufficient Wages/Remuneration to Practicing Artisans of the Industry.	3.4	0.2708	16 th

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17. Non-availability of the appropriate tools and equipment for the building construction artisans is responsible for skill shortages	3.3	0.1209	17 th
18. There is a skills shortage in the electrical installation qualification (trade).	3.3	0.0814	17 th
19. There is a skills shortage in the painting & decoration qualification (trade).	3.3	0.9978	17 th
20. There is a skills shortage in the welding & steel fabrication qualification (trade).	3.2	0.0410	20 th
21. Lack of regular update of training curricula to suit industry requirements	3.1	0.0466	21 st
22. Non-replacement of aged trained artisans of the industry.	3.0	0.8808	22 nd
23. Deployment of the e-assessment Platform Would Enhances the Skills Development of the Trained Artisans for the Industry.	3.0	0.5739	22 nd
24. Poor social and economic development of Nigeria	2.6	0.3450	24 th
25. In Adequate Skill Artisans to Meet the Current Demands of the Industry.	2.3	0.9943	25 th
Average	3.60	0.4114	

Table 4 show the respondents' ratings on the severity of the skills shortages for the building construction delivery in Nigeria were mean scores and standard deviations of some skills shortage identified were obtained from the respondents. Practicing building construction artisans in Nigeria lack the requisite anger management skills at their workplaces were ranked 1st among the severity of skills shortage with mean scores and standard deviation of 4.8 and 0.4227. It is also revealed that, the delay in building projects delivery in Nigeria scored mean of 4.4 and standard deviation of 0.8559 which ranked 2nd among the skills shortage. This followed by, practicing building construction artisans in Nigeria lack the requisite Health, Safety & House-keeping skills at their workplaces which scored mean and standard deviation of 4.2 and 0.3207 respectively and it ranked 3rd. Lack of institutionalization of the NSQ leads to skill shortages for the industry was ranked 4th both with mean score and standard deviation of 4.1 and 0.8234. Practicing building construction artisans in Nigeria lack the requisite communication skills at their workplaces was also ranked 4th with mean score of 4.1 and standard deviation of 0.2176. There is a skills shortage in the plumbing installation qualification (trade) was ranked 6th with 3.9 and 0.2846 as mean and standard deviations. This is also the same with, there is skills shortage in the tiling & decorative stone works qualification (trade) and poor attention to the industry's labor markets requirements with mean score of 3.9 and standard deviations of 0.3274 and 0.395 respectively. Same result for practicing

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building construction artisans in Nigeria lack the requisite team work skills at their workplaces with 3.9 as mean and standard deviation of 0.7689.

Furthermore, lack of the readiness to adopt appropriate IT Facilities by practicing construction artisans was ranked 10th with mean and standard deviation of 3.8 and 0.4001. Practicing building construction artisans in Nigeria lack reading and interpreting skills for e-working drawings obtained mean of 3.7 and standard deviation of 0.2656 which was ranked 11th among the severity of skills shortage. While skill shortages have caused unemployment for the industry and there is a skills shortage in the masonry qualification (trade) were ranked 12th with mean score of 3.6 and standard deviations of 0.1822 and 0.0434 respectively. The result also shows that, there is a skills shortage in the carpentry and joinery qualification (trade) and skill shortages due to weak national skills policy of the industry scored 3.5 as mean with 0.3784 and 0.2478 as standard deviations (both ranked 14th). Also, insufficient wages/remuneration to practicing artisans of the industry was ranked 16th with mean score of 3.4 and standard deviation of 0.2708. Once more, non-availability of the appropriate tools and equipment for the building construction artisans is responsible for skill shortages, there is a skills shortage in the electrical installation qualification (trade) and there is a skills shortage in the painting and decoration qualification (trade), were ranked 17th which both obtained mean score of 3.3 and standard deviations of 0.1209, 0.0814 and 0.9978 respectively. Moreover, there is a skills shortage in the welding & steel fabrication qualification (trade) was ranked 20th with mean score of 3.2 and standard deviation of 0.0410. Lack of regular update of training curricula to suit industry requirements obtained mean score of 3.1 and standard deviation of 0.0466 and it ranked 21st among the severity skill shortages in the industry. The result also revealed that, the non-replacement of aged trained artisans of the industry and the deployment of the e-assessment platform would enhances the skills development of the trained artisans for the industry were ranked 22nd which mean score of 3.0 and standard deviations of 0.8808 and 0.5739 respectively.

Finally, Poor social and economic development of Nigeria was ranked 24th with mean score of 2.6 and standard deviation of 0.3450 while inadequate skill artisans to meet the current demands of the industry was ranked 25th among factors of skills shortage with mean score of 2.3 and standard deviation of 0.9943. Therefore, this shows that practicing building construction artisans in Nigeria lack the requisite anger management skills at their workplaces, delay in building projects delivery in Nigeria. Also, practicing building construction artisans in Nigeria lack the requisite health, safety and house-keeping skills at their workplaces and lack of institutionalization of the NSQ leads to skill shortages for the industry were the major points of consideration when looking at the skill shortages for the building construction delivery in Nigeria. Therefore, Nigeria, despite its abundant natural resources, particularly oil, has faced significant challenges in achieving sustainable social and economic development. A key factor contributing to this is the shortage of skilled artisans, which hinders the growth of various industries. This discussion will delve into the interconnectedness of these two issues, citing relevant research and literature. This finding is in

line with the report by World Bank (2023) in which Nigeria has a significant gap between the rich and the poor, with a large portion of the population living below the poverty line. This inequality hampers economic growth and social development. Also, Muhammad, Wasiu and Ahmad (2023) which reported that corruption is a pervasive problem in Nigeria, diverting resources and hindering efficient governance. This reduces investor confidence and stifles economic growth. The result also supported with the study conducted by Ajagbe, Ismail, Aslan and Choi (2012) which observed that inadequate infrastructure, such as poor roads, electricity supply, and healthcare facilities, hampers economic activity and reduces the quality of life for many Nigerians. With regard political instability study by Oseghale, Abiola-Falemu and Oseghale (2015) established that Political instability and insecurity can create a hostile environment for businesses and deter investment, hindering economic development.

CONCLUSION AND RECOMMENDATIONS

The study concluded that experienced male builders in their 40s, primarily enrolled in advanced degree programs, which are regulated by CORBON and have a significant track record in the industry, are the predominant participants in quality assurance process. The lack of anger management, health, safety, and house-keeping skills among practicing building construction artisans in Nigeria, coupled with the absence of institutionalized NSQ, contribute significantly to the skill shortages and delays in building project delivery. The effective skill development in the construction industry requires a multifaceted approach. Qualified trainers are essential to provide the necessary guidance and expertise, while regular training and development programs ensure that artisans' skills remain up-to-date and relevant. Construction industry should invest in NSQ training by allocate resources for regular training and certification programs to ensure artisans are equipped with the latest skills and knowledge. Construction industry should implement mandatory anger management training for all practicing building construction artisans in Nigeria. This training should cover techniques for identifying and managing anger, resolving conflicts peacefully, and fostering a positive work environment. Establish a standardized health, safety, and house-keeping training program for building construction artisans. This program should address safety protocols, hazard identification, and proper maintenance of tools and equipment.

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