

Building Construction Technician Training: It's Relevance To Modern Construction Industry In Nigeria

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ABSTRACT: This paper analyzed the results of a survey that aims to explore the relevance of construction technician training in modern construction industry in Nigeria. The exploratory research highlights a specific set of objectives that determine the relevance of construction technician training and explore the factors militating against construction technicians training. The spearman correlation coefficient analysis shows that there is a statistically significant and positive agreement between each of the construction professionals. Consistent with theory and practice, the most predominant relevance of construction technician training is: its help organization to plan and meet its future manpower requirement while the most prominent factors militating against construction technician training is lack of adequate planning and poor regulation. The finding contributes to the relevance of construction technician training literature by encouraging intellectual property right and an effective regulatory body in the construction industry. The construction industry should strengthen its staff development programme through the establishment of a working policy for staff training.

Keywords: Technicians training, construction, poor regulation, staff development

INTRODUCTION

Construction technician training remain the instruments of development in Nigeria. Yet, paradoxically, the poor performance of technicians seems to have become the rule and not the exception in contemporary reality. The construction industry in Nigeria cannot be said to be the highest employers of labour due to the presence of Asian giant, the Chinese, Indiana.t.c. In the lightweight manufacturing sector but we cannot outweigh the significance contribution of the construction industry in Nigeria socioeconomic development through the proportion of workforce and acquisition of skills. The Nigeria construction industry accounts for 1.4% of its GDP Vetica (2011; cited in Dubem ikediashi etal, 2012) despite the growth seen in the sector, its contribution to the nation GDP has remain abysmally low. Training for capacity building is central to sustain economic growth and development because human capital is the greatest asset of any organization, Sanusi (2002; cited in Aroge Stephen, 2012). Surprisingly, the focus of most organization in Nigeria is very narrow, because what they seems to focus on is profit and not about those that will bring the profit. Employers training and development is seen as the most important formation of any competent management (Aroge Stephen, 2012). The reason is not farfetched because the ever increasing technological sophistication especially in this age of computer technology has really make it compulsory for organization to meet changing situations. For the construction industry in Nigeria to be able to service the economy, it has to parade competent hands in its operations, which includes credible consultants and contractors with qualified and competent operatives inclusive of craftsmen (Dantong lekjeb, Dassah, 2011). People who have the relevant skills not only make capital equipment more productive but also make efficient use of machine and equipment they work with (Obudho, 2008). Much has been written and said about construction technician training. Yet, there is still a consensus that construction technician training enhance both efficiency and effectiveness, that is a matter of perspective because there

are criteria for achieving success in the modern construction industry of today, a set policy, standard for the technicians must be set in other to meet the deficiencies of new technologies before we can be talking about the circumstances that would bring about the effectiveness and efficiency of the technicians. Training and development should be viewed as tools for enhancing the effective management of technological change (Benenone Osadi, 2010) concludes. Butler(1990a: cited in Obudho Omondi,2008) found that what is impacting the industry is the current technological change taking place in the world of plants and materials for use by the builders which allows an increase in production without an increase in labour. Building on the work of Benenone Osadi and Dibie Victor Monday (2010) added that the continuous growth in technological know-how worldwide has led to more obsolete technologies and the need for the industry to adopt new technologies. Adopting these new technologies by the construction industry will help enhance labour productivity because they are now current with the trends and techniques of the changing environment; however, this adoption of new techniques by the construction industry has to do with training programme available or provided by the organization to meet the lapses or deficiencies of its staffs. As observed by Onuka, Ajayi and kassim (2012) the absence of staff development programme in an organization often manifests tripartite problems of incompetence, inefficiencies and ineffectiveness. Therefore, without a training policy provided by an organization the tripartite problem of in competency, inefficiency and ineffectiveness will be imminent. This training helps to improve the outdated nature of the construction industry into a modern construction industry through updating of staffs and manpower development. The essence of construction technician training is not only on job skills but on personal development of the workforce through knowledge acquisition.

1.1 Statement of problem

When the population is growing uncontrollable at an alarming rate, and the percentage of unskilled labour is increasing drastically, consequently, the population is falling short in addressing the issue of technical training. Hence, there is high tendency of waste of human resources due to unproductivity, therefore, adoption of a training programme become imminent to salvage the perceived problems. Dubem ikediashi et al (2012) reveals that despite the invaluable contribution of construction companies in Nigeria economy, a large number of workforces still remain untrained. The construction industry all over the world have been adapting to the sporadic change in technologies with skills acquisition programme to meet the demand due to this changes but most construction companies in Nigeria are yet to adopt this trends, these development and technological advancement has great constraints and influence on the workforce. Employers want workers with many skills who can handle a wide range of responsibilities but to thrive in such a dynamic and constantly changing technological world demands radical restructuring with the responsibility of impacting skills and knowledge to trainees (Obudho Omondi, 2008). The work of omole (2001; cited in Dantong, Lekjeb and Dessah, 2011) observed that the construction industry is routinely accused of being wasteful, inefficient and falling short of quality and quantity target, and being late in delivery. In a related development (Dantong, lekjep and Dessah, 2011) affirmed that the accusation might be partially due to poor workmanship of the workforce, which can be traced to the negligence of the employer to establish a concrete training programme. This poor workmanship is not really the blame of the workforce, but the employers who fail to give out a very good training programme therefore expecting them to use their outdated knowledge on new techniques due to innovations. Omole (2001b: cited in Dantong, Lekjeb and dassah, n.d) found that companies are concentrating on financial gain and forgetting the people that make the job and money. These are one of the multiple problems of construction technical training because basically most construction companies in Nigeria hardly discuss about "How to improve the workforce but on how the workforce will improve them. Oladimeji Alo (n.d) however concludes that the above problem can be solved through three major pitfalls: Need analysis, implementation and information base.

1.2 Aim and objectives of the study

The aim of the study is to investigate the relevance of construction technicians training to the modern construction industry in Nigeria. To achieve this aim the following are germane to the objectives of the study.

1. To determine the relevance of construction technician training in modern construction industry in Nigeria
2. To identify the factors militating against construction technicians training in modern construction industry in Nigeria
3. To suggest ways of improving the factors highlighted in objective (2b) above

2. Literature review What are construction technicians training?

The works of Akubuiro (1999: cited in Onuka, Akayi and kassim, 2012) explains construction technician training as an organized procedures by which people learn knowledge or skills for a defined purpose. Onuka, Ajayi and kassim (2012) further explained that it is a process for equipping the employees, particularly non-managerial employees with specific skills, and secretarial skills to enable them improve performance and overall efficiency. Construction technician training was also defined as the acquisition of skills and information directly required for the performance of a specific role which include on the job traing, workshops, seminars and conference (chukwuneye iheanacho, igboke and Beatrice Nnena, 2011). This construction training can also be said to have an intrinsic mechanism that allows an employee or a worker to accept a challenging tasks setup by an organization through motivations. In regards to this caroline and Charles (1977: cited in chukwuneye iheanacho okereke, igboke and Beatrice Nnenna, 2011) explained that manpower development involves activities that enables an employee to comfortably and conveniently perform organizational tasks. The mechanical assumption is a misplacement of what is sometimes, but not always the case, it evidently neglects the vital role played by motivation as an interviewing variable between the polemics of training and manpower development and performance (chukwuneye iheanacho okereke, igboke and Beatrice Nnenna, 2011) Argues. Construction technician training are set of activities aimed at assisting an individual in the construction or related field to acquire knowledge, skills and the right attitude, motivations necessary for the effective performance of a specific tasks or job. Within the context of jobs or work in modern construction industry, construction technician training is a continuous process which normally starts at the point of entry and progresses throughout the workers career this is due to the industry which brings about vocational training and knowledge acquisition.

2.1 Aims of construction technician training

The works of Armstrong (1988, cited by oladimeji Alo, n.d) the aims of construction technician training are to (1) shortened learning time so that new recruits reach their peak of efficiency as quick as possible (2) improve the performance of existing employees (3) help people develop their capabilities so that the company can meet most, if not all it future requirement for managers, supervisors and higher grade professionals, technical and sales or production staff within the organization. According to a master plan on training (Republic of kenya, 1998 (114) cited in obudho omondi, 2008) the aims of construction technicians training can also be said to (1) inculcate the vocational and entrepreneurial skills necessary for self-employment (2) develop the scientific, technological, practical and attitudinal skills needed for specific jobs in various trades, vocations and professions (3) provide avenue for skills improvement and further training. In other to achieve above aim, odusami, oyediran and oseni (2007) opined that companies need to develop strategies to survive in a competitive environment and meet ever increasing client expectations. Obudho Omondi (2008) also suggest that the quality and relevance of construction technician training should be raised by making provision for

essential technologies and materials, and the establishment of effective monitoring and management system of the training institution available.

2.2 Relevance of construction technician training in modern construction industry in Nigeria

Construction technician training opens opportunity to acquire relevant skills for greater productivity. Training of construction craftsmen is imperative to the construction industry since it confirmed that training improve productivity, improvement if achieved will endure the survival and growth of an enterprise of which construction is one (Dantong, lekjeb and dessah, 2011). The questions of how construction technician training will help the workforce to improve the modern construction industry, social and economic development have undergone series of debate but recent research and experiences have proven that construction technician training has help the workforce to do all of planning, organizing, leading and controlling of resources necessary to meet organizational goals which in the order way round equip individual with necessary skills and knowledge to be self-reliant, which remains oriented and creation of jobs opportunities. According to Onuka, Ajayi and kassim (2012) man is dynamic in nature the need to be current and relevance in all spheres of human endeavor make staff development a necessity in order to keep track with current event and methods. Looking at the craftsmen in the construction industry, they play a crucial role in the practical realization of any construction project, they are mostly engaged in the technical aspect of construction and at the management level serves as front line manager (supervisors); giving the role of interpreting the company policies into practical realization of the organizational goal of employer (Dantong, lekjeb and Dessah, 2011) observed. The successful practice in the industry requires that the construction technician trainee possess certain abilities, such as motivation and attitude, which they match up with the right job. It can be observed that the relevance of the construction of the construction technician training cannot be far-fetched because of its importance in modern construction of today, but most construction companies in Nigeria are still finding it hard to adapt to the trends and changes in technological advancement due to their own selfish and suitability policies. Companies are concentrating on financial gains forgetting the people that make the job and money Omole (2001b: cited in Dantong, Lekjeb and Dessah, 2011). Gunawardena (1998, cited in Dubem ikediashi etal, 2012) argues that there is even an absence of manpower planning and development among construction companies in developing countries resulting in poor quality, high wastage and long term productivity decline in the industry. Ward (cited in odusami, oyediran and oseni, 2007) opines that training of staff in construction companies should be taken seriously. The capability of the construction industry to develop, procure and deliver innovative complex and demanding project, is driven by involvement of highly knowledgeable and skilled site managers (Odusami, Oyediran and Oseni, 2007) observes. They found that it is highly unlikely that any two site manager jobs will ever show much similarities they will work with different people at different places, they will be part of different organizations and they will be expected to operate

effectively within a variety of changing constraints, this dynamics scenario exposes the site manager to new challenges, which of course may require training. The modern construction industry of today have become very difficult for technicians that are not well involved or trained because technologies continue to grow worldwide while the one used by the construction industry become obsolete. According to Benemone osadi and dibie victor Monday (2010) training and development scheme should focus attention on helping people become comfortable in the presence of change and to work effectively within organization characterized by technological operations. Edoghogho ogbeifun (n.d) found that the trainees may not be proficient in their respective trades, yet they possess skill for improving employment which implies that a successful completion of prototype created the necessary encouragement in the workforce, reinforcing their confidence and ability to apply their knowledge appropriately in the "later more complex stages of the project". World Bank (1986: cited in Dubem ikediashi etal, 2012) opined that after acquiring the skills and knowledge, with enough experience they advance to supervisor's foreman. They also may become project managers or construction superintendents. Training is very important in any organization because if any organization wants to experience positive results and effectiveness, skills need to be developed and acquired through the employee, therefore when an organization train its workforce, the organization is indirectly investing in them so that they can bring the needed results by being effective and efficient. These process is part of an overall resource management approach that will hopefully result in people being motivated to perform (Barron, Hagerty, 2001) concludes

2.3 Factors militating against construction technician training in the Nigeria construction industry

Evidence abounds in the construction industry in Nigeria that there is a dearth of construction technician training. The influx of the Togolese and Benin operatives as led to the extinction of manpower development in the country because most clients prefer to patronized them due to their sound technical know-how and their technical efficiency in doing their jobs but this technical abilities of theirs is nothing more than the training programme or scheme provided by the government or construction industry in their country which has somehow failed here. Bamisile (2004; cited in Dantong, lekjeb and Dessah, n.d) found that in the time past many of the tradesmen (craftsmen) were generally trained through trade cadre, vocational training institutions and technical colleges, some even took examination at the end of the apprenticeship period such as the examination of the city and guide institute of Great Britain, trade test certificate of the ministry of labour and productivity e.t.c. It is regrettable to note that, there are no more serious formal vocational training Centre for training craftsmen. The average age in trained craftsmen and artisans in Nigeria for instance is between 45-50yrs. If care is not taken, in another 10yrs craftsmen and artisans that are really worth their self would have gone into extinction. There is an urgent need to embark on serious, well-funded and coordinated formal training and retraining programmes for artisans and craftsmen. These problem is not just a

problem of today but it has always been so in the time past, this led to the emergence of indigenous Decree in the early 1970 where the major constraint on technician training was identified, these identified factors are ITF (2002; cited in Dzazu and Ayegba, 2010): (1) inadequate educational and professional qualified personnel and (2) poor quality (low skilled) employee at technician and craft level. Osei (2000) noted that there was the need for a reduction in the reliant on expatriate personnel and also that there should be an increased training efforts that would adequately supply high level manpower as well as technical skills to meet the needs of the economy as a whole. Edoghogho Ogbeifun (2011) stated that the demands of training of artisans on site in terms of cost, commitment, low initial return on investment (ROI) and Piracy are some of the factors restraining many construction firms from active participation. According to wahab (2005: cited in Dantong, lekjeb and kassim, n.d) found that qualitative and quantitative deficiencies in workmen is one of the factors militating against the attainment of construction technician training. Osei (2000) carried out a survey on the appraisal of staff training of the National institute of strategies studies Kuru, and identifies the following factors: (1) lack of departmental approval: Osei (2000) explained that most departments in the construction industry view training as capital intensive venture that increase overheads to their company and as such put them at a disadvantages when tendering for a jobs, due to high cost reflecting in their tender (2) lack of implementation of training policies by organization: Osei (2000) also found that construction companies do not have a training programme, and those that have, hardly implement these policies and programme in training. Edoghogho Ogbeifun (2011) opines that the changing taste of customer has made it imperative for managers to embark upon training and re-training of operative. (3) problem of craftsmen applying for irrelevant field of study: Osei (2000) found that the application for irrelevant training programmes is common to the junior staff of the National Institute Kuru, of which the junior technical workers (craftsmen) are majority (4) Lack of fund: Osei (2000) also found that lack of funds could hinder someone from undergoing training especially where it involves payments of fees and so on. This is where it becomes crucial for every organization to have a scheme that will carter for those that cannot afford to attend any seminars or training programme provided.

organizational task was also identified in the literature as the relevance of construction technician training (chuckwunenye iheanacho okereke, igboke and Beatrice Nnenna, 2011)

3. Research Model and Design

Research Model

The Relationship between construction technician training and its relevance to modern construction industry Overall, the above literature review has shown that construction technician training is very important in any organization and that it is the most important formation of any competent organization (Aroge Stephen, 2012) and that people who have the relevant skills not only make capital equipment more productive but also make efficient use of machine and equipment they work with (Obudho, 2008, Kayode 2001). It was even observed that training enhance the effective management of technological changes (Benenome Osadi, 2010: Obudho Omondi, 2008, Onuka, Ajayi and kassim, 2012: Dubem ikediashi etal, 2012). Also performance of

Table 1

Summary of the research on the relevance of manpower development in the Nigeria construction industry

Obiegbu(2003)	Oladimeji Alo (N.d)	Kayode (2001)
Enabling that personnel acquire sufficient and relevant academic and technical knowledge and skills for dealing with problems of the construction industry	Enhancing the safety of workmen in the use of machines	Provide opportunities of employment and raise the economic level of the workers
Acquiring practical field exposure and laboratory/workshop study that bears on enlightening application of the problems in the industry	Helps to shorten the leaving time required by new employees to attain the level of proficiency and acquire the right attitude necessary for a job.	Provide pool of professionals qualified or proficient trainee for overall economic growth and development
Appreciating through theoretical and practical field exposure, the problem confronting Nigeria construction industry with the aim of satisfying the need for sourcing local construction materials and in so doing, sustaining Nigeria goal in nation building process	Facilitates the acquisition of knowledge and skill needed to cope with and adapt to changes in technology and the economy in general	Trainee becomes relevant and effective in their training requirement
Providing the technical ability to visualize and solve practical construction problems	Helps an organization to plan for and meet its future manpower requirement without recourse to crisis management	Trainee become conversant and knowledgeable on how to identify what is expected of them on the trends in the construction industry
Provides managerial knowledge to make sound decisions and implement them on a prudent and economic basis	Enhance the individual employee job mobility, independence the promo ability Ensure smooth career succession if properly managed Increases employees feeling of self-worth and identification with the organization	Enhance job efficiency and effectiveness Led to the emergence of skilled manpower in modern construction industry Increases productivity and efficiency Boost employees morale and organizational climate Implement new or changed policies or regulations Ensure the survival and growth of the organization Develop new skills knowledge, understanding and attitude Provides for succession plan and new skill obsolescence and cope with new technological advancement Use correctly new tools, machines, processes method or modifications thereof Reduce waste, accidents, turnover, lateness, absenteeism and other overhead cost Bring incumbents to the level of performance which meet the standard of performance

3.1 Research Design: Data collection

For this study, a well-structured questionnaire was prepared with respect to the relevance and factors militating against construction technician training in Nigeria construction industry. Considering that this study relies on the self-report measures of the relevance and factors militating against manpower development as perceived by the respondents. Its results depend heavily on the quality of their knowledge in the industry. As such, the research results are subjected to common method bias, however to reduce self-perception bias, the respondent were randomly selected; the respondents were made to understand that the research work is strictly for only academic purpose. The survey is based on a sample of convenience. The target population is Architects, Builders and Quantity surveyors who are strictly involved in construction activities and available at the time of this study. Hence, the overall data collection efforts resulted in a sample of 80 structured questionnaires distributed while only 55 questionnaires was returned based on the response rate (68.75%).

3.2 Measures

As mentioned above, the survey research uses a random sample survey measure of the relevance and factors militating against construction technician training in Nigeria. The questionnaire consists of 29 questions for the relevance of construction technician training and 23 for the factors militating against construction technician training in modern construction industry in Nigeria. Each question was assessed on a 5 point likert scale from not important to extremely important. The factors militating against construction technician training and the relevance of construction technicians training were assessed for their relative importance index using the mean item score as follows:

$$\frac{5n_5+4n_4+3n_3+2n_2+n_1}{5N} \tag{3}$$

Where n1=number of respondents for not important, n2=number of respondent for slightly important, n3=number of response for moderately important, n4=number of response for very important, n5=number of respondent for extremely important, N=total number of respondents. In other to test for any agreement in ranking of the individual factors, the rank correlation coefficient (rho) was used, which is calculated as follows

$$\frac{Rho(p) = 1 - 6\sum d^2}{N(n^2-1)} \tag{1}$$

Where D = differences between the ranks given by one party and the rank given by another party for an individual factors; N= number of factors which in this case is 29 for the relevance of construction technician training and 23 for the factors militating against construction technician training. To test the rank correlation coefficient, a t-test at 95% confidence level (interval) of null hypothesis (Ho), and the alternative hypothesis (H1) was carried out.

$$t = \frac{rs \sqrt{n-2}}{\sqrt{1-rs^2}} \tag{2}$$

The decision rule depends on whether the calculated value of t is greater than or less than the critical value of t for (n-2) degree of freedom.

Ho =There is no significance difference between the 3 construction industry participants in the ranking of the factors

H1 = There is a significance difference between the 3 construction participants in the ranking of factors

3.4 Relevance of construction technician training in the Nigeria construction industry

The relevance of construction technician training measures (questions) come from different source: obiegbu (2003), oladimeji Alo (n.d) and kayode (2001) (see table 1 for details)

3.5 Factors militating against construction technicians training in modern construction industry in Nigeria

The 23 questions about the factors militating against construction technician training comes from research work cited in the literature review, including source from (Dantong, Lekjeb and Dessah, n.d: Dsazu and Ayegba (2010), Okuntade Tope (2014).

3.6 Control variables

A number of relevant demographic and contextual variables were measures: organizations (Architects, Builders and Quantity surveyors), Academic qualification, industrial experience and types of organization (see table 2 for descriptive statistic of control variables)

4. Data analysis and strategy

A total of 80 respondents were selected and 65 were found reliable for use. These represented the three (3) construction professionals, comprising Architects (N=20), Builders (N=25) and quantity surveyor (N=20); the construction professionals were employed in client organization (N=5), consultancy firm (N=15) and contracting firms (N=35). The respondents working experience lies between under 10yrs (N=15), 10-20yrs (N=10), 21-30years (N=20) and over 30years (N=10)

Table 2: Descriptive characteristic of respondents

Organization(N=65)	Frequency	Percentage	Cumulative
Architects	20	30.76	30.76
Builders	25	38.48	69.24
Quantity surveyor	20	30.76	100.00
Academic qualification(N=65)			
Diploma			
HND	27	41.53	41.53
BSc	20	30.78	72.31
Masters	18	27.69	100.00
Industrial Experience(N=65)			
Under 10yrs	15	23.07	23.07
10-20yrs	30	46.15	69.22
Over 30yrs	20	30.78	100.00
Type of organization(N=65)			
Contracting	40	61.53	61.53
Consulting	15	23.07	84.60
Client	10	15.40	100.00

And also (N=27(41.53%)) HND, (N=20, 30.78%) BSc and N=18, 27.69% Master's degree.

4.1 Results

Relative importance index (RII) of the relevance of construction technician training and the factors militating against construction technician training in modern construction industry in Nigeria Table 3.0 (below) shows the relative importance index (RII) for the relevance of construction technician training in the modern construction industry in Nigeria. The relevance of construction technician training with the highest relative index (RII) is that of helping the organization to plan and meet its future manpower requirement without recourse to crisis management (0.96). This was ranked first by the construction participants. The relevance of construction technician training help any organization that understand the usefulness of technician

training for its employees, which make them to plan and meet any challenges of manpower deficiency in the future which is of advantage to any organization when bidding(osei, 2000). According to Dantong, lekjob and Dessah (2011) the need for maintaining standards in construction operation, requires an investment in research and development which empower the operatives (craftsmen) in upgrading and improving on skills to meet the ever increasing demands in today's constantly changing world. Ranked next to this is that of acquiring practical field exposure and laboratory/workshop study that bears on enlightened application of the problems in the industry (0.95) this was rated second highest by the quantity surveyors and third highest by both the builders and the

architects respectively. According to Odusami, Oyediran and Oseni (2007) found that training has long been identified and recognized as one of the fundamental and key processes with the construction industry to assist organizations meet the need of site managers with these qualities. Enabling that personnel acquire sufficient and relevant academic and technical knowledge and skills for dealing with the problems of the construction industry(0.93)

and that of appreciating theoretical and practical field exposure(0.93) came third in the rank. It was rated first by the quantity surveyor, fourth by the Architects and seventh by the Builders. The fourth in the rank is providing the technical abilities to visualize and solve practical construction problems (0.92) which were also rated third. Though it was rated fifth by the quantity surveyor and the Architects

Table 3: Relative importance index of the relevance of construction technician training in the Nigerian construction industry

Relevance of construction technician training	Arch	R Bldr	R Q/S	R Weight	R
Help organization to plan	0.98	2 0.93	2 0.97	1 0.96	1
Acquiring practical field exposure	0.97	3 0.92	3 0.96	2 0.95	2
Enabling personnel acquire practical field exposure	0.95	4 0.87	7 0.97	1 0.93	3
Appreciating through theoretical and practical field exposure	0.99	1 0.89	5 0.90	4 0.93	3
Providing the technical to visualize and solve practical construction problem	0.90	5 0.92	3 0.93	3 0.92	4
Provide opportunity of employment	0.99	1 0.89	5 0.88	5 0.92	4
Facilitates the acquisition of knowledge and skills needed to cope with and adapt to changes in technology	0.95	4 0.92	3 0.72	120.86	5
Exposed beneficiaries to the ethics on the world of work	0.85	9 0.89	5 0.85	6 0.86	5
Ensure the survival and growth of the organization	0.90	5 0.88	6 0.75	100.84	6
Trainee become relevant and effective in their training requirement	0.87	7 0.86	8 0.78	8 0.84	6
Providing managerial knowledge to make sound decisions and implement them on a prudent and economic basis	0.79	110.84	9 0.85	6 0.83	7
Enhance job efficiency and effectiveness	0.82	100.98	1 0.66	140.82	8
Led to the emergence of skilled manpower in modern construction industry	0.86	8 0.84	9 0.75	100.82	8
Develop new skill knowledge, understanding and attitude	0.89	6 0.80	120.74	110.81	9
Use correctly new tools, machines, processes method or modifications thereof	0.75	140.89	5 0.78	8 0.81	9
Enhance the individual employee job mobility, independence the promotability	0.73	150.80	120.88	5 0.80	10
Trainee become conversant and knowledgeable on how to identify what is expected of them on the trends in the construction industry	0.72	160.90	4 0.76	9 0.79	11
Improve the quality and quantity of work	0.77	130.77	140.84	7 0.79	11
Provide pool of professionals qualified or proficient trainee for overall economic growth and development	0.78	120.78	130.71	130.76	12
Reducewaste, accidents, turnover, lateness, absenteeism and other overhead cost	0.78	120.83	100.64	150.75	13
Increases productivity	0.62	180.82	110.64	160.69	14
Boost employee morale and organization climax	0.60	200.82	110.66	140.69	14
Bring incumbent to the level of performance which meet the standard of performance	0.69	170.54	200.75	100.66	15
Implement new or charged policies or regulation	0.53	210.66	160.63	170.61	16
Help to shorten the leaving time required by new employees to attain the level of proficiency and acquire the right attitude necessary for a job	0.61	190.58	190.64	150.61	16
Ensure smooth career succession if properly managed	0.51	220.59	180.44	200.51	17
Led to the emergence of skilled manpower	0.46	230.59	180.44	200.50	18
Reduce industrial risk/hazard	0.46	230.45	210.56	190.49	19
Provide succession plan	0.41	240.61	170.36	210.46	20

Note: Bldr-Builders, Arch-Architects, Q/s-Quantity surveyor, R-Ranks

However table 4.0, shows the relative importance index of the factors militating against construction technician training in the modern construction industry. The top (10) factors militating against construction technician training are(see table 4.0 below) lack of adequate encouragement(0.95), in enforcement of intellectual property right(0.88), poverty/lack of fund(budgetary provision)(0.87), No training/staff development(0.87), inadequate motivation for skill training(0.87), lack of available time for training(0.86), lack of effective regulatory body(0.83), poor planning and execution of policies(0.82), negative attitude of management(0.81), lack of foresight(0.78). referring to table

4.0(below) the Architects rated lack of adequate encouragement (0.99), no training/staff development(0.99) and inadequate motivation for skills training(0.95) as the top three(3) factors militating against construction technician training while No training/staff development(0.94), lack of adequate encouragement(0.92) and poverty/lack of fund(0.90) was rated highest by the Builders. In enforcement of intellectual property right (0.97), lack of adequate encouragement(0.93) and lack of available time for training was rated highest by the quantity surveyors as the factors militating against construction technician training in modern construction industry.

Factors militating against construction technician training	ARCH	R	BLDR	R	Q/S	R	Weight Average	R
Lack of adequate encouragement	0.99	1	0.92	2	0.93	2	0.95	1
Inenforcement of intellectual property right	0.87	4	0.81	11	0.97	1	0.88	2
Poverty/lack of fund	0.91	3	0.90	3	0.81	5	0.87	3
No training/staff development	0.99	1	0.94	1	0.68	11	0.87	3
Inadequate motivation for skill training	0.95	2	0.88	5	0.78	7	0.87	3
Lack of available time for training	0.82	8	0.90	3	0.86	3	0.86	4
Lack of effective regulatory body	0.85	6	0.89	4	0.76	8	0.83	5
Poor planning and excution of policies	0.84	7	0.83	9	0.80	6	0.82	6
Negatibe attitude of management	0.86	5	0.90	3	0.66	12	0.81	7
Lack of foresight	0.64	15	0.85	7	0.86	3	0.78	8
Lack of semsitivity	0.77	11	0.82	10	0.73	9	0.77	9
Corruption	0.66	14	0.84	8	0.80	6	0.77	9
Lack of support and encouragement	0.84	7	0.86	6	0.61	13	0.77	9
Government negligence to training of craftsmen	0.79	9	0.61	14	0.83	4	0.74	10
Lack of coeoperation by managers	0.64	15	0.82	10	0.76	8	0.74	10
Lack of qualified staffs	0.70	12	0.80	12	0.71	10	0.74	10
Absence of knowledge of training functions	0.78	10	0.79	13	0.56	16	0.71	11
Ignorance of the trainee	0.69	13	0.82	9	0.58	15	0.70	12
Frequent dispute	0.66	14	0.84	8	0.54	17	0.68	13
The procedure for technical training too cumbersome	0.52	17	0.82	10	0.61	13	0.65	14
Expected financial benefits of training not known	0.57	16	0.81	11	0.51	18	0.65	15
Changes in social situation	0.50	18	0.58	15	0.59	14	0.55	16

Note: BLDR-builders, ARCH-Architects, Q/S- quantity surveyors, R-Ranks

4.2 Tests for Hypothesis

An hypothesis was set up to test if there is any agreement in the ranking of individual factors regarding the relevance of construction technician training in modern construction industry and the factors militating against construction technician training as perceived by different groups of construction participants. Table 5.0 show the results of the analysis of spearman rank correlation, the t-value and the decision of null hypothesis for both the relevance of construction technician training and the factors militating against it. It can be observed from the results that the tcal

5.762, 3.825, 8.279, 8.245 and 8.349 are greater than the t-tab of 2.086 and 2.052 with 20 degree of freedom for the factors militating against construction technician training and 27 degree of freedom for the relevance of construction technician training at $p < 0.05$ significant level, hence rejection of null hypothesis (H_0) and the acceptance of the alternative hypothesis (H_1). It can be concluded that there is a general agreement on the ranking of both the factors militating and the relevance of construction technician training in modern construction industry as perceived by different groups of construction professionals

Table 5.0 shows the analysis of result of the factors and relevance of construction technician training in the modern construction industry in Nigeria.

Project participants	Rs	Tcal	Ttab	Reject Ho?	P-value
Architects and Builders	0.779	5.762	2.086	Yes	Sig<0.05
Architects and Quantity surveyor	0.645	3.825	2.086	Yes	Sig<0.05
Builders and Quantity surveyors	0.654	3.825	2.086	Yes	Sig<0.05
Architects and Builders	0.847	8.279	2.052	Yes	Sig<0.05
Architects and Quantity surveyors	0.846	8.245	2.052	Yes	Sig<0.05
Builders and quantity surveyors	0.849	8.349	2.052	Yes	Sig<0.05

Note: Rs-spearman's rank correlation coefficient, tcal-t-calculated, ttab-t-tabulated, Ho-null hypothesis, P-value-probability that reject the null hypothesis wrongly.

5. Discussion Research contribution

The results of the survey and the analysis of the relatibe importance index reveal the relevance of construction technician training in modern construction industry in Nigeria and the factors militating against construction technician training. The research found that the relevance of construction technician training helps organization to plan and meet its future manpower requiremnt with recourse to crisis management, acquiring practical field exposure and laboratory study that bears on enlightened application of the problems in the industry and enabling personnel acquire

sufficient and relevant academic and technical knowledge and skills for dealing with the multiple construction problem in the industry. Also, the construction participants would agree that lack of adequate planning and poor regulations could results in a serious constraint against construction technician training. In fact, if construction technician training are well documented in any organization the problem of technological deficiencies would have been tackled. As such, this study, offers an insights into the relevance and factors militating against construction technician training. However, from the perception of the construction

participants they unanimously agree that the relevance of construction technician training helps an organization to plan for and meet its future manpower requirement without recourse to crisis management while lack of adequate encouragement was rated the most prominent factors militating against construction technician training. Furthermore, the study finds support for the proposition that there is a significant difference in the opinion of the construction participants regarding the relevance and factors militating against construction technician training. Despite some differences in opinion held by the 3 groups survey on the factors, more specifically, the results of the spearman rank and the t test show that there is no difference between the ratings of the factors, hence there is a general agreement between the groups on the ranking of the factors.

5.1 Implications

The study sheds more light on the relevance of construction technician training and the factors militating against construction technician training in modern construction industry in Nigeria. The study shows that there is a positive agreement between the 29 relevance of construction technician training and the 22 factors militating against construction technician training. Finally, it suggests through the construction professionals perception that the relevance of construction technician training helps organization to plan and meet its future manpower requirement and also that of lack of adequate encouragement is rated the most predominant factors militating against construction technician training among other factors. Accordingly, this paper calls for refocusing on construction technician training since the rate at which manpower development training is degrading (as observed by bamisile, 2004). It is hoped that this research will spark interest in the search for more factors militating against construction technician training in modern construction industry in Nigeria and beyond. Hence, the limitation of this present research is that, it fails to identify the training programme available by each construction companies in Nigeria. The second limiting factors is that the research fails to identify the types of training programme available in the construction industry and the one established by the Government (Government oriented programmes) in order to determine the most effective training programme available in Nigeria. Although this however, goes beyond the purpose and scope of this research.

5.2 Outlook

The study opens opportunities for further research. First, future research might identify the types of training programme available in the Nigerian construction industry and compare it with that available in the Neighbouring countries since they have large amount of technically sound skilled labour in Nigeria. And also a comparative analysis or an empirical study should be carried out to identify the training programme provided by the Government (Government oriented programme) and that provided by the construction industry (construction oriented programme) to determine the most effective training programme available by both. Further research could also employ both qualitative and quantitative approach to understand the relevance and the constraint of practicing construction technician training

in the Nigerian construction industry. Also widening the samples to other construction professionals will not only buttress the research but lead to more insight on the responses and avoidance of bias.

6. Conclusion

The paper analyzes the result of a survey that aimed to explore the relevance of construction technician training and the factors militating against it in the modern construction industry of today as perceived by the construction professionals. This research holds a general view in Nigeria that construction technicians training have failed and if care proper policies or strategies are not implemented, technicians may go into extinction in Nigeria. It highlights the relevance and factors militating against construction technician training. The research then shows that there is a general agreement on the ranking of the factors identified as perceived by the construction professionals. The study therefore recommends the following in a way to minimize the factors militating against construction technician training in modern construction industry in Nigeria:

1. The technicians should be encouraged to undergo training through various incentives provided by the organizations
2. Intellectual property right should be enforced
3. Organization should endeavor to provide funds for training programmes as some technicians; craftsmen may not have the financial capacity to undergo available training programmes
4. Every organization should have a staff development training programme to enhance labour or staff productivity
5. Technicians should be well motivated for skill training since motivation has to do with the ability to learn
6. There should be an effective regulatory body in the construction industry that looks after the technical know-how of the technicians in any organization
7. The procedures for training of technicians should be made simple, plain and not too cumbersome for the trainee.

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