

Review of Shortage of Skilled Craftsmen in Small and Medium Construction Firms in Nigeria

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Abstract

Craftsmen in the construction industry play a very crucial role to the survival and growth of the industry as they are mostly engaged in the practical realization of construction projects. As a country endowed with skilled manpower, the construction industry in Nigeria can best be described as ironic. Though on the one hand, it was acclaimed to be the highest employer of the nation's workforce after agriculture, while on the other, it is faced with challenges in technical skilled craftsmen shortage which affects organization's productivity, quality of work, duration of projects and on firm's profits. Not much research has examined the shortage of skilled workforce in the perspective of small and medium construction firms (SMCFs) in Nigeria. Majority of earlier research has focused mainly on large construction firms. The purpose of this study is to carry out a detailed review of archival documents aimed at examining the shortage of skilled craftsmen in the construction industry, particularly in small and medium construction firms in Nigeria. This study adds to existing body of knowledge by exposing the reasons for shortage of skilled craftsmen in the construction industry in the perspective of small and medium construction firms in Nigeria.

Keywords— Small and Medium Firms; Human Resource Management; Service Organizations; Construction Firms; Nigeria.

Introduction

The construction industry occupies a sensitive position as it is perceived to play an essential role for continuous growth of both the developed and developing nations (Ofori, 2000). The role of the sector is very important because of its output and due to the achievement of socio-economic objectives such as shelter, infrastructure and employment opportunities (Usman et al., 2012). The vital role played by the construction industry cannot be over emphasized as it is vivid that the activities of the industry impact almost every aspect of the economy which is also responsible for about 16.0% of Gross Domestic Product (GDP) and employs approximately 25.0% of workforce in Nigeria (Ayangade et al., 2009).

Small and Medium Construction Firms (SMCFs) irrespective of their sizes have been a source of economic growth through its huge creation of job opportunities, creation of wealth and innovation by bringing in strategies that are competitive and set them apart from other organization (Ajagbe et al., 2012; Ismail et al., 2012). This opportunity offers the firms the capacity for good service delivery so as to satisfy the demand of clients by putting in place innovative approaches (Abdullah et al., 2011). The ability of firms to minimize costs also makes many large contractors choose to utilize their services to assist in the completion of projects which act as subcontractor within the supply chain. Osei (2000) argued that the intensive nature of labour in construction activities in Nigeria was attributed to the predominance of large number of SMCFs that depend mainly on both skilled and unskilled manpower for their activities

Craftsmen in the construction sector play a very essential role to the survival and development of the sector as they are directly involved in construction operation (Medugu, et al, 2011; Rafee, 2012). Even though Nigeria is endowed with ample manpower, authors posit that the situation in the sector is at best sarcastic. Fagbenle (2004) and other researchers reported that the industry is the highest employer of the nation's manpower after agriculture, whereas it is still faced with shortages of technically skilled craftsmen which affect productivity, work quality, projects duration and overall organizational profit (Ruchi, 2012; Kuroshi and Lawal, 2014; Alinaitwe et al., 2007; Durdyev and Mbachu, 2011).

There is a persistent accusation that the construction industry in Nigerian is wasteful, inefficient and fall short of quality, quantity targets, and often fail in meeting delivery dates. Ede (2010b), Dantong et al. (2011) and Ayedun, et al. (2012) believe this accusation is due to poor standard of workmanship because of incompetent personnel. They opine that this peculiar issue can be traced to the unwillingness of employers to set up sound training programs for their workforce. Training for development of capacity is key to sustain economic development since human capital is said to be the greatest asset of any organization (Osei, 2000; Dantong et al., 2011). Ironically, the emphasis of most organizations in Nigeria is very narrow, because majority of them focus

more on maximizing profits neglecting the workforce that generates such funds (Bilau, 2011; Long et al., 2012b). This is among the many issues confronting the training of craftsmen as most construction firms hardly discuss about how to improve the manpower but on how they will exploit the workforce. Probably this contributes to the poor performance of the sector. As a result of this, Ugheru (2006) noticed that there is an extremely high shortage of technically skilled labour construction sector of Nigerian. However, this study which is aimed at carrying out a detailed review of archival documents with a view to examining the shortage of skilled craftsmen in the construction industry, particularly in SMCFs in Nigeria shall be arranged in the following manner. The next section deals with the presentation of detailed review of past researches such as the meaning of Small and Medium Firms followed by the impact of skilled craftsmen to the development of SMCFs, skilled craftsmen's need and availability, meaning of skill and skill shortage, causes of skilled craftsmen shortage in Nigeria, implications on productivity, cost, time, quality and project success, effects of training on productivity improvement, relevance of construction craftsmen training. The final section of this study is the conclusions and suggestions for policy directions.

Review of Relevant Literature

Small and Medium Firms (SMFs)

Notwithstanding the sizes of the Small and Medium Sized Firms, they have been considered to be an avenue for economic growth through its enormous creation of wealth, job opportunities, and innovation by introducing competitive strategies which set them apart from other companies. Abdullah et al. (2011) argued that this gives them the ability to re-engineer product and good service delivery in order to meet clients demand by putting in place innovative techniques or development of new strategy. The job opportunities such category of firms creates improve the livelihood of a large percentage of citizens of any nation (Abdullah et al., 2011; Thwala et al., 2012). Majorly opinion molders often neglect the huge importance of SMFs, whereas most economy who drive towards industrial development depend on the development of SMFs. However, considering its large numbers and structure which under adequate conditions gives them the leverage to stand adverse economic situations. Ajagbe and Ismail (2014) posit that SMFs are also considered by many to be an integral part of any healthy economy considering the role they play in the creation of jobs and fostering of technology innovation. Apart from the fact that they serve as engine to generate employment for the jobless, they are of interest to those concerned with employment relations and considered to be essential to organization success (Edoghogho, 2011). The ability of SMFs in the reduction of costs also make many larger contractors choose to utilize their services to assist in the completion of projects because they act as subcontractor within the supply chain (Darren et al., 2012; Abdullah et al., 2012). In view of the foregoing, the labour intensive nature of construction operations in Nigeria was regarded to be due to the predominance of large number of SMCFs that depend on both skilled and unskilled labour for their operations.

Impact of Skilled Craftsmen to the Development of Small and Medium Construction Firms

Medugu et al (2011) mentioned that where highly capable personnel is utilized, the impact of skilled craftsmen in the industry is very visible in it ends products. This is because they are directly involved in speedy realization of construction projects delivery since they are involved in the technical aspect of such contract. However, where qualified skilled craftsmen are involved, it tends to eliminate the concern of poor quality, low productivity, late project completion which often result to conflicts, cost and time overruns. Abiola (2004) believe that this problem is mostly attributed to poor level of workmanship which normally results to rework of defective or unsatisfactory work done by incompetent skilled craftsmen. In addition, skilled craftsman also helps to raise productivity, reduction of accident, less supervision, increased organization stability and flexibility.

Skilled Craftsmen Need and Availability

The impact of skilled craftsmen availability has been sufficiently reported in the literature with the ever increasing pressure on construction contractors to deliver projects of desired quality, cost and on schedule time (Olomolaiye and Ogunlana, 1989; IOMA 2005; Ugheru, 2006, Medugu, 2011). The importance of more skilled craftsmen in the industry cannot be under-rated as they have the potential of eliminating inefficiencies arising from poorly constructed projects. Bustani (2000) opine that the quality and availability of skilled workforce is considered an important factor in the effectiveness of the construction sector. Hence, various research have investigated the existence of unskilled craftsmen in the Nigeria construction industry (Ndibe et al., 2013; Kazaure, 2011; Wogu, 2010). The insufficiency of technically qualified personnel in the face of increased demand has led to a situation where the big contractors are considering investing in training and development. In Nigeria, the demand from clients for higher quality building has also raised some concern amongst contractors about inadequacy of skilled and qualified manpower, this has in addition resulted to the renewed interest in training and development. In view of the rising influx of contractors from abroad who have posed as a challenge to local builders by setting higher quality standards (with many high-rise buildings). This indicates that local

contractors have no choice but to raise their standards and quality of work. This goes further to show that training is fundamental to meeting the skill requirements of the construction industry employees. However, training must be demand –led, that means that it must be needed, wanted and feasible (Muya et al., 2006). In addition, if the market does not demand and value skills, then there is a danger of training people not finding work or not finding adequate remuneration for the skill that they have acquired. If this happen, they will then be lost to the industry and probably to the country as they migrate in search of better employment opportunities overseas. The implication is that for training to be relevant it should be both demand–led and directed towards the upgrading of skills of those who are already on the job or with the assurance of finding suitable jobs.

The Term Skill

A skill is an ability to perform a productive task at certain level of competence. Darren et al. (2012) posit that as a skill is associated with a particular task, a person who does not possess such a skill is unlikely to be able to carry out such task or will be less productive than somebody who does possess this skill. They added that skills are often associated with a qualification and its acquisition through formal and informal training and on-the-job experience.

Skill Shortage

Darren et al. (2012) consider skill shortage to occur when the demands for workers for a particular occupation is greater than the supply of personnel who are qualified, available and willing to work under existing market conditions, and if the supply is greater than demand then there is a surplus. Awe (2006) contributed that a shortage may be evident only in particular specialization in an occupation, it does not have to be across the whole occupation. In addition, it may also be restricted to particular locations. He put forward that overtime the market might adjust in a number of ways, including price and or quality adjustment, and the imbalance clears. In practical work, shortages have always been interpreted or even defined directly in terms of difficulties in filling vacancies.

Ajagbe et al (2011) suggested that employers may report shortages of particular workers, or difficulties in filling vacancies, either because there are not enough of them or else those who are available do not possess skills deemed necessary by employers, such as computer literacy. Shortage of the first type is quantitative while those of the second type are qualitative. In competitive labour market employers accept candidates whose skills do not match the ideal. However, from the perspectives of the employers shortages occur, but from the perspective of the market the positions were filled and hence no shortage exists. Conversely, in a slack labour market if over-qualified people fill positions then the market may not show an imbalance.

Causes of Skilled Craftsmen Shortage in Nigeria

The challenge of skilled workforce shortage is a critical threat to the economic health of many nations around the globe. Medugu et al. (2011) mentioned that skilled labour shortage impact different areas of construction activities and impact on time, cost and quality of work. He opined that this may also endanger the achievement of financial prosperity for which such projects are conceived. Nigeria as a country undergoing economic reform needs a productive, competent, and flexible workforce to further her economic growth. Dantong et al. (2011) however uncovered that skilled craftsmen shortage is not a shortage of workers rather it is a shortage of adequately trained, skilled, and productive workers available for certain jobs. Attar et al. (2012) pointed out some reasons attributed for such shortage as lack of training and retraining, an aging workforce, and the construction industry that does not appeal to young, potentially qualified manpower. Furthermore, an increasingly poor image over the last couple of decades has discouraged young people from seeing the construction industry as a viable career path. Ankrah (2007) sees this as the most pressing issue in the nation's construction sector which is already having serious implications for both businesses and the economy generally. In view of these, there is an urgent need of up-skilling construction skilled craftsmen in order to address the issues of poor workmanship.

According to Bustani (2011), the quality and availability of skilled workforce is considered an important factor towards the effectiveness of the construction sector. However, various reports have indicated the existence of shortages and poor quality of craftsmen in the Nigerian construction industry (Dantong et al. 2011; Long et al., 2012a; Long et al., 2012b). Some reasons attributed for such shortages includes; aging of skilled craft workers in the industry, decline in the number of new entrants into skilled trades, poor finding and ineffective state of vocational education and training / retraining system in the country. Others include: poor image associated with construction labour as work done by less intelligent people, lack of commitment by government and the construction industry towards skills training. In addition the development, introduction of new technologies and materials requiring higher skills among others (Awe, 2006; Bokinni, 2005; Darren et al., 2012).

Lack of Organization Training and Retraining of Skilled Craftsmen: Training for capacity building is central to sustain economic growth and development because human capital is the greatest asset of any organization (Long et al., 2012a; Long et al., 2012b). Surprisingly, most construction firms in Nigeria are very narrow, because they seem to focus on the financial gains forgetting the people that make the job and money. Dantong (2007) posit that these are among the multiple problems of craftsmen training as most construction firms in Nigeria hardly discuss about how to improve the workforce but on how the workforce will improve them. Onuka et al. (2012) portends that the absence of craftsmen training and retraining programme in an organization often manifests tripartite problems if incompetence, inefficiencies and ineffectiveness. Therefore, without a training policy provided by an organization the tripartite problems earlier mentioned will be imminent. The author suggests that training and development should be viewed as veritable tools that help to improve the outdated nature of the construction industry in to a modern construction industry through updating of staffs and manpower development.

Aging of Skilled Workforce in the Industry: This is one of the greatest challenges currently facing the construction industry, as the current average age in trained craftsmen and artisans in the sector is between 45-50 years and fewer skilled workers are available to replace the aging workforce. Dantong et al. (2011) believes that if this trend is not checked, in the nearest future craftsmen and artisans that really worth their onion would have gone into extinction.

Rapid Change in technology: The construction industry all over the world is experiencing rapid changes in technology. Dubem et al. (2012) views this reason is not far-fetched because of the ever increasing sophistication in this age of computer technology which has made it compulsory for organization to meet changing situations with globalization in the construction industry and client demand. Okuntade (2014) highlighted that the construction industry all over the world have been adapting to the sporadic change in technology with skills acquisition programme to meet demands. Despite this change most construction companies in Nigeria are yet to adapt to this trends. This however, hast these has great constraints and influence on the workforce (Dubem et al., 2012). For the construction industry to be able service the economy, it has to parade competent hands in its operation, which includes credible consultants and contractors with qualified and competent craftsmen (Dantong et al., 2011).

Poor Remuneration of Skilled Craftsmen: This is a major reason the construction industry is having problems of attracting and retaining skilled workforce. In Nigeria, there is no regulation guiding minimum wage for construction workers. Fagbenle (2004) put forward that different wages are paid in across the country. This issue prompt construction worker to pursue other career or migrate to where they will be better remunerated. The nature of the construction industry is a contributing factor that makes it difficult for construction workers to join trade union. This informs the reason wages cannot be jointly negotiated, as it is in the case in government establishment. The workers in turn do not work with full loyalty in this respect (Fagbenle, 2004).

Lack of Motivation of Skilled Craftsmen: Human potential is boundless but it requires motivation in order to excel (Fagbenle, 2004; Dubem et al., 2012). Motivation is an art of inspiring someone to work (Solomon et al., 2012). Ironically, majority of construction firms in Nigeria do not motivate their skilled workforce for improved productivity. Since lack of motivation has always resulted to high staff turnover in the industry. Fagbenle (2004) opine that motivation of skilled workforce can be achieved in many ways, but whatever method is adopted, it must be realized that economic rewards must be among the chief consideration. It is therefore necessary that a sound wage policy is laid down with well-structured incentive and bonus plan. Ugheru (2006) finds that other considerations to aid motivation include: financial incentives, promotion, job security, welfare package, and participation in decision making and among others.

Lack of Appeal to Young, Potentially Skilled Workers: The construction industry lacks appeal to young, potentially skilled workers which increasingly give poor image associated with construction labour as work done by less intelligent craftsmen (incompetent craftsmen). Darren et al. (2012) thinks this is due to the inefficiencies which lead to poor workmanship that result to rework that brings about cost and time overrun. Poor image and career paths over the last couple of years has discouraged young people from seeing the construction industry as a viable career path. According to Awe (2006) the Nigerians youth no longer show interest in skill acquisition unlike the case in developed countries such as the UK where reports indicate that demand from young people for apprenticeships is outstripping the number of training places available in the industry.

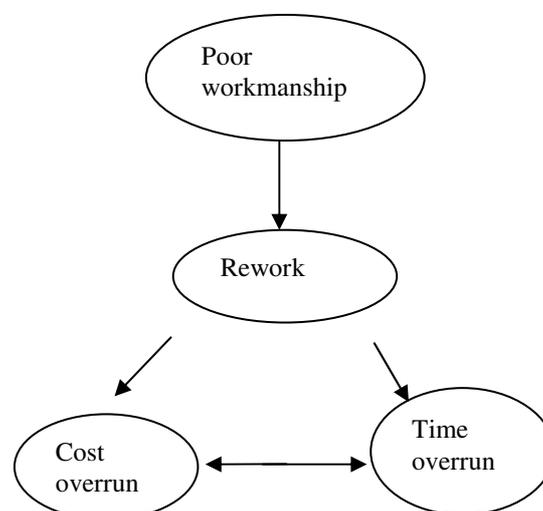
Implications of Skill Shortages on Productivity, Cost, Time, Quality and Project Success

Labour is a major component of construction work in Nigeria. Unlike in developed economies such as the UK,

USA and Germany where operations on construction sites are highly mechanized. Construction work in Nigeria is low tech and labour intensive. Solomon et al. (2012) defined productivity as the amount of products or services produced compared to the amount of goods or labour used to produce them. In construction, labour productivity is better known as labour output and is measured as the amount of work done over a period of time. Olomolaiye and Ogunlana (1989) observed that production outputs in key building companies in Nigeria were lower than they ought to be. Reasons for this were linked to inefficient methods, lack of appropriate tools and poor supervision. This agrees with a study carried out by Alinaitwe et al. (2007) which ranked incompetent supervisors and lack of skills of the workers as the two most significant causes of low productivity of construction workers in developing countries.

Poor Workmanship

Several authors including (Aniekwu & Okpala,1988; Kolawole & Frank,1999; Medugu et al, 2011; Dantong et al, 2011; Bilau et al. 2014) agrees that poor workmanship is one of the problems that the Nigeria construction industries are facing as the use of incompetent craftsmen lead to poor workmanship. Poor workmanship could result to rework due to incompetent craftsmen, though there are many factors that leads to poor workmanship, but that would not be discussed, only rework which result to cost and time overruns in project delivery process and has become a cankerworm within the Nigeria construction industry.



Rework

Rework in construction projects is referred to as the unnecessary effort of redoing a process or activity that was incorrectly implemented in the first instance (Ekambaram, 2006; Abdullah et al., 2012)). In construction projects, rework which lead to cost and time overruns can result from an array of factors such as poor workmanship by incompetent craftsmen, errors, omissions, failures, changes, poor communication and poor coordination. To some extent, the level of rework in construction projects would be depend on external factors such as excessive workload, market conditions for instance, increased defects and from limitations on the availability of competent subcontractors (Adamu et al., 2011; Dai et al., 2009; Enshassi et al., 2007).Rework and wastages are considered as non-value adding endemic symptoms that could adversely affect the performance, productivity and ultimately profit margins (Ekambaram, 2006; Abdullah et al. (2011). Some Previous studies indicated that the costs of rework in poorly managed projects can be as high as 25% of contract value and 10% of the total project costs (Abdullah et al. (2012).

Significance of Reducing Rework

Durdyev and Mbachu (2011) posit that project rework occurrences adversely impact project performance in such areas as costs, time and stakeholder satisfaction. Hanna et al. (2008) finds that the direct impact of rework on project management transactions include (a) additional time to rework (b) additional costs for covering rework occurrences (c) additional materials for rework and subsequent wastage handling (d) additional labour for rework and related extensions of supervision.

Time overruns

Ijigah et al. (2012) opine that time overrun is one of the causes resulting from rework which adversely affect performance, productivity and ultimately profit margins. The problem of project time overrun is of international concern. As numerous studies related to causes of time or cost overruns have been conducted worldwide and

mostly in developed countries (Ijigah, et al. 2012). According to Hewage and Ruwanpura (2006), Ibeanu (2006) and Kazaz et al. (2008) time overrun is the extension of time beyond planned completion dates usually traceable to contractors. Ugwuja (2010) defined it as the time lapse between the agreed estimation or completion date and the actual date of completion. Odesola and Idoro (2014) describe time overrun as the time during which some part of construction project is completed beyond the project completion date or not performed as planned due to an unanticipated circumstance. Time overrun affects the project owners, contractors and other project participants. Project owners may be affected through lost benefits that could have accrued from the completed facility, while contractors may have to spend more on labour and plant, pay penalties as per the contract or even lose other profitable contracts because resources for the next job are tied up on delayed projects (Lawal et al., 2008; Odesola et al., 2012; Olatunji et al., 2007)

Cost Overrun

Odesola et al. (2012) and Ijigah et al (2012) posit that cost overrun is also one of the causes resulting from rework which adversely affect the performance, productivity and ultimately the profit margins of the construction work. Awe et al. (2010) contributed that rework also triggers claims for extra costs and time wasted in redoing or repairing defects by direct impacts of rework on project management transactions which include (a) additional time to rework (b) additional costs for covering rework occurrences (c) additional materials for rework and subsequent wastage handling (d) additional labour for rework and related extensions of supervision manpower (Oyelere, 2007; Wang, 2008; Awe et al., 2009)

Need for Training Craftsmen in Nigeria

Awogbenle and Iwuamadi (2010) and Cheung et al. (2009) defines training as an organizational effort to change the behaviour or attitudes of employees so that they can perform to acceptable standards on the job. Awe et al. (2011) added that training seeks to achieve improved human productivity by increasing the ability level of the work force. Training is giving teaching and practice to personnel in order to bring him to a desired standard of behaviour, efficiency or physical condition (Obiegbu, 2003). Furthermore, training involve submitting a person to discipline and instruction, to educate, to bring up, rear in habits of good behaviour and conduct. Obiegbu (2003) believes that the nature of human resource problem and its pervasive effects indicate the need for extraordinary action to upgrade managerial and technical skills, broaden their range and increase their totality. Education and training are, consequently, needed at all levels and across a wider spectrum of technical discipline. Bokinni (2005) suggested that what is required more than ever before is a highly trained cadre of personnel who are alive to the needs and realities of their own societies, sensitive to cultural values of intrinsic worth, conscious of the social nature of design and imbued with philosophy, which leads to the efficient use of indigenous materials and techniques.

Ness (2009) and Oyegoke et al. (2009) observed that construction participants, contractors inclusive are faced with challenges which amongst others include higher clients' requirements through increasing complexity of modern construction projects, impact of computerization and would be the attainment of organizational goals. Dantong (2007) argued that training offers the platform for enhancing the potentials of the contractor craftsmen through the improvement on their skills and consequently contributes to contractors' performance in the construction industry.

Effects of Training on Productivity Improvement

Solomon et al. (2012) mentioned that productivity improvement is a central challenge for managers in all types and sizes of organizations. Managers are being asked to get more mileage out of all their resources: human, financial, information, and materials. Productivity is an output - input ratio. Abiola (2004) added that inputs include all resources consumed to produce those outputs. The author mentioned that labour is one of the input resources consumed but so too are capital, material and energy. Productivity is reaching the highest level of performance with the least of expenditure of resources. It's ultimately the ability to produce the desired result. Training offers the craftsmen the ability to perform their work effectively and efficiently and these qualities are recipe for workers' productivity (Bilau et al, 2014; Abiola, 2004). Therefore construction craftsmen when employed must be trained to the industries standards while those already employed must be constantly trained and retrained in order to improve on their productivity.

2.11 Factors Militating against Training of Construction Craftsmen in Nigeria

- Lack of Organizations Investment on Skilled Craftsmen Training
- Lack of Planning and Implementation of Training Policies by Organizations
- Influx of Migrant Skilled Workers
- Workers Reluctance to Invest on their own Training
- Contractors Reluctance to Embark on Craftsmen Training

- Lack of Experienced Instructors to Train Craftsmen
- Poor management of Training Fund by the construction firms towards training of craftsmen.
- Government negligence to training of construction craftsmen
- Lack of standard method of training adopted for construction craftsmen.

Methods of Training

Retraining is the same in all ramifications as training. The two has the same processes and means. Bokinni (2005) argued that they all refer to the process of imparting skills, learning the use or application of knowledge to work. Different methods, means or processes by which the objectives of the training or retraining program may be met are available. Ugwuja (2010) and Odesola and Idoro (2014) suggested that the most frequently used means of training or retraining are: job instruction training, conference or discussion, apprenticeship training, job rotation, coaching and lecture. Awe (2006) identified the following four methods of training: on the job training, class room training, vestibule training and management development training. Dantong (2007) also identified some type of training as, sink or swim method, time release training, sensitivity training, trade group training programmes and developmental training. Some of these methods are briefly discussed.

Classroom Training

This method of training provides for handling the maximum number of trainees with a minimum number of instructors (Solomon et al., 2012). It lends itself particularly to instruction in areas where information and instruction can be parted by lectures, demonstrations, films and other types of audiovisual materials. Classroom method of training is also a means of continuing professional development.

Trade Group Training

Solomon et al. (2012) found that when work groups of many employees are added to the site force at the same time, considerable economy can be achieved by carrying out a large part of the training in formal classes. However, Dantong (2007) opine that such a produce has certain benefits on interviews and conferences and makes possible utilization of different forms of training techniques. Instruments used in training includes: lectures; charts and graphs; group demonstrations; manuals and handbooks; motion picture films; sound slides written assignment and examinations; analysis of case studies; and group dynamics or role playing.

Apprenticeship Training

Zou et al. (2008) argued that apprenticeship training is a system of training in which the young worker coming into the industry is permitted to go through instruction and experience, both on and off the job, in the practical and theoretical areas of the work in a skilled trade. The researchers further mentioned that this form of training is based on voluntary cooperation between management and labour, industry, government, the company and the school system. Though the technique of training is often adopted for low level skilled personnel.

On the –Job- Training

On the Job Training (OJT) can also be referred to as Job Instruction Training. It is the most commonly used method of training employees. Awe (2006) posit that OJT involves training of employees for job tasks by allowing them to perform such tasks under guidance of an experienced worker. This can be in the form of formal or informal method of imparting knowledge and skills.

Crafts Apprenticeship Courses

Long et al. (2013b) described apprenticeship as training for occupations in the category of skilled craft. They opine that such programmes consist of OJT and work experience with related instructions in the theoretical aspects of the apprentice on the job, which improve steadily during the period of a well programmed training (Dantong, 2007).

Vestibule Schools

A Vestibule School is one operated as a specialized endeavor to train for the same type of job as OJT. The Vestibule School is identical to the work situation, after training, trainee is handed back to his supervisor (Ugwuja, 2010; Umar, 2005; Odesola and Idoro, 2014)

Conference or Discussion Method

The conference or discussion group has several uses. Umar (2005) believe that when this technique involves a group of equals, it is primarily a means of sharing and developing ideas, rather than a training device. However, the conference can be transformed into a tool for disseminating information, simply by bringing a group of trainees together with a trainer discussion leader.

Sink - Or Swim Method

This method of training allow employers to place a new and inexperienced employee on a site to work, and let him pick up the information, that he needs informally as best he can, merely by observing and listening to others who are involved in the work he is expected to do (Datong, 2007; Long et al., 2013b). This method according to Dantong (2007) is the least efficient, most wasteful, and in the long run, most expensive alternative.

Time Release Training

The Industrial Training Fund developed this form of training because it is applicable to situations where apprentices who had earlier received basic training now requires to attend training sessions at a centre for few hours or one day in weeks to advance and/or update their knowledge and skills (Dubem et al., 2012).

Apprenticeship Programmes

Long et al. (2013b) contends that this tends toward more education on the job training, knowledge and skill in doing craft or series of related jobs involved. They argued further that such apprenticeship programmes must be registered with appropriate government authorities. Awogbenle and Iwuamadi (2010) added that these programmes last anywhere from two to five years and are available in crafts-like mechanics, electricians, pipe fitters, carpenters and so on.

Evaluation of Training

Long et al. (2013a) and suggested that training and development programmes should always be assessed based on known evaluation approaches which include measuring one or more relevant criterion (such as attitudes or performance). This could be done before' and after the training and determining whether the critical changed. Evaluation measures collected at the end of training are easy to get, but actual performance measures collected when the trainee is on the job are more important. Odusami and Ene (2011) reported that trainees may say that they enjoyed the training and learned a lot, but the true test is whether their job performance improved after their training. According to Cheung et al. (2009) training is believed to have "worked" if it accomplishes its objective. Since the training objectives are to be derived from the strategic objectives. However, training is only one of dozens of factors that determine if an organization accomplishes its strategic objectives (Solomon et al., 2012), and one that is often far removed in time from the final result. To harness training effectiveness more measures of success is required and the need to measure the time the training was completed.

Post Training Evaluation

Dennis (2007) opine that training observations involve a four step process called job instruction training, and it requires that trainees during training be: told how to do it, shown how to do it, asked to perform the behavior and; given a review of their performance until correct behavior is learned. For training to be' effective and efficient evaluation of the whole process is inevitable. Connor (2006) supported that the evaluation process in training involves the following four elements:

Reaction - How well did the 'conferees 'like the program? This is essentially customer satisfaction measurement. Reaction is usually measured using comment sheets, surveys, focus groups and other customer communication techniques.

Learning - What principles, facts, and techniques were learned? What attitudes were changed? It is entirely possible that conferees react favorably to training, even if learning does not occur. The learning of each conferee should be quantified using pre - and post - test to identify learning imparted by the training.

Behavior - What changes in behavior on-the-job occurred? If the conference leaves the seminar and immediately begins to effectively apply control charts where none were used before, then the training had the desired effect on behavior. However, if the conferee's tests indicate that there is gained competence in the subject matter from the training, but no change in the behavior took place, the training investment was wasted. Note that behavior change is dependent on a greater number of factors besides the training, example; management must create systems where the newly learned behaviors are encouraged.

Results - What were the tangible results of the program in terms of reduced cost, improved quality and improved .quantity. This is the real payback on the training investment. The metrics used for measuring results are typically built into the action plan, project plan and budgets etc. Again, as with behavior change, there are many factors other than training that produce the desired results (Long et al., 2013b).

Relevance of Construction Craftsmen Training

Medugu et al. (2011) reported that training for construction craftsmen's creates opportunity to acquire relevant skills for greater productivity. They authors argued further that training of this group of personnel are imperative to the construction industry because it has been confirmed that training improve productivity. However, they assert that improvement if achieved will endure the survival and growth of an enterprise of which construction is

one. Dantong et al. (2011) supported that training in order way round equips individual to be current and relevant with necessary skills and knowledge to be self-reliant, which remains oriented and creation of job opportunities. Odesola and Idoro (2014) summaries major values of training as:

Increased Productivity: Increase in skill usually results in an increment in both quantity and quality.

Heightened Morale: Possession of needed skills helps to meet such basic human needs as security and ego satisfaction.

Reduced Supervision: Trained employees can perform with limited supervision.

Reduced Accidents: More accidents are caused by deficiencies in people than by deficiencies in equipment and working conditions, proper training reduces the accident rate.

Increased Organization Stability and Flexibility: The ability of an organization to sustain its effectiveness despite the loss of key personnel can be developed only through creation of a reservoir of trained replacements. In addition flexibility is the ability to adjust multiple skills to permit their transfer to jobs where demand is greatest. However, the biggest organizational asset is trained and motivated personnel.

Study Conclusion

This study has successfully highlighted on some findings and possible recommendations that could help to increase productivity of construction craftsmen in Nigeria and other part of the world particularly in the developing countries. From the investigations carried out in the form of archival search, important variables that are connected to skilled craftsmen and could help the development of SMCFs were identified. Among them are: skilled craftsmen possess the ability to address the problem of rework due to poor level of workmanship. This may result to cost and time overruns and late project completion. Secondly, productivity increase by skilled craftsmen set the SMCFs apart from other firms as it is known to be a lubricate of economic growth and development through vast creation of employment opportunity. Lastly, the reduction of cost and early project completion by skilled craftsmen to SMCFs makes many large contractors to utilize their services acting as subcontractor within the supply chain.

Another important finding from this literature review is the identification of ten different type of training of construction craftsmen. Among the ten, vestibule school was found to be the most efficient method of training followed by trade group training and finally, on – the – Job training. However, the least efficient was sink-or-swim method of training. This study also showed that the concept of shortage of skilled craftsmen is not a shortage of workers but rather, a shortage of well trained, skilled, and productive workers available for certain jobs. Some additional reasons attributed for such shortage are lack of training and retraining opportunities, an aging workforce, and the construction industry that does not appeal to the younger generation. An increasingly poor image over the last couple of decades has discouraged young people from seeing the construction industry as a viable career path. This is the most pressing issue in the nation's construction sector; and is already having serious implications for both businesses and the economy generally. In view of these, there is an urgent need of up-skilling construction skilled craftsmen in order to address the issues of poor workmanship.

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