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DEVELOPING A ROADMAP FOR RESOLVING CONSTRUCTION WORKFORCE CHALLENGES IN NIGERIA

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ABSTRACT

The inadequate supply of skilled workforce in the Nigerian house construction sector has continued to retard the productivity of the sector and exacerbated the housing challenges of the country. Nigeria has a large and fast-growing population of over 140 million with an estimated growth rate of 3.2%. This has engendered increased investment in shelter provision; especially by individuals and families due to fast rising housing rents mainly in the urban centres. Previous policies have not adequately addressed the realities of the skills inadequacies in the sector and there remains a paucity of empirical studies into the dynamics that impact construction workforce supply in Nigeria. The fallout of this is manifested in the difficulties faced by developers in sourcing suitably qualified and experienced workmen for house construction projects. In response to this challenge, an upsurge of migrant artisans and craftsmen from neighbouring West African nations like Togo, Benin Republic and Ghana - into Nigeria has occurred in the recent times. This development is totally unacceptable as it exacerbates the overarching socio-economic problems in Nigeria, especially the already high unemployment rate which is estimated to be 23.9%. This study investigates the inadequate training of house construction artisans in South Western Nigeria; and it does so by employing a quantitative research survey. It canvassed the opinions of professionals and employers. The study evolves interventions and develops a strategic blueprint for resolving the workforce crisis in the house construction sector.

Keywords: Artisans, House construction, Nigeria, Shortages, Strategies.

1. INTRODUCTION

The skills challenges confronting the Nigerian construction sector poses an impending danger to the sector if urgent actions are not taken to mitigate the problem. Construction employers and developers face difficulties in sourcing skilled workmen needed for site operations. The challenge has necessitated outsourcing the services of the construction artisans; a development that has rather compounded the socio-economic problems of the nation especially unemployment. As the nation continues to grapple with fast population growth and rapid urbanisation, housing problems become more acute especially in the cities as the supply cannot match with the demand.

Essentially, construction operations are still heavily dependent on manual labour

(Sanni & Alabi, 2008). Therefore, adequate mechanisms for training and supply of the needed workforce are crucial for effective housing delivery. However, there have been shortages of these workmen required for house building processes in the recent times (Agbola, 2005; Nworah, 2008). According to Adeloye (2008) there is a lack of properly structured recruitment and training scheme for the construction workmen and the system of remunerating them is not attractive to new entrants. There is therefore an urgent need to address the skills challenges in the nation's construction industry. Olaoye (2007) asserts that the training and supply mechanisms for construction workmen are largely underperforming in Nigeria.

Though many factors are responsible for acute housing problem the world over; these are entrenched in the components of the housing delivery system (Jinadu, 2004: 112). These include land; finance; human resources; building materials; government policies; construction technology, and regulatory mechanisms. This study investigates the human resources aspect with specific focus on the shortage of artisans required for house construction in Nigeria. Therefore, the objective of the study is to investigate the inadequate supply of skilled workmen into house construction sector in Nigeria; with the view to develop a comprehensive and strategic blueprint for resolving the problem.

2. FACTORS IMPACTING THE CONSTRUCTION SKILLS DEVELOPMENT IN NIGERIA

The existing literature reveals an array of factors that are jointly responsible for the shortages in construction artisans needed for adequate housing delivery. These factors are reviewed as follows:

2.1 Inadequate funding of vocational training

Adequate funding of the training of construction artisans is essential for continuous supply of the needed workforce in the industry. However, the World Bank (2004) observes that the overall expenditure on education and training at all levels as a share of both Gross Domestic Product (GDP) and total government spending in Nigeria has fallen over time. It is currently below what is obtainable in most developing nations. The government seems to pay lip service to its commitment to education and training; given the wide gap between political pronouncements and actual financial commitment to human capital development.

For instance, available data reveal that from the annual national budgets in Nigeria from year 2006 to year 2010, the total budgetary allocation to the education sector stood between 7% and 10% of the total budget (National Budget Office, 2011). While the United Nations Educational Scientific and Cultural Organisation (UNESCO) recommends that at least 26% of the national budget should be allocated to education, Aturu (2011) however observes that in Nigeria, it has always been less than 11%. Table 1 shows the comparison of education allocation as a percentage of the national budget.

The vocational subsector is relegated and given almost no attention as part of the educational sector. Collis and Hussey (2009) contend that the availability of data is a key factor in determining the successful outcome of a research study. The available data indicates that out of the total allocation for education from the national budget between years 2006 and 2010, vocational education and training only got an average 3% to 4% while the general education took over 95% each year as indicated in the Tables1and 2 below (National Budget Office, 2011).

Table 1: The education allocation as a percentage of the total annual national budget of Nigeria

Year	Education Allocation (N)	Education share of the total budget (%)
2006	166.6 Billion	8.8
2007	224.7 Billion	9.8
2008	210.4 Billion	10.
2009	216.6 Billion	8.8
2010	249.6 Billion	7.4

(Source: National Budget Office, 2011)

Table 2: Vocational education and training budgetary allocation as a percentage of the education allocation

Year	Total Education Allocation (N)	General Education Share (N)	VET Share (N)	VET share Of the total (%)
2006	166.6 Billion	161.6 Billion	5.0 Billion	3.0
2007	224.7 Billion	217.9 Billion	6.8 Billion	3.0
2008	210.4 Billion	203.4 Billion	7.0 Billion	3.3
2009	216.6 Billion	209.8 Billion	6.8 Billion	3.1
2010	249.6 Billion	240.1 Billion	9.1 Billion	3.7

Source: National Budget Office (2011)

2.2 Poor societal image

Aturu (2011) submits that there is a poor public perception of the construction artisans. Their works have been considered as careers that are only meant for the less academically endowed. The African Union (2007) submits that the jobs of construction workers and other vocational careers are left for the rural poor and the economically disadvantaged to learn a trade in Nigeria. This perception has been fuelled by the academic requirement for admission and limited prospects for further education and career development. The African Union (2007) further argues that the worst impression is sometimes created by government that the primary objective of vocational education and training is to keep the dropouts off the streets rather than project this type of training as an effective strategy to train skilled workers for employment and for sustainable livelihoods.

2.3 Inadequate physical infrastructure and obsolete training facilities

Boyi (2008) observes that the state of the infrastructure in the vocational training colleges is very poor to the extent that some of the colleges do not even have workshops to demonstrate practical lessons. Some buildings have become dilapidated and others having insufficient desks for students. In the opinion of Ekunke (2008) many of the existing structures have become deteriorated due to the protracted neglect and no recent funding has been allocated for infrastructure development in the

training colleges.

Consequently, the trainees lack the motivation to achieve their best in the training process, while the morale of the teachers is largely low. This unfavourable learning environment negatively impacts on the quality of the ultimate outcomes of the training. The assessment of the quality of training in Nigerian vocational colleges is rated as low (African Union, 2007); the training equipment is obsolete and there is a lack of instructional materials.

Many of the vocational colleges do not have workshops and even those colleges that have workshops largely lack the necessary equipment needed for meaningful training (Boyi, 2008: 5).

2.4 Inadequate policies

The vocational training colleges have been generally ineffective and largely neglected by government (Aturu, 2011). Education policies are unfavourable to the vocational segment, making no proper provision for its integration into the National Qualification Framework (NQF). With the non-flexible NQF in operation, career progression is made difficult for vocational graduates (Aturu, 2011). The situation with regards to NQF in South Africa as an example is instructive. According to the South African Qualifications Authority (SAQA, 2013) the National Qualifications Framework (NQF) is an integrated system that encourages lifelong learning by recording levels of learning achievement and recognising acquired skills and knowledge.

There are ten levels on the NQF. These levels are divided into three bands: General education and training; further education and training (which covers vocational learning) and higher education and training. Levels 1 to 4 are equivalent to grades 9 to 12 in high school or vocational training; Levels 5 to 7 are intended for college diplomas and technical qualifications, while Levels 7 to 10 are for university degrees. All learning is recognised within an integrated system of the NQF. A qualification is a formal recognition of the learning achievements. With the approval of the authority, a qualification can be registered on the NQF at a certain level. A prescribed number of credits will be awarded to the successful completion of a registered qualification (SAQA, 2013).

The National Qualifications Framework Act (NQF Act No. 67, 2008) states that the SAQA is the statutory body that oversees the development of the NQF and the monitoring of the training standards. The specific objectives of the National Qualifications Framework as provided for in the Act are to: Establish a unified / harmonised national structure for learning outcomes; Simplify access to, and the portability of furtherance within education, training and career track; Boost the quality of education and training; Fast-track and amend the unjust dichotomy and intolerance within education, training and job opportunities, and Promote the total individual development of every learner and the overall socio-economic growth of the country (NQF Act No. 67, 2008).

It is pertinent to note that there is no such statutory body as SAQA in Nigeria to harmonise all learning achievements recognised by the national constitution. The enabling policy provision to establish such an integrated national qualifications framework is absent till date. Consequently, learning takes place in a disjointed fashion and recognition of prior learning is subject to various interpretations of individual institutions. Essentially, all the components of an ideal NQF do exist within the system namely, general education (covering the primary to senior secondary school); vocational and technical education (covering the technical colleges and the

polytechnics); and higher education (from bachelor degree to doctorate).

However, these segments are not integrated into a unified system or framework that recognises all prior learning in order to make room for lifelong learning. Aturu (2011) bemoans the level of discrimination against the vocational education and training track in Nigeria noting that the qualifications are not recognised by most universities for further learning while inferior status is accorded its graduates both in terms of remunerations and appointments in the labour market. This poor image of artisans in society is one of the major challenges of artisan training in the country. In a related development, Dike (2008) argues that the protracted skills shortages in the country coupled with the growing youth restiveness and unemployment are attributable to the indifference of the policy makers to address the imbalance and faulty structure of the education sector.

There is therefore an urgent need to address the faulty, fragmented national qualifications framework via the objective engagement of the key stakeholders within the sector through appropriate reform of education policies. A reform that will make provision for an integrated and flexible NQF that unifies all the segments of the education system.

2.5 Inefficient regulatory mechanism

The government regulatory agency for the vocational and technical education in Nigeria is the National Board for Technical Education (NBTE). As stipulated by the policy establishing the NBTE (Act No.16 1985; Act No. 9 of 1993), the Board shall have among other responsibilities: To set and uphold standards in technical colleges, polytechnics and other related institutions in the country; to carry out quality assessments of programmes of all institutions under it for the suitability of awarding diplomas and certificates and for entry into the national examinations of such institutions; to set and review standards for skills as required by developments in technology and the labour market needs; to carry out periodic reviews of assessment standards for trainees and students; and to establish national certification scheme for artisans and technicians in partnership with the relevant ministries and agencies.

It must also carry out enlightenment programme to increase enrolment in vocational technical institutions and eliminate disparity between VET graduates and their university counterparts (NBTE Act No.16 1985; Act No. 9 of 1993).

However, the African Union (2007: 23) observes that VET in Nigeria is largely uncoordinated and lacks proper government regulations and interventions; this is due to operational inefficiencies of the NBTE. Programme accreditations in many technical colleges have been long overdue and the standard of training has fallen below the acceptable benchmark. In the opinion of Dike (2006) the NBTE is weak and failing in its responsibilities; it has almost neglected the technical colleges to run on their own.

The scope of operation of the NBTE may be too wide as it is responsible for all polytechnics, monotechnics and technical colleges. Over the years, many polytechnics have been added to the existing number in response to population growth from the time of NBTE policy was formulated. Consequently, the policy establishing NBTE is long overdue for reform. In a related development, the stakeholders within the Polytechnic subsector have always requested and lobbied the lawmakers for the establishment of a separate regulatory body, the National Polytechnic Commission, (NPC) to focus solely on polytechnic affairs. However, it is pertinent to note that these attempts are yet to yield any meaningful fruits in policy formulation (Aturu, 2011: 3-8).

2.6 Lack of continuous development of vocational instructors

The delivery of quality artisan training depends to a large extent on the proficiency of the instructors. The proficiency of a vocational instructor is assessed based on the sound theoretical knowledge, technical expertise and the level of pedagogical aptitude. The African Union (2007: 23) asserts that the quality of training in Nigerian vocational colleges is low; this is partly attributable to the inadequate training policy for vocational instructors as it is difficult to offer what one does not possess. Abassah (2011) laments the inadequate attention given to the training of vocational teachers in Nigeria this is due to the undue emphasis placed on general education qualifications at the expense of vocational and technical ones. Many universities do not offer courses in technical education that can help to train instructors for the vocational colleges. Those that offer such programmes are poorly patronised as young people are not attracted to such programmes.

Abassah (2011) further observes that the motivation level of VET teachers are low as they suffer poor public image, are poorly remunerated and largely remain underdeveloped as there are no provisions for in-service training and capacity building through workshops, conferences and further studies.

2.7 Inadequate curricula and textbooks

Abassah (2012) laments the dearth of relevant textbooks for instructional purposes and the poorly equipped libraries in the vocational training colleges. Arguing further Abassah (2012) maintains that the teachers' class notes mostly given to trainees as reference materials are grossly inadequate to inform and prepare the trainees for the world of work. In the opinion of Roger and Zamora (2011) the college training curricula has a weak link between the skills needed in the labour market and the content of the training offered. This is a direct result of the absence of industrial input into the training process. As a result, there is a skills mismatch and the graduates from the colleges find it difficult to access the labour market after the completion of their training (Ekunke, 2008: 31-35).

2.8 Weak recruitment strategies

Various authors have identified a number of recruitment approaches (Akintoye *et al.*, 2000; Chan & Dainty, 2007; Chan & Moehler, 2007; Morgan *et al.*, 2008) as alternative strategies for marketing training in construction sector to young people. These include, inter alia, the establishment of construction academies in high schools to activate their interest in construction; annual school tours by industry leaders to mobilise young people to enlist in construction occupations; sponsorship of construction summer camps and the offer of scholarships for prospective trainees. However, Aturu (2011: 2-3) submits that the recruitment drive for prospective trainees into the vocational technical colleges in Nigeria is low, given the poor public perception of artisans and the government discriminatory treatment of the vocational sub-sector in the scheme of things.

Thus, there is not enough motivation for the VET teachers and the other stakeholders to be actively involved in mobilisation and recruitment efforts. Aturu (2011) further submits that there is practically little or no intervention funding coming from any source as scholarships for prospective trainees. Consequently, enrolment figures remain far below the carrying capacities of most of the vocational colleges.

2.9 Inadequate teaching and learning processes

Atsumbe *et al*. (2012) posit that training process in the training colleges is

focussed mostly on the theoretical aspects of the curricula at the expense of the much needed practical aspects. This is attributable to a lack of training facilities and equipment in the colleges. Inadequate funding allocated to the colleges prevents them from acquiring cutting edge training equipment. Thus, the trainees from these colleges enter into the world of work only to discover a wide gap between their skills and labour market needs. This development accounts for the low employability of the graduates from the colleges.

The Student Industrial Work Experience Scheme (SIWES) was designed to expose trainees to a real work environment during the course of their training and prepare them for the world of work. Atsumbe (2005) notes that the SIWES has become a mere formality as most of the trainees do not find placements during the period due to poor coordination and the unwillingness of industry stakeholders.

2.10 Poor employers' participation in training

Ferranti *et al*. (2003) posits that globalisation and the attendant competitiveness in the global job market are arguably some of the critical factors that call for dedicated attention and cutting edge delivery of vocational training in any given nation in order to remain relevant. Given the impact of the recent global financial crisis which has exacerbated unemployment rate globally; it has been argued that young people are mostly affected; and that one of the major strategies to mitigate this challenge is vocational training (Werner *et al*., 2012).

The involvement of the industry in training is vital in order to keep abreast with the developments in technology and adapt the training content appropriately. Employers' participation in training is described by Clarke and Winch (2004) as educational philosophy that embeds strong theoretical underpinning from the school / college classrooms with work experience provided by the employers in the industry. However, Raidén and Dainty (2006) argue that for employers to engage in training in a competitive business climate, such effort would need support from public institutions.

Chan and Moehler (2008) opine that such involvement is only made possible through synergies among the education ministry, government and the industry.

Despite the crucial role played by vocational training in providing young people with skills for the labour market, Wolter (2012) laments the poor participation of employers in the training. The attitude derives from the substantial investment that the employers would have to commit to the training project and the fear of the apprentices moving away to other employers after the completion of the training. The foregoing scenario vividly captures the situation in Nigeria.

Dike (2008) submits that the involvement of the employers in training is almost non-existent. There are no incentives from government to motivate the employers; and the situation is exacerbated by the absence of an appropriate public institution like the Construction Industry Development Board (CIDB) as argued by Raidén and Dainty (2006: 63-79) to drive the training in the construction industry.

2.11 Weak assessment and certification processes

Within the Nigerian context each college is saddled with the task of trainees' assessment prior to certification. The assessment is largely tailored to the limit of the content of work covered within the colleges giving the various challenges; and largely lacking in the labour market requirement. However, there is a nationally coordinated examination for artisans seeking better recognition; the Trade Test I, II and III. The Trade Tests are designed for different trades at different proficiency levels. Trainees

are usually advised by the college management to go for the trade test after leaving the college.

Given the low quality of the training process and assessment, Atsumbe *et al.* (2012: 5) posit that the competencies of the trainees usually fall below labour market requirement after graduation. Consequently, many of the vocational college graduates remain unemployed years after training, adding to the poverty level in the society.

Attempts have been made in previous studies to address some aspects of the skills challenges in Nigerian construction. For instance, Uwameiye and Iyamu (2002) examined the training methodology of the local apprenticeship system in Edo and Delta states, Nigeria; Sanni and Alabi (2008) investigated the traditional apprenticeship approach of training house building artisans in Saki, Nigeria. In a related research study, Omodia (2009) looked into conceptual and methodological perspectives of manpower development in the Nigerian construction and other industries.

Dike (2008) examined the challenges confronting vocational education and training in Nigeria while Eneh (2010) investigated the declining technical and apprenticeship training in some selected industries including construction in Nigeria.

However, a review of these studies indicates some gaps that this study stands to bridge. Clearly, none of the studies developed a comprehensive blueprint that attempts to provide a holistic approach to resolving the workforce problem. Therefore, the focus of this study is to develop a comprehensive and strategic blueprint for resolving the workforce challenges. This study thus, offers some insights into the problem and also stands to enrich the literature in the area of study.

3. RESEARCH METHODOLOGY

In order to obtain robust data for gaining an in-depth understanding of the skills shortage in construction, Dainty *et al.* (2004) suggest that it is essential to canvass the opinions of key industry stakeholders. This would help to gain a comprehensive understanding of the problem and also aid the development of effective strategies for resolving it. The foregoing informed the choice of multiple target groups of key stakeholders as respondents for the study which include artisan employers and professionals.

A quantitative research survey was conducted using questionnaire survey coupled with an extensive review of literature. Simple random sampling techniques were adopted in the questionnaire survey as part of an existing data collection instrument for this study. Fellows and Liu (2003) posit that random sampling technique is a pragmatic way of collecting research data and it also ensures that the sample provides a fair representation of the population. In the event of the non-availability of the databases of the target groups in the study area as it is for this study, Leedy and Ormrod (2010) suggest a basic rule for determining a sufficient sample from a population as "the larger the sample, the better".

More specific guidelines were provided by Gay *et al.* (2009); Leedy and Ormrod (2010) for obtaining a sufficient and representative sample from a population while employing simple random sampling technique using N to represent the population size as follows:

- Where N=100 or less, sample the entire population;
- Where N= about 500, sample 50%;
- Where N= about 1500, sample 20%, and
- Where N= about 5000 or more, the sample size of 400 is adequate, the population size notwithstanding (Leedy & Ormrod, 2010: 213-214).

A five-point Likert scale was used for the design of the questionnaire employed in the study. According to Simeon (2011) pilot study is the pre-testing of research instrument. Lancaster *et al.* (2004) posit that one of the major purposes of a pilot study is to take care of all the likely problems that the respondents may encounter in completing the questionnaire, ensure ease of analysis and also help obtain information about the time it took to complete the questionnaire (Simeon, 2011). The questionnaire was given to three senior academics who also are experienced professionals in the built environment disciplines to review the structure, content, volume and ease of analysis. The feedback received from them was built into the instruments. The questionnaire was pre-tested before embarking on the main survey with two employers in order to assess the length of time taken to complete the questionnaire, the clarity of instructions and the general lay out. This input helped to refine the instrument. The questionnaires were administered to the respondents by hand given the low penetration of the internet in the study area.

The researcher made further efforts to increase the response rate as suggested by Babbie and Mouton (2005) by making telephone calls and sending electronic messages to the respondents.

A total of 450 questionnaires were distributed to employers and professionals. The employers included building contractors, government departments and institutions. The professionals included architects, civil engineers, quantity surveyors, builders and construction managers in South Western Nigeria.

3.1 Data Analysis

For the analysis of the data obtained for this research, Statistica (Version 10.0) application software for statistical analysis was employed. As earlier indicated, a five-point Likert scale was used, and the extent of the ranges of each step in the five-point Likert scale continuum was calculated by dividing the number of continuums, which is 4.00, by the 5 relative points. Therefore the ranges between the relative points equates to 0.80. The mean score was computed for each factor and the value was compared to suit the relative range it fell.

For instance strongly disagree (1 point), disagree (2 points), neutral (3 points), agree (4 points) and strongly agree (5 points). The mean score (MS) for each factor is then computed. Overall mean score (OMS) are also computed as the average of all the mean scores. The ranges relative to the mean scores are defined in the Table below.

The Mean Scores are denoted by (MS). The statistics used include frequencies, means and mean scores (MS). The mean is derived by allocating values to the ratings factors of the respondents.

Table 3: Guide for the interpretation of results

Mean score range	Meaning
MS > 1.00 ≤ 1.80	Strongly Disagree (SD)
MS > 1.80 ≤ 2.60	Disagree (D)
MS > 2.60 ≤ 3.40	Unsure (U)
MS > 3.40 ≤ 4.20	Agree (A)
MS> 4.20 ≤ 5.00	Strongly Agree (SA)

The results are presented as follows:

Table 4 indicates the responses of the professionals. Builders have 32%, they are followed by civil engineers with 26%, then the quantity surveyors which have 20%, and lastly the others with 12% which cover other allied professionals not listed. The lowest response is from construction managers (10%).

Table 4: Professionals

Professionals	No of questionnaires distributed	No of questionnaires received (Response)	Percentage contribution
Civil engineers	90	71	26
Quantity surveyors	98	54	20
Builders	102	88	32
Construction managers	88	29	10
Others	72	34	12
Total	**450**	**276**	**100**

3.1.1 Company category

Table 5 reveals the company category of the sample; it indicates that the sample investigated covers different categories. This suggests that the respondents that make up the survey sample are sourced from different areas of work, and make sufficient representation. The construction firm takes the lead with 49%, followed by consulting with 20%, and the least is from government departments with 15%.

Table 5: Company category

Category	Percentage
Construction firm	49
Consulting firm	20
Government department	15
Others	16
Total	**100**

4. FINDINGS ON STRATEGIES FOR RESOLVING THE WORKFORCE CHALLENGES

Table 6 indicates the respondents' perceptions on proposed strategies for improving employers' participation in training. It is noteworthy that all the strategies have all the mean scores within the range MS > 3.40 ≤ 4.20 and MS> 4.20 ≤ 5.00 and an overall mean score (OMS) of 4.26 for all the proposed strategies as shown in Table 6 which indicates that the respondents strongly agree / agree with the proposed strategies for improving the participation of employers in training. Most notable among the proposed strategies are the ones with the MS values of 4.26 and above, noting here that the OMS value is 4.26.

From this result the respondents can be deemed to agree with most of the proposed strategies -standardising the remunerations of artisans; providing incentives to motivate employers to participate more in training; creating more artisan training centres to accommodate more employers' sponsored trainees; and establishing investment in people initiative to mobilise employers for training to improve the

participation of employers.

Table 6: Strategies for improving the participation of employers in the artisan training

Proposed Strategies	……Response %.....						
	SD	**D**	**N**	**A**	**SA**	**M S**	**OMS**
Standardise remunerations of artisans	0.74	1.48	4.81	51.48	41.48	4.31	
Provide incentives to motivate employers to participate more in training	0.37	3.30	5.19	48.89	41.85	4.28	
Create more artisan training centres to accommodate more employers' sponsored trainees	1.11	1.85	7.78	48.89	40.37	4.26	**4.26**
Establish Investment in people initiative to mobilise employers for training	0.75	1.12	5.60	55.97	36.57	4.26	
Establish a dedicated agency for training of artisans for the industry	0.74	2.59	6.67	56.67	33.33	4.19	

Table 7 indicates the respondents' perceptions on proposed strategies for improving the Vocational Technical college training system. It is noteworthy that all the strategies have all the mean scores within the range MS > 3.40 ≤ 4.20 and MS> 4.20 ≤ 5.00; and an overall mean score (OMS) of 4.33 for all the proposed strategies as shown in Table 7 which indicates that the respondents strongly agreed / agreed with the proposed strategies for improving the Vocational Technical college system of training artisans. Most notable among the proposed strategies are the ones with the MS values of 4.36 and above, noting here that OMS value is 4.33.

From this result the respondents can be deemed to agree with the proposed strategies of - Government should provide adequate funding for the technical colleges; government should provide adequate training facilities for the colleges; Schools should engage the services of career counsellors to sensitise high school students towards construction careers; Government should create more vocational technical colleges; provide labour market information, opportunities, wage data to students via the internet, leaflets and workshops; employers and government should sponsor media campaigns to attract trainees to construction trades; and reform the policy provisions establishing NBTE as the most recommended strategies for improving the VT college system of training artisans.

Table 7: Strategies for improving the training in the colleges

Proposed Strategy	……..…Response %.....						
	SD	**D**	**N**	**A**	**SA**	**MS**	**OMS**
Government should provide adequate funding for the technical colleges	0.37	0.10	4.04	43.38	51.10	4.44	
Provide adequate training facilities for the colleges	0.37	0.37	4.04	45.22	50.00	4.44	
Schools should engage the services of career counsellors to sensitise high school students towards construction careers	1.48	2.58	8.86	45.02	42.07	4.40	
Government should create more vocational technical colleges	1.48	0.74	3.69	45.02	49.08	4.39	
Provide labour market information, opportunities, wage data to students via the internet, leaflets and workshops	0.74	0.74	4.83	46.89	46.85	4.38	
Employers and government should sponsor media campaigns to attract trainees to construction trades.	0.00	1.85	4.81	49.26	44.07	4.36	**4.33**
Reform the policy provisions establishing NBTE.	0.37	1.11	7.01	48.71	42.80	4.34	
Employers and Government should provide scholarships to attract new entrants.	0.00	0.74	5.54	46.49	47.23	4.32	
Industry leaders should engage in school tour annually to mobilise youth to enlist for construction occupations.	1.48	2.58	8.85	45.03	42.07	4.32	
Employers and other industry stakeholders should Sponsor summer construction camps for high school students.	0.74	1.11	7.38	51.29	39.48	4.28	
Education policy reforms to give recognition to vocational qualifications	0.74	0.37	6.62	56.25	36.03	4.26	
Construction academies and clubs should be established in high schools.	1.39	2.66	8.86	45.02	42.07	4.42	
Integration of vocational technical colleges into the university system	1.11	7.75	3.69	48.71	38.75	4.16	

5. DEVELOPING THE STRATEGIC BLUEPRINT

5.1 The strategic vision

The overall goal of the strategies is to reposition the artisan training system to an attractive and sustainable learning pathway with high relevance to the construction labour market needs and a suitable option for career progression.

5.1.1 The current position

The current position of the artisan training system can be summarised under the following points:

- Inadequate government policy framework on artisan training.
- Poor public image of artisans.
- Poor integration of vocational training with the general education.
- Weak recruitment efforts.
- Uncoordinated and unregulated training.
- Poor quality / standard of training.
- Poor funding from stakeholders.
- Weak employers' participation in training.

5.1.2 Artisan training best practices and results of the investigation

The development of research instruments for this study was based on improvement measures and artisan training best practice across the world identified from reviewed literature. Clues were taken from the UK, the US, Germany, New Zealand, Malaysia, India and South Africa.

Global best practice and improvement measures obtained from the results of the study suggest:

- The operation of a flexible National Qualification Framework (NQF) that integrates vocational education and training into the university system. The NQF should be based on the recognition of learning outcomes from vocational pathway and give room for career prospects and lifelong learning.
- Policy intervention to accord a good image to artisans in society by giving better recognition to vocational qualifications and promoting artisan training as a tool for economic empowerment. This would remove the poor public perception of vocational track as fit only for the less academically endowed.
- Artisan training should be made attractive through the provision of scholarships and other incentives for trainees by effective synergies between governments, employers training providers and the parents.
- A mechanism for recruitment and mobilisation of trainees from high schools and other sources to enrol in construction trades should be established. The mechanism could be in form of construction clubs, construction summer schools, media campaigns and websites advertisements.
- The policy framework for the regulation of artisan training system should be given periodic and continuous review.
- An effective and sustainable capacity building strategy for VET instructors / trainers must be established to continuously retrain, refresh

and update the artisan instructors / trainers for relevance in the industry.

- Periodic and continuous reforms of funding mechanism for artisan training system should be carried out to ensure that adequate and sustainable financial provision is made to cater for physical infrastructure, training facilities, library resources and training scholarships.
- Employers should be given incentives of tax relief and other means to encourage their participation in artisan training.
- A public institution that is dedicated to promoting and fostering public private partnership in artisan training delivery should be established.
- The orientation of youth should be changed through media campaigns from the current philosophy of indifference to skills acquisition and respect for dignity of labour.
- A functional regulatory agency for the proper coordination, standardisation and control of the traditional apprenticeship system should be established and backed up by appropriate policies.
- Skills support department should be set up in the Local Government Areas to promote skills acquisition among the youth at grassroots level.
- Effective anti-corruption policies and measures should be established to check the excesses of political office holders on the misappropriation of public funds meant for education and training.

5.1.3 Key strategic issues

The overall concern of the strategies is to transform the artisan training system into an attractive and sustainable learning pathway with high relevance to labour market needs and a suitable alternative for career progression. This would be achieved by driving greater synergies among stakeholders through a strong focus on outcomes. The stakeholders would be required to review priorities, re-assess key roles, reform key policies reallocate resources and strengthen collaboration across traditional boundaries to pursue common goals. The key strategic areas in improving the artisan training system include:

- Poor image of the artisans;
- Integration of VET with the general education;
- Coordination and regulation of the training system;
- Recognition of VET qualifications;
- Establishment of sustainable funding mechanism for artisan training system;
- Training of the trainers / Continuous Professional Development (CPD);
- Recruitment of trainees;
- Making employability a priority in the training provision, and
- Enhancing Public Private Partnership (PPP) in artisan training provision.

5.1.4 Identification of stakeholders

Essentially, there are five key stakeholders in the artisan training system. Each stakeholder has specific roles to play. The stakeholders include:

- Government;
- Employers;
- Trainers / training providers;
- Parents / guardians, and

- Trainees.

5.1.5 Roles of Stakeholders

This spells out who does what in the process of implementing the strategies. The role of each of the stakeholders in the artisan training system are identified and assigned appropriately; thus, giving clear direction and focus for maximum performance. The stakeholders involved in artisan training system and their respective roles are highlighted below:

5.1.5.1 Roles of government

In the implementation process of the strategy, the government would have to reform policies to boost the image of the artisan in society; integrate vocational education into the general education system; establish sustainable funding mechanism for artisan training; reform the policy provisions establishing NBTE for effective training coordination and regulation; develop a new policy framework to facilitate public private partnership in artisan training; establish Construction Industry Development Board (CIDB) to drive training; increase the budgetary allocation to the vocational sub-sector of education; establish an agency to regulate and standardise traditional apprenticeship training and re-orientate the youth through the media on dignity of labour.

Other roles of government are to establish a system for the continuous development of vocational trainers; provide regular leadership and management trainings for college administrators; institute measures to checkmate corrupt practice in the system; set up the Skills Acquisition Fund (SAF) for adequate funding of vocational training; improve investment in infrastructure and training facilities in the vocational colleges; establish construction academies and clubs in high schools; provide incentives to motivate employers to participate more in training; establish Investment in people initiative to mobilise employers for training; formulate a robust youth policy that will give priority to skills acquisition; establish an agency to regulate and standardise traditional apprenticeship training; sponsor media campaigns for the re-orientation of the youth on the value of vocational skills; provide scholarships and other incentives to attract young people to training and create skills support department in the Local Governments Areas to promote skills acquisition.

5.1.5.2 Roles of employers

Assigned roles of the employers in the implementation plan are to support the funding of artisan training through contribution to Skill Acquisition Fund; provide on the job training to employees; offer training platform for industrial attachment; afford artisan trainers / instructors the opportunities to update their skills; sponsor media campaigns to attract trainees to construction trades; sponsor summer construction camps for high school students; offer scholarships to attract trainees and engage in annual school tour to mobilise youth to enlist for training.

5.1.5.3 Roles of training providers

The trainers have the duty to sensitise high school students towards construction careers; establish good linkages and collaboration with the employers and the industry; continuously update their skill to remain current with the developments in the industry and collaborate with parents, guardians and the community.

5.1.5.4 Roles of parents and guardians

As a stakeholder in the system, parents and guardians have the duty to encourage their wards to enrol in artisan training; develop a new perspective about artisan training as a tool for economic empowerment; provide home support for their children to maximise the training period; and offer patriotic and persuasive support to influencing vocational training policy reforms.

5.1.5.5 Roles of trainees

The trainees are to show commitment and dedication to learning. They are to also give adequate time to learning and skills acquisition above any other domestic engagement.

5.2 Implementation plan

The implementation process would begin with the reform of key policies that have had negative impacts on artisan training from the past. The following sections discuss the implementation of the strategies.

5.2.1 Paradigm shift on the image of vocational education and training in society

Implementing an integrated artisan training strategy for a sustainable livelihood has to start from changing the philosophy and the rationale behind it as a second choice of educational pathway for drop-out students from the general education system; into a recognised and valid alternative educational pathway with lifelong learning and career prospects. The poor image of artisans and the dead-end syndrome which have been responsible for poor attraction of youth to vocational training stemmed from this philosophy of vocational education and training in Nigeria. Government policy reforms must give priority attention to changing this philosophy and thus, making vocational pathway attractive to the teeming youth in the populace. The right shift can be made first, through policy interventions, which call for political will and genuine intentions on the part of the political leaders to address the nation's socio-economic challenges especially, the high rate of youth unemployment and the attendant menaces in the society. With this paradigm shift in place, artisan training would become a viable education option with lifelong learning prospects and limitless career opportunities.

5.2.2 Effective collaboration between stakeholders

Building effective synergies between stakeholders in the artisan training system is very crucial to mitigating the challenges. Especially with regards to the involvement of the industry partners in the need analysis, design and delivery of training in order to avoid skills mismatch and ensure labour market relevance. Training curricula would have to be adapted constantly to reflect changes in skills needs and advancement in technology through a close link between the training providers and the industry practitioners.

5.2.3 Integration of vocational training with the general education

Recognition of prior learning must become embedded in all parts of the education and training system through the adoption of an outcomes-based approach for vocational qualifications. A flexible NQF should be developed that provides a link between vocational education and training and higher education. Lifelong learning opportunities that hitherto have been denied to those in the vocational track should be removed through appropriate policy interventions.

5.2.4 Capacity building for artisan instructors

A policy provision for appropriate training and continuous capacity building of trainers should be formulated. These would be achieved through the establishment of a legal framework for the continuous development of skills and competencies. For instance, a trainer from the industry setting would require some form of complementing pedagogical competencies; while instructors from school based training setting would need to build practical / industrial capacity to optimise quality of training delivery. As technology keeps changing, instructors would have to be retrained constantly to keep up with development trends in the industry to assure employability of the training graduate.

6. CONCLUSION

The central focus of this study is to investigate the problem of skilled workforce shortages in the Nigerian house construction sector; with a view of developing a strategic blueprint for mitigating the challenge.

The findings from the study indicate that the education policy framework is inadequate. The implications of this is that the vocational pathway has become a dead end and repulsive for young people in Nigerian society. This is one of the crucial factors responsible for the shortage of skilled workmen. The finding therefore suggests that there is an urgent need for policy interventions in the areas of education.

The study also found that the infrastructure and facilities for training house building artisans are grossly inadequate. In order to address the issue, findings indicate that infrastructure and training facilities should be given appropriate attention as they are very critical in the training process.

The findings from the study further indicate that funding of the training of house building artisans is poor. In terms of approaches to addressing the issue of funding, the results indicate that deliberate attention should be paid to boosting financial allocation to vocational training and monitoring of the disbursement. Findings indicate that the training of house building artisans is largely uncoordinated and lacks proper government regulation and interventions. Consequently, the findings indicate an urgent need for the reform of policy framework establishing the regulatory body for the training and renewed interventions. Though the non-availability of the databases of the target groups in the study area posed a limitation in determining the sample size. However, the researchers overcame the challenge by following appropriate guidelines provided by scholars (Gay *et al.*, 2009: 133; Leedy & Ormrod, 2010: 213-214) in such situations. This has been adequately discussed under the research methodology section.

Cleary, there is an urgent need for an intervention in order to forestall further degeneration of the situation and to make proper provision for future skills requirements in the house construction sector. In response to the complex nature of the problem, this study has developed a strategic blueprint that offers a holistic approach for repositioning the artisan training system to an attractive and sustainable learning pathway with high relevance to the house construction labour-market needs.

The focal point of the blueprint is driving greater synergies between key stakeholders in the industry. These synergies would go beyond traditional boundaries through a strong emphasis on outcomes and the pursuit of common goal. The strategic blueprint is backed up with a well-articulated implementation plan. Clearly, there is hope of resolving the construction skills crisis. This essentially is largely hung on the

timely appropriation and implementation of the solutions offered in this study.

This would help to mitigate the problem and pave way for sustainable skills supply in the Nigerian construction industry.

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