Title page

ARTISAN TRAINING AND THEIR PERFORMANCE IN BUILDING CRAFTSMANSHIP

A STUDY OF ETSAKO WEST LOCAL GOVERNMENT AREA

EDO STATE

BY

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CERTIFICATION

This is to certify that this seminar work was submitted by **IDABOR FESTUS UZODIBECHI** with matriculation number: **ENV/2032070111,** to the Department of Building Technology, School of Environmental Studies, Auchi Polytechnic, Auchi, in Partial Fulfillment for the award of Higher National Diploma (HND) in Building Technology.

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DEDICATION

This work is dedicated to the almighty God for all his loving kindness and protection during my studies.

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I deeply express my acknowledgement to God Almighty whose grace was sufficient for me all through my period of studies and also to those who contributed to my knowledge and experience.

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ABSTRACT

The role of artisans in building industry is key to the success of any building construction. The performance of clients are based their training acquired. The study is aimed at investigating the relationship between artisan's training and their performance in building craftsmanship. In order to achieve the aim of this study the following objectives are been put forward to identify the various artisan trade practiced and state of artisan training in the study area, to assess the various artisans training schemes exploited with the view of establishing their effectiveness in the study area, to determine stakeholders satisfaction with performance of artisans in the study area, to determine the extent of involvement of foreign artisans in local building contracts and to suggest best artisans qualification criteria for best site performance. A quantitative approach was used to carry out the study. It was revealed that the majority of the respondents agreed that the most artisan trade engaged in the study are masonry works and carpentry with SSCE qualifications with working experience of between 1-5 years majority of the respondents were artisans who have worked in different sites. The study also revealed that various artisans' trade practiced in the study area, it was revealed that masonry and bricklaying are the most trades in the study area. That most of the artisans usually patronized by stakeholders are indigenes. And that artisan training scheme practiced in the study are apprenticeship, some others also patronizes vocational training schemes. And also the factors used by stakeholders in assessing artisans performances are ensuring or keeping up with customers satisfaction i.e. ensuring delivery of quality work out put. It was recommended that artisan and craftsmen job satisfaction should be given uttermost priority because their satisfaction affects their task execution as well as their performance. Training and retraining of artisans and craftsmen should be vied as an essential strategy. Construction firm and stake holders should invest in the training and retraining of their craftsmen to promote optimum performance. Construction professionals and stakeholders should contribute to the skills acquisition programmes both onsite and offsite.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The need for training in any field or profession cannot be over emphasized. The role of artisan in building industry is a very important tool in the actualization and completion of any type of building construction work. Though some persons may develop such craftsmanship by self-actualization but a form of training will help better their performance in their trade. According to (Bustani 2000) as cited by (Amusan, Oluwatobi, Dalshe, Ezenduka, Owolabi and Olayeni 2021), all craftsmen play very important role in achieving building construction projects.

Generally, artisans are seen as personnel who have been tutored in the business of performing certain technical roles in a particular field on building craftsmanship. These roles may include iron works, masonry, brick laying, carpentry and so on. According to Akindoyeni (2002) as cited by Amusan (2020) describes an artisan as someone who has been trained on the requirements of a particular skill in building craftsmanship. In other for one to performance efficiently there's need for adequate training.

With the innovation of modern buildings as well as the demands for such buildings, these innovations have hereby created a gap as well as job dissatisfaction, this no doubt can be attributed to the lack and level of training

and retraining amongst craftsmen (Yangben 2014). Many schools of thoughts have submitted that there is a proportional connection between training on performance of artisans on site. From observations, the more highly qualified persons engaged on a building project the higher the work delivery (Medugu 2011).

"Training is a process that involves passing information from one person to another in order to influence the character of the other". This is done to improve the productivity, efficiency and performance of the other (Obiegbu, 2003) as cited by (Usman, Inuwa, Iro and Dantong 2012).

The type of training or method of training techniques exploited by key players in the building construction industry to train artisans is very key to improving their craftsmanship. Many artisans have lost interest in improving their skills or engaging in training and retraining, this could be attributed to many factors.

This study will focus on artisans training and also look at their performance level as related to building craftsmanship. It will also look at the various artisan trade practiced. Also comparative evaluation of various artisans and level of training acquired and quality of craftsmanship will be looked at.

1.2 STATEMENT OF THE PROBLEM

Most construction projects in Nigeria fail due to poor contractors' performance which is characterized by the performance of artisans engaged in executing building project (Balogun, 2015). Poor workmanship, rework, low

productivity, late completion, cost overruns, high accident rate, poor work practice, material waste and dispute characterizes the performance of building artisans. Identified qualitative and quantitative deficiencies in workmanship of artisan indicate the gap in training of artisans (Omole, 2001). Furthermore, the level of workmanship displayed by artisans in the study are has created a gap, contractors, engineers, builders and other building professionals has resorted in patronizing expatriates from other clime thereby creating unemployment among artisans. This in turn has caused increase the cost of building production. This shows the level of training of such artisan acquired is poor or deficient.

As a result of the forgoing in the research area there every need to evaluate the quality of training acquired by these building artisan due to their significant.

1.3 RESEARCH QUESTION

i. What are the various artisan trade practiced and state of artisan training in the study area?

ii. What are the various artisans training schemes exploited in the study area?

iii. Are stakeholders satisfied with performance of artisans in the study area?

iv. What is the extent of involvement of foreign artisans in local building contracts?

v. What are the best artisans qualification criteria for best site performance?

1.4 AIM AND OBJECTIVES

The aim of this study is to investigate the relationship between artisan's training and their performance in building craftsmanship.

In order to achieve the aim of this study the following objectives are been put forward.

i. To identify the various artisan trade practiced and state of artisan training in the study area.

ii. To assess the various artisans training schemes exploited with the view of establishing their effectiveness in the study area.

iii. To determine stakeholders satisfaction with performance of artisans in the study area.

iv. To determine the extent of involvement of foreign artisans in local building contracts.

v. To suggest best artisans qualification criteria for best site performance.

1.5 SIGNIFICANCE OF THE STUDY

The study will serve as literature for future research and contribute to knowledge. It will also educate policy makers, students, contractors and other

building professionals as well as artisans on the need of effective training in other to improve their performance in the building industry.

It would be beneficial to have a comprehensive review of literature, which could assist researchers and practitioners to grasp the body of knowledge and pave the way for future research to fill an important research gap.

1.6 SCOPE OF THE STUDY

The scope of this study will be Estako West. Estako West is currently experiencing urbanization. With the presence of a federal polytechnic there is need for various building construction projects.

This study will focus on artisans in Auchi and environs and will investigate the various artisan trade and various training methods practiced as well as their performance in building construction work.

1.7 DEFINITION OF TERMS

i. **Artisan**: A skilled manual worker who uses tools and machinery in a particular craft.

ii. **Craftsman**: A person who makes or creates material objects partly or entirely by hand.

iii. **Mason**: One whose occupation s to build with stone or brick.

iv. **Training**: Training is an organizational effort to change the behaviour of persons in order to bring him or her to a desired standard or beviour.

v. **Apprenticeship**: Apprenticeship is a system for training a new generation of practitioners of a trade or profession with on-the-job training and often some accompanying study.

vi. **Performance**: It is defined as the action or process of carrying out or accomplishing an action, task, or function.

CHAPTER TWO

1.0 LITERATURE REVIEW

1.1 WHO IS A CRAFTSMAN?

A craftsman is a worker skilled in a craft. There is a range of crafts that a craftsman can perfect in ranging from carpentry to pottery. A craftsman needs to have a lot of experience so that he can be skilled in creating various crafts. When a craftsman is new to a field, he often works under the supervision of a master craftsman. Such a person is known as an apprentice.

In each country, there are crafts that are unique to the country or region. For example, in Sri Lanka, the creation of masks in various traditional forms is considered as a craft. However, along with the new technological development, most crafts are dying away due to the increase in various industries that replace the roles of the craftsmen with machinery. All Craftsmen carries out essential activities to the success and completion of any type of building construction project (Bustani, 2002).

In traditional construction practice, artisans are described as a individual that has been trained in art and vocation of carrying out a specific technical duties in the construction field (Amusan, Oluwatobi, Emetere Owolabi and Tunji-Olayeni, 2020).

2.2 VARIOUS ARTISAN TRADE PRACTICED AND STATE OF ARTISAN TRAINING.

The industrial training fund of Nigeria (ITF) (2005) enumerated the following as craft men.

i. Brick layer (mason)
ii. Steel fixers
iii. Electricians
iv. Carpenter
v. Painter
vi. Plumbers

Dantong (2007) stated that artisans are craftsmen construction operative who contribute skillfully with their hands in a practical realization of a project in the construction industry.

Jordyn (2020) also classified craft men as follows ;

i. **Craft Laborer** – Craft laborers perform variety of basic tasks around a job site. This is a great option for anyone who is just starting off in construction, and it introduces the professional to an array of more specialized crafts, including electrical, carpentry and more. The U.S. Bureau of Labour Statistics shows employment of craft labourers growing 5% over a ten-year period, which is faster than the average for other occupations.
ii. **Carpenter** – There are many types of carpenters. They are responsible for constructing, erecting and repairing fixtures of all types of materials

like wood, plastic, fibreglass and drywall. Carpenters work both indoors and outdoors on different projects. Their skill in site is inevitable at site right from the substructure to the supper structure. The input is key to the success of a building project.

iii. **Mason** – Masons work with materials like bricks, concrete blocks and natural stones to build structures. Brick walls are often key components of the main load-bearing support for a building; however, non-structural decorative masonry is also another component of the craft.

iv. **Heavy Equipment Operator** – Heavy equipment operator (HEO). HEOs are trained and certified to work equipment that moves and transports materials on a construction/work site.

v. **Boilermaker** – Boilermakers install, maintain and repair different boiling systems containing liquids and gases. Some boilermakers enter the craft through training in similar occupations, such as pipefitting and welding.

vi. **Electrician** – Electricians maintain, install, inspect and troubleshoot the electrical needs of all types of buildings. They are in charge of all the wires that help give our homes and businesses light and our phones a wall outlet to charge from.

vii. **Ironworker** – An ironworker is responsible for installing structural elements like steel and iron beams to make the buildings that surround us each and every day. Without ironworkers, the building we enter and exit on a daily basis wouldn't be upright and standing tall.

viii. **Pipefitter** – Pipefitters shape, install and maintain pipe systems that transport chemicals and endure high pressure. Pipefitting is similar in some ways to plumbing, but they are different crafts. To find out the difference between pipefitting and plumbing.

ix. **Painter** – Painters work to paint to inside and outdoor parts of buildings. They ensure finishing of the building by giving it a good and appealing appearance.

x. **Sheet Metal Worker** – Sheet metal workers cut and mold sheets of thin metal for installing and repairing ventilation and air ducts, among other projects. Often sheet metal workers create their components in a fabrication shop before they are sent to the construction site for installation.

2.3 ARTISANS TRAINING SCHEME

Apprenticeship is a system for training a new generation of practitioners of a trade or profession with on-the-job training and often some accompanying study (classroom work and reading). Apprenticeships can also enable practitioners to gain a license to practice in a regulated occupation. Most of their training is done while working for an employer who helps the apprentices learn their trade or profession, in exchange for their continued labor for an agreed period after they have achieved measurable competencies.

Apprenticeship lengths vary significantly across sectors, professions, roles and cultures. In some cases, people who successfully complete an

apprenticeship can reach the "journeyman" or professional certification level of competence. In other cases, they can be offered a permanent job at the company that provided the placement. Although the formal boundaries and terminology of the apprentice/journeyman/master system often do not extend outside guilds and trade unions, the concept of on-the-job training leading to competence over a period of years is found in any field of skilled labor.

Davy and Frakenberg (2019) stated that apprenticeships can be divided into two main categories: Independent and Cooperative.

i. **Independent apprenticeships:** are those organized and managed by employers, without any involvement from educational institutions. They happen dissociated from any educational curricula, which means that, usually, the apprentices are not involved in any educational programme at the same time but, even if they are, there is no relation between the undergoing studies and the apprenticeship.

ii. **Cooperative apprenticeships**: are those organized and managed in cooperation between educational institutions and employers. They vary in terms of governance, some being more employer lead and others more educational institution lead, but they are always associated with a curriculum and are designed as a mean for students to put theory in practice and master knowledge in a way that empowers them with professional autonomy.

2.3.1 FORMS OF ARTISAN TRAINING SCHEME

The present locally organized apprenticeship scheme which was a major provider of craftsmen is fizzling out; the aged and experienced tradesmen would rather have their descendants become well-educated professionals than take to their trades (Dennis, 2007; McCausland, 2008; Ireland, 2007; Oluwale, Ilori and Oyebisi, 2013). Similarly, Oluwale, Jegede and Olamade (2013) observed in a study that majority (85.0%) of the sampled population of trained artisans in both building construction and automobile industries had abandoned their original occupations and drifted into commercial motorcycle transportation business which appeared more rewarding in the short term.

2.3.1.1APPRENTICES IN SCHOOL:

Akande (2000) suggested A Curriculum Proposal. That the apprenticeship training or training on-the-job has to be supplemented in certain vocational fields by training centres which have the capacity to teach more complex processes than are possible in the smaller workshops. A sort of dual system can be adopted whereby the practical training provided in the shop is backed up by a more theoretical study. The Government needs to put in place official guidelines to harmonize the curriculum of both places of training. For instance, during the theoretical training classes, students maybe grouped first according to their trade, then their year of apprenticeship and/or the degree of proficiency at their job. On completion of the training (practical and theoretical) the apprentice is evaluated and certified. A sight modification of the above is rationalized on the fact that most apprentices are school dropouts,

not necessarily out of poor performance but because of their economic situation.

Subsequently however, their economic situation may improve creating a desire to go back to formal schooling. Unfortunately, age may not be on their side at this time so they may not wish to start at the point where they left off. It is therefore important for a school system that is more open for admission to be created especially for apprentices, so they can enter at any level their degree of practical competence qualifies them for. Cognitive attainment alone should not be used to determine admission. It is the contention of this paper for instance that a good motor mechanic can cope with the requirements of diploma in auto, engineering if he is not bugged down with too many theoretical details. In fact. Bishop (2000) suggested quite rightly that the public educational system will have to provide multiple entry points. So that a child can re-enter the formal school system at whatever point he is motivated to do so.

2.3.1.2 TYPES OF APPRENTICESHIP

Haan (2008) identified three major types of apprenticeship training which include

1. **The Tradition Apprenticeship:** This refers to the well-organized transfer of skills within families and social groups based on social cultural conventions. There is an agreement between the Master (craft person) and the relatives of the Apprentice regulated skill training.
2. **The informal Apprenticeship:** There, Apprentices unconsciously

acquire relevant skills from observation, questions and direct telling by the Masters. Questioning ensures effective learning this type is common in informal activities such as welding, car repairs and tailoring.

3. **The Modern Apprenticeship:** This type is regulated by an apprenticeship act which stipulates that the length of training period, the training hours, the payment of parts of minimum wage etc. This type is seen in Medium and large Enterprise. It has dual system which ensures that planned learning takes place in two locations in the organizations premises and in the vocational.

Igbo Apprenticeship Training System

Igbo Apprenticeship Training System Igbo apprenticeship training system is unstructured and informal with training done on the job while the masters delegate authority, to the most senior Apprentice (oldest Apprentice) who in turn delegates part of the authority to the next apprentice down the line. Alike and Orjiako – Umunze (2019) state that in the system which is informal there is scheduled agreed time frame which an Apprentice undergoes in order to acquire a desirable aspect of entrepreneurial skill. Also unpaid business Apprenticeship designated as the incubator model allows people to learn business from a master for certain duration and at the end of the apprenticeship period, get seed capital and support from the Master to start up his own business. According to Kanu (2019) Apprentices do not earn salaries during the apprenticeship period but their masters give them, food, clothing, accommodation and transport in some cases.

According to Chinweuba and Ezenwa (2017) the Apprentices work for the Masters, after completion of training for an agreed period of time. On completion the apprentice stewardship is evaluated by the Master who settles the apprentice with cash or goods or rent payment for business premises or a combination of any two or the three. This principle which is fundamental practice creates long-lasting mutual trust and love between the Master(s) and Apprentice(s). The Apprentice is appraised by the following factors- work ethics, respect for Master, customers, performance of domestic chores, development of social and business skills. Hence, the Igbo apprenticeship training system is all embracing in developing an individual.

Alike and Orjiakor (Umunze 2019) opine that a process by which an Apprentice pays for the skills acquired for a particular trade over a given period of time. This type is for those who have capital to invest in business but lack knowledge of the trade. They are not under the direct supervision of a Master but just there to learn the business.

Okoro (2018) are required to complete at least their primary education before enrolling into any type of apprenticeship. Neyt, Verhaest and Beart (2018) revealed that Apprentices with higher formal educations are more competitive in the labour market when compared with Apprentices that have only vocational training and secondary school.

2.4 STAKE HOLDERS' SATISFACTION WITH PERFORMANCE OF ARTISAN.

The erection of the first house on earth, artisans have been the life-wire of building construction work and for the provision of infrastructure for human habitation and transportation (Chukwuji, 2012). Hickson and Ellis (2014) note that this set of stakeholders in the building construction industry is very important in building project delivery because they significantly determine the outcome of construction work. It has been pointed out that artisans play a very crucial role in the survival and growth of the building construction industry as they are mostly engaged in the practical realization of building construction projects (Medugu, Majid, Bustani, Bala, Abdullahi and Mbamali 2011; Rafeel, 2012 and Bilau, Agbaje, Kigbu and Solanke, 2015). However, their technical capability in a country like Nigeria is not well understood. This gap in the literature is important considering the low technological advancement in most developing countries unlike in advanced countries where there are improved technical know-how in building construction processes. For instance, Oluwale, Ilori and Oyebisi (2013) describe technical capability as the ability to make effective use of skills, knowledge and technical know-how in efforts to assimilate, use, adopt, and improve existing practices in the industry. These are among the areas where artisans can build their skills in order to contribute to a sustainable housing sector in Nigeria.

Projects in the construction industry are considered to be successful if completed within their scope, schedule and budget constraints while ensuring the desired quality of the customers (Maqbool, Sudong, Manzoor, Rashid (2017). Renewable energy projects(REPs) are usually conducted in the complex environment where a lot of stakeholders and resources are involved. Thus, apart from the role of key stakeholders, success in the REPs relies on multiple CSFs. This section of the current research presents a comprehensive review of former empirical studies on the aspect of CSFs, which might hypothetically direct current research towards including influencing factors in the renewable energy projects (REPs). Previous empirical studies on CSFs, such as those carried out by Standish (1994), Zhao. (2010), Ika et al. (2012), Maqbool and Sudong (2018), and Maqbool et al.(2018), have been considered as follows. According to Standish (1994), the critical success factors(CSFs) for constructing projects include administrative backing, customer/client participation in the project,well-defined objectives, realistic expectations, and workable forecasting. In the study performed by Baccarini and Collins (2003) with 150 participants of the Australian Project Management Institute (APMI), fifteen CSFs have been found indispensable for project success (PS),among which project know-how and a capable projectteam, determined as key factors for successful projects.

In a study done by Ramlall 2003, of factors that influence job acceptance and resignation ,salary or compensation was found to be the greatest reason for a person to accept a new job or to resign, but current and

potential employees rate career development, challenges on the job and other factors are also high. This indicates that the satisfaction and retention dilemma is very complex. This is also the case for retention and satisfaction of artisans. Eskildsen (cited Samuel 2005) in a literature review on how to achieve sustained satisfaction and retention, found that both technical and human/mental needs are needed to create an environment that will satisfy and retain individuals.

In a survey done by Jamieson and Richards (cited Samuel 2005), the top six factors thatcontribute to employee satisfaction were found to be: culture and organisation, relationship with immediate manager, relationship with colleagues, information and communication in the organisation, the job and personnel development. In this study remuneration was found to be the lowest contributor to employee satisfaction.

2.4.1. APPRENTICE LEVEL IN NIGERIA

Uwameiye and Iyamu (2002) noted that Apprenticeship System in Nigeria is declining because of the low educational level of Apprentices and their Masters. Onwuegbuzie (2017) opined that with good formal education combined with sound Apprenticeship background business failure will reduce considerably. Hence, Apprentices levels of formal Education plays a vital role in their business.

Mentorship in Igbo Apprenticeship Training and System Abiodun (2015) defined mentor as a process an individual usually an adult accepts the responsibilities of counseling and directing another individual usually a child.

Mentorship in relevant to Apprenticeship commence from the day Apprentices move in with the Master. Kanu (2019) stresses that Igbo Apprenticeship training consist of the followings: Apprentice will always respect their Masters, even when they make more wealth, Master have access to

Apprentice's success in business after graduation depends to a very high extent on the knowledge about the secret of the business specifics- quality maintenance, cost management risk management and customer's relationship. Trade knowledge is about understanding the secret and processes associated with a trade. Jong and Soon (2015) opine that knowledge assists traders to understand the trade secret and gives a lot of information regarding trading which are useful in practice. Croix, Dopke and Mokye (2016) report that apprentice level of education, may affect their ability to assimilate the trade secret and tacit knowledge.

Sustainability is the development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. It leads to creation of true and, real value to systems and resources upon which that value depends on. Business sustainability involves analyses and decision making across business functions obtained through a committed and clear understanding of transactions that may occur both in the present and future.

Apprentice books of account, the Master give the Apprentice loan and trade credit, provide counsel and guidance to ensure success.

Hence, a master who is a mentor possesses necessary knowledge

experience and skill out of love, the mentor spends time and energy to teach, encourage, motivate, direct and lead others to come up and become mature to forge ahead mentorship is a continuous process, mentoring focus on efficiently and professional growth.

2.5 EXTENT OF INVOLVEMENT OF FOREIGN ARTISANS IN LOCAL BUILDING CONTRACTS.

According to Aniekwu and Audu (2010) the yield of the Nigerian construction industry is considerably lower than that of their foreign counterparts resulting in a significant proportion of all building projects in Nigeria going to foreign contractors. The indigenous construction industry is slow to benefit from the substantial percentage of GNP in Nigeria to which the construction sector contributes, which is almost half of the total public spending (Adeyemi, 2000). High quality of construction is usually achieved through the use of expatriate and imported material and technology, however the value added to construction and the local industries supplying construction inputs is low (Aniekwu & Audu, 2010). It was also indicated by Aniekwu and Audu (2010) that the output of indigenous construction companies will always be lower compared to that of its foreign counterpart in the Nigerian construction industry. Thus, the essence of this present study is to understand the factors that hinder the capacity of the Nigerian construction industry and look at strategies that could be recommended for the indigenous and foreign companies to work together for capacity building.

The presence of foreign companies in the Nigerian construction industry dates to the pre-independence period. Major construction activities were awarded to foreign companies whose technical and management skills were considered superior to that of indigenous companies, and who were considered as being more efficient in fund acquisition and the carrying out of projects

(Ugochukwu, 2014). A study was conducted and revealed that one thousand, one hundred and thirty-three (1133) projects worth N11.25 billion were awarded by the Federal Government between 1974-1978, the period when construction activities was at its peak in Nigeria (Ugochukwu, 2014). Even though the indigenous companies got 77.2% of the 1133 projects, 93.05% of the value of the contracts was awarded to foreign companies. This is unsurprising because foreign companies and a few large indigenous companies dominate the construction industry in most developing countries (Larcher, 2000). Akintunde (2003) also noted that the foreign companies tend to expand in their areas of expertise more than their indigenous counterparts because foreign companies undertake more jobs. It is also concluded that a complex construction job is only an aggregate of many simple tasks and that experience can only be acquired by venturing and trying out, an opportunity that has not been granted to the indigenous contractors in Nigeria (Ugochukwu 2014).

To close the gap in opportunity, letting foreign companies get involved in the indigenous construction industry has its own advantage. Foreign companies bring in expatriates who can innovate and orchestrate positive changes in the industry. They bring new technologies to keep the system up to date while making sure standards are also raised. Still, without having good strategies in place for capacity building, the longer-term effect of their continued influx will be more detrimental than beneficial. These strategies must give credence to the factors impeding the project delivery capacity of the indigenous construction companies weighed against the importance of the

different forms of contribution made by the foreign construction companies.

During the 2015 Builders Conference in Lagos, organised by the Nigerian Institute of Building (NIOB), it was established that the influx of foreign construction companies could affect the economy negatively, if left unchecked. During the conference, the president of the Federation of Construction Industries (FOCI) estimated that Nigeria was losing over N9billion (as of date, N1 = $0.0003) to foreign companies annually. FOCI underscored that while theservices rendered by the foreign companies are of higher quality and standard, the outward movement of capital could affect Nigeria's economy. FOCI also alleged that the expatriates are highly paid notwithstanding their qualifications, resulting in economic drain and an increase in the unemployment rate for local professionals (cited Aisha 2017).

2.6 ARTISAN QUALIFICATIONS CRITERIA FOR BEST SITE PERFORMANCE.

According to Braverman (1994), an artisan is an individual who has the ability to skillfully manipulate the tools and materials of a craft or trade. An artisan is expected to have some skills such as individual thinking capability as well as good knowledge of his craft and trade. Some of these skills are are reducible to words, but most are acquired through the physical act of production and normally manifested in the creation or production of objects (Rameezdeen, 2000). Technical capability of artisans is usually acquired in a mixture of formal knowledge, tacit knowledge, physical and mental skills, contextual awareness, innovation and personal creative autonomy (United

Nations, 2015). While assessing the importance of artisans to the Sri-Lanka's building construction industry, Rameezdeen (2002) argue that the features of artisans in the industry include clear division of labour, high creativity and increased environmental concerns.

Technical capability has been defined in different ways by several scholars. According to Lall (1992), it means the skills and knowledge needed to effectively absorb, master and improve existing knowledge and to create new ones. Existing literature has provided several leads about various factors that can be expected to contribute to the build-up of technical capability. These factors according to Hoffman *et al.* (1998) and Wignaraja (1998) include the knowledge and skills possessed by an entrepreneur and his workforce which they obtain through prior experience, new skills acquired in the course of interaction among themselves and those obtained through introduction of new technologies.

The building construction industry, like other economic sectors, has been experiencing severe and prolonged shortage of manpower not just in terms of quantity of labour force, but also quality (COOA, 2005; Connor, 2006; and McCausland, 2006). This, according to them, is already putting the world's growing economy at risk. Magar (2007) who examined the impact of the building construction industry on the Indian economy opines that the sector was prepared to spend so much money to raise production capabilities. However, the shortage of skilled workforce would necessitate skillful project management and innovative solutions to prevent bottlenecks. The study

observed the irony of how the nation of about one billion people could be challenged by shortage of trained/skilled manpower in its building construction industry. According to the study, the country's building construction industry, having been rated as the largest employer of labour and realizing the need for skilled vocational workers, had begun collaboration with academic institutions to either train their workers for plumbing and masonry type work, or to set up in-house training programmes.

Sooi (2007) reports that the construction industry in Malaysia is grappling with unfilled positions, and recommends the recruitment of critical personnel from abroad. The Chartered Institute of Building (CIOB, 2008) in its report on skilled manpower shortage in the building construction sector in the United Kingdom (UK) posits that the problem that was experienced in the industry would continue to be a major challenge in the country. The report predicts that this issue is likely going to get worse as the demand for building construction work increases. The UK building construction industry, according to the report, is suffering from a significant shortage of skilled manpower. The Academy of Social Sciences in Australia (ASSA, 2008) asserts that Australia's growing labour requirements cannot be met by the native workforce despite the high current levels of immigration. The logical conclusion from the evidence in the report is that Australia's future labour requirements, especially in the construction industry, would depend more on immigration.

Nigeria requires the services of skilled workforce in various building construction sites given the nation's growing population and the attendant

housing needs (Awe, Stephen and Griffith, 2015). At present, the demand for artisans such as bricklayers, carpenters, plumbers, painters, among others, is far above supply (Akindoyeni, 2005; National Heritage Training Group (NHTG), 2005; Obiegbu, 2005). The present locally organised apprenticeship scheme which was a major provider of craftsmen is fizzling out; the aged and experienced tradesmen would rather have their descendants become well-educated professionals than take to their trades (Dennis, 2007; McCausland, 2008; Ireland, 2007; Oluwale, Ilori and Oyebisi, 2013). Similarly, Oluwale, Jegede and Olamade (2013) observed in a study that majority (85.0%) of the sampled population of trained artisans in both building construction and automobile industries had abandoned their original occupations and drifted into commercial motorcycle transportation business which appeared more rewarding in the short term.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

This study adopted a field survey which is a quantitative approach. The method was used because the study seeks to observe the happening in construction sites in order to sample subjects and variables objectively without any attempt to manipulate or the data collected.

3.2 POPULATION OF THE STUDY

The population of the study will included Artisans, project managers, Mason, site engineers, structural engineers, builders. This population will consist of persons that will be picked randomly from various construction sites in Etsako west Local Government Area, Edo state.

3.3. SAMPLE AND SAMPLING TECHNIQUE

The sampling technique that was adopted in this study will be the simple random sampling technique. In this simple random sampling technique each element that will be included in the sample has equal chance of inclusion in the sample. This technique will be adopted because it provides an unbiased and better estimate of the parameter since the population is similar.

Since the population size and population proportion is unknown the (Krejcie & Morgan, 1970) formula will adopted to determine the minimum sample size.

State thus as

$$n = \frac{Z^2 \times P \times (1-P)}{C^2}$$

Where

C = Margin of error (9%)

p = percentage picking a choice in decimal (0.5)

z = Z value (for 95% confidence level = 1.96)

$$n = \frac{1.96^2 \times 0.5 \times (1- 0.5)}{(0.09)^2}$$

$$n = \frac{0.9604}{0.0081}$$

n = 119

3.4 INSTRUMENT AND PROCEDURES FOR DATA COLLECTION

For this study, the instrument that will be adopted for the collection of data will be a questionnaire. A well –structured closed ended questionnaire will be designed to elicit information from the respondents. To achieve maximum result, the questionnaire will be sectioned into A and B sections, Section 'A' will focus on the respondents bio data while section 'B' will focus on the core issues relating to the objectives. The Likert scale will be used to structure the questionnaire to capture the intensity of the respondents

3.5 DATA ANALYSIS

The questionnaires obtained from the respondents will be analyzed using frequency distribution table and inferential statistics, using graphs and table, the calculated data will be arranged, tabulated and presented neatly to enable detail analysis to be done. The data obtained from the study will also be analyzed using relative importance index RII.

The analysis will be aided by the use of SPSS (Statistical Package for Social Science).The Chi-square formula will be adopted to test the Hypothesis of the study.

CHAPTER FOUR

4.0 Data Presentation and Analysis, Results and Discussion

4.1. Introduction

In this chapter, analysis and presentation of data collected from field was analyzed. Data collected were the bio data of the respondents also the test for the following objectives; to identify the various artisan trades practiced and state of artisan training in the study area, to assess the various artisans training schemes exploited with the view of establishing their effectiveness in the study area, to determine stakeholders satisfaction with performance of artisans in the study area, to determine the extent of involvement of foreign artisans in local building contracts and to suggest best artisans qualification criteria for best site performance.

4.2 Demographic Of Respondents

Table 4.1

Sex of respondent	**No of respondents**	**Percentage**
Male	68	91 %
Female	07	9%
Total	**75**	**100**
Job Description of respondents	**No of responses**	**Percentage**
Project manager	05	7%
Site Manager	04	5%
Mason	35	47%

Carpenter	15	20%
Painter	06	8%
Plumber	07	9%
Builder	03	4%
Total	**75**	**100%**
Educational Qualification of Respondents		
SSCE	05	40%
ND	04	4%
HND	35	3%
BSc	15	3%
MSc	06	0%
Trade	07	25%
Nil	03	25%
Total	**75**	**100%**
Working experience		
1-5 years	40	53%
6-10 years	21	28%
11- 15 years	07	10%
16- 20 years	04	5%
21 years and above	03	4%
Total	**75**	**100%**

Source: Field survey 2022

Table 4.1 revealed that 68 respondents representing 91% were male while 7 respondents representing 9% were female, 5 respondents representing 7% were project managers, 4 respondents representing 5 % were site managers,

35 respondents representing 47% were masons, 15 respondents representing 20% were painters, 6 respondents representing 8% were plumbers, 3 respondents representing 4% were builders. The study also revealed 30 respondents representing 40% were SSCE holders, 3 respondents representing 4% were ND holders, 2 respondents representing 3 % were HND holders, 2 respondents representing 3% were BSc holders, 19 respondents representing 25 % were trade test holder while 19 respondent representing 25 % had no qualifications. The study also revealed that 40 respondents representing 53% had working between 1-5 years, 21 respondents representing 28% had working between 6-10 years, 7 respondents representing 10% had working between 11-15 years, 4 respondents representing 5% had working between 16-20 years while 3 respondents representing 4% had working experience of over 21 years.

Section B

Table 4.2 Various artisan trades practiced in the study area

Table 4.2 Shows respondents who are artisans in the study area.

Options	No of respondents	Percentage
Yes	64	85%
No	11	15%

Table 4.2 revealed that 64 respondents 85% representing were artisans while 11 respondents representing 15 % were non artisans in the study.

Table 4.2.2 Shows type of artisan's trade in the study area

Type of artisans trade	No of respondent	Percentage
Carpentry	13	17%
Bricklaying	10	13%
Electrician	06	08%
Painting	05	07%
Plumbing	08	11%
Masonry	21	28%
Iron bending	8	7%
Tiling	07	9%
Total	**75**	**100%**

Source: Field Survey (2022)

From table 4.2, shows various trade practiced by artisans in the study area. 13 respondents representing 17% practiced carpentry, 10 respondents representing 13% practiced bricklaying, 6 respondents representing 8% were electricians, 5 respondents representing 7% were electricians, 8 respondents representing 11% practiced plumbing, 21 respondents representing 28% practiced masonry, 5 respondents representing 7% iron bending, 7 respondents representing 9% practiced tiling in the study area.

Table 4.3 Shows Origin of artisan usually patronized by stake holders

Origin of respondent	Frequency	Percentage
Indigene	60	80 %
Non-indigene	15	20 %
Total	**75**	**100%**

Source: Field Survey (2022).

Table 4.3, Origin status of artisans revealed that 60 respondent representing 80% were indigene while 15 respondents representing 20% were non-indigene. It is thus clear that were indigenes.

Table 4.4 Shows artisan training schemes practiced in the study area.

Training scheme	SA	A	N	SD	D	Total	Mean	Rank
Apprenticeship	28	09	22	03	13	261	3.48	1st
Technical School	20	11	10	9	25	217	2.89	3rd
Government empowerment training program	03	12	30	10	20	193	2.57	5th
Vocational training	25	12	11	12	15	245	3.27	2nd
Traditional training scheme (Igbo apprenticeship)	19	06	10	17	25	206	2.75	4th

Source: Field Survey (2022).

From table 4.4, shows artisans training scheme practiced, Apprenticeship ranked 1st with mean scores of 3.48. Next in ranking was vocational training ranked 2nd with mean scores of 3.27, while technical school was ranked 3rd with mean scores of 2.89 while traditional training scheme (Igbo apprenticeship)

was ranked 4th with mean scores of 2.75 and government empowerment training programme ranked 5th with mean scores of 2.57.

Table 4.5 Factors use by stake holders in assessing artisans performance in building.

Factors use by stake holders in assessing artisans performance	MF	F	N	NF	R	Total	Mean	Rank
Application of modern methods	15	19	11	13	17	227	3.03	5th
Keeping up with best global practices	25	15	03	17	15	243	3.24	4th
Keeping up with customers satisfaction	45	11	07	09	03	311	4.15	1st
Technical capability of artisans	37	07	13	11	07	281	3.75	2nd
Keeping up with counterpart abroad	30	15	07	13	10	267	3.56	3rd

Source: Field Survey (2022)

From table 4.5, shows factors used by stake holders in assessing artisan's performance. Keeping up with customers satisfaction was ranked 1st with mean scores of 4.15. Next in ranking was technical capability of artisans ranked 2nd with mean scores of 3.75, while Keeping up with counterpart abroad was ranked 3rd with mean scores of 3.56, Keeping up with best global practices was ranked 4th with mean scores of 3.24 , application of modern methods was ranked 5th with mean scores of 3.03.

Table 4.6 Artisan qualification criteria for best site performance.

Criteria for best site performance	SA	A	N	SD	D	Total	Mean	Rank
Working experience	20	06	15	14	20	217	3.71	1st
Knowledge of application of modern tools	18	05	13	12	27	200	3.40	4th
Types of training acquired	42	06	13	05	09	292	3.04	5th
Technical capability	21	10	17	14	13	237	3.48	2nd
Formal educational qualification	39	05	12	10	09	280	3.47	3rd

Source: Field Survey (2022)

From table 4.6, shows factors used by stake holders in assessing artisan's performance. Working experience was ranked 1st with mean scores of 3.71, Next in ranking was technical capability of artisans ranked 2nd with mean scores of 3.48, formal educational qualification was ranked 3rd with mean scores of 3.47, Knowledge of application of modern tools was ranked 4th with mean scores of 3.40, types of training acquired was ranked 5th with mean scores of 3.04.

CHAPTER FIVE

5.0. Summary of finding, Conclusion and Recommendation

5.1. Summary of findings

The role of craftsmen in the actualization of building construction project is key to the actualization of any building construction projects. They serve as middle men during any construction processes. The need for training regular training is very important to improve their performances.

Findings from the study revealed the following

i. Majority of the respondents agreed that the most artisan trade engaged in the study are masonry works and carpentry with SSCE qualifications with working experience of between 1-5 years.

ii. Majority of the respondents were artisans who have worked in different sites.

iii. The study also revealed that various artisans' trade practiced in the study area, it was revealed that masonry and bricklaying are the most trades in the study area.

i. That most of the artisans usually patronized by stakeholders are indigenes.
ii. That artisan training scheme practiced in the study are apprenticeship, some others also petronizes vocational training schemes.

iii. That factors used by stakeholders in assessing artisans performances are ensuring or keeping up with customers satisfaction i.e. ensuring delivery of quality work out put.

5.2 Recommendations

The study put forward the following recommendations , they include;

i. Artisan and craftsmen job satisfaction should be given uttermost priority because their satisfaction affects their task execution as well as their performance.

ii. Training and retraining of artisans and craftsmen should be vied as an essential strategy. Construction firm and stake holders should invest in the training and retraining of their craftsmen to promote optimum performance. Construction professionals and stakeholders should contribute to the skills acquisition programmes both onsite and offsite.

iii. The Council of Registered Builders of Nigeria (CORBON) and Nigerian Institute of Building (NIOB) should make policies that will regulate craft skill training in the construction industry. This could be done by drawing out a curriculum for skill acquisition under each trade.

iv. Construction firms should adopt the strategy of motivation and incentive provision for artisans and craftsmen.

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Edo State
October, 2022.

Dear Respondent,

REQUEST TO COMPLETE QUESTIONNAIRE

I am a final year student of the Department of Building Technology, Federal Polytechnic, Auchi. currently carrying out a research on a topic titled: **"Artisan training and their performance in building craftsmanship"** in partial fulfillment for the award of Higher National Diploma (HND) in Building Technology.

The attached questionnaire is designed to solicit information from you or your organization so that the objectives of the research can be achieved. The information supplied shall be treated confidentially and used for academic purpose only.

Thank you for your anticipated co-operation and understanding.

Yours faithfully,

IDABOR FESTUS UZODIBECHI

QUESTIONNAIRE

SECTION A

DEMOGRAPHY INFORMATION OF RESPONDENT

1. **Sex of Respondent:**
   Male [ ] Female [ ]
2. **Job Description of respondent:**
   Project Manager [ ] Site Manager [ ] Mason [ ] Carpenter [ ] Painter [ ] Plumber [ ] Builder [ ]
3. **Educational qualification**
   SSCE [ ] ND [ ] HND [ ] BSc. [ ] MS.c [ ]
   Trade test [ ] Nil [ ]
4. **Working experience**
   1- 5 years [ ] 6- 10 years [ ] 11- 15 years [ ] 16- 20 years [ ]21 and above [ ]

SECTION B

5. **Below are various artisan trade practiced in the study area**
   Are you an artisan? Yes [ ] or No [ ]
   if yes **Select your trade**
   Carpentry [ ] Bricklaying [ ] Electrician [ ] Painting [ ] Plumbing [ ] Masonry [ ]Iron bending [ ] Tiling [ ]

6. **Origin of artisan usually patronized by stake holders**
   Indigenous artisan [ ] Foreign artisan [ ]

7. **Below are the artisan training schemes practiced in the study area. Rank them according to the level of effectiveness. 5 = Most Frequently, 4 = More Frequently, 3 = Frequently, 2 = Not Frequently, 1 = Rare**

S/N	Training scheme	5	4	3	2	1
a.	Apprenticeship					
b.	Technical School					
c.	Government empowerment training program					
d.	Vocational training					
e.	Traditional training scheme (Igbo apprenticeship)					

8. Below are factors used by stakeholders holders in assessing artisans performance in building craftsmanship in the study area. Rank them according to the level of effectiveness. 5 = Most Frequently, 4 = More Frequently, 3 = Frequently, 2 = Not Frequently, 1 = Rare

S/N	Variable	5	4	3	2	1
a.	Application of modern methods					
b.	Keeping up with best global practices					
c.	Keeping up with customers satisfaction					
d.	Technical capability of artisans					
e.	Keeping up with counterpart abroad					

9. **Below are artisan qualification criteria for best site performance. Rank them in order of your level of agreement.** 5 = Strongly Agreed, 4 = Agreed, 3 = Undecided, 2 = Disagreed, 1 = Strongly Disagreed.

S/N	Criteria	5	4	3	2	1
a.	Working experience					
b.	Knowledge of application of modern tools					
c.	Types of training acquired					
d.	Technical capability					
e.	Formal educational qualification					