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Employment Structure of Informal Construction Workers/Artisans in Nigeria

Sunday Julius Odediran [α] & Olubola Babalola [σ]

Abstract- Every employment has its mode(s) of engagement. The nature of activities within an organization also determines the structure of engagement. Studies have described artisans' employment in the construction industry as informal because employers fail to obey employment regulations. The paper investigated the employment structure of the informal workers/artisans in the Nigerian construction industry with a view to examine the informal workers' means of engagement, types of employers, forms of employment and engagement requirements. Study data were collected through a well structured questionnaire administered on informal workers/artisans and contractors. Data were analyzed using both the descriptive and inferential statistics. Cross-tabulation shows the relationship existing among variables of employment while Chi-Square established the significance of these variables. The study found out that informal workers are engaged through previous employers and contacts; however, they often work for building owners and contractors. Building owners and the contractors offer informal workers contract and temporary forms of employments respectively. Both the informal workers (employees) and contractors (employers) confirmed that informal workers/artisans are engaged based on previous work experience not educational qualification. The study further established that there was a significant relationship between the informal workers' engagement by previous employers and their previous work experience.

Keywords: employment, informal sector, construction artisans, construction employment, Nigeria.

I. Introduction

Construction industry plays major and significance roles in employment creation and economic growth of many nations. This is seen from the infrastructure deficits and huge amount of capital voted yearly for this purpose. Output from the construction industry is a major and integral part of the national output, accounting for a sizeable proportion in the Gross Domestic Product (GDP) of both developed and underdeveloped countries (Ganesan 1997, Crosthwaite, 2000). This was supported by Ogunsemi and Jagboro (2006) in Nigeria that construction industry is significance and importance to employment generation and economic growth. Mitullah and Wachira (2003) also stated that construction activities in Kenya play a vital role in the process of economic growth and development,both through its products (infrastructure, buildings) and through the employment created in the process of construction itself. The level of this significance has been supported globally by statistics.

Brays (2005) reported that global construction is making contribution amounting to between 5 and 7 percent of GDP in most countries and accounts for a significant part of global gross capital formation which is a little under one-third. The United Nations Environment Programme (UNEP, 1996) noted that about one-tenth of the global economy is dedicated to constructing and operating homes and offices. Lowe (2003) further stated that the value added of construction is in the range of 7% to 10% for highly developed economies and around 3% to 6% for underdeveloped economies. The value added in the developing countries could be higher because figures on the informal sector are mostly not included which could generate a significant casual employment in urban and rural areas (Ganesan 2000). In United Kingdom, construction industry contributes about 8 to 10 per cent of the GDP (BTEC's Own Resources, n.d.). Aganga (2010) in Nigeria established that the construction industry contributes about 3 percent to the nation's Gross Domestic Product (GDP) which is below a range of 5 to 10 percent of GDP as envisaged by the United Nation and in developed nations like UK and America.

In other to meet this demand, Jinadu (2004) cited in Sanni and Alabi (2008) stated that availability of manpower in both qualitative and quantitative terms is very crucial and constitutes the second largest single component of resource input required by the construction industry. Manpower required for construction varies from professionals like Architects, Builders, Engineers, Quantity Surveyors, Urban and Regional Planners, Estate Managers to building artisans like bricklayers/masons, carpenters, welders/iron-benders, house painters, plumbers, electricians and the like professions, and labour. Manpower costs constitute about 40% of the total housing construction costs (Agbola, 1985). In most cases, the types of manpower usually needed in large quantity for housing construction in Nigeria are artisans and labour (Sanni and Alabi, 2008) and this is equally applicable globally. This shows that there are two major classes of manpower/players to the success of any nation construction industry; and both the professionals and artisans/labour ensure qualitative and quantitative performance of any construction activities respectively.

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According to United Nations Centre for Human Settlement (UNCHS) (1996), the construction industry can be divided into a ''formal'' and an ''informal'' part. Oladapo (2006) affirmed that the construction industry in Nigeria is made up of an organized formal sector and an unorganized informal sector. The formal sector in Nigeria comprises foreign and indigenous companies, which are classified into small, medium and large scale according to their level of capitalization and annual turnover; while the study was silent about informal sector. The construction industry in developing countries comprises a regulated formal part and unregulated informal part (Mlinga and Wells, 2001). The major difference between the formal and the informal part is the extent to which government regulations are observed. Mlinga and Wells (2001) further submitted that the formal construction industry is one in which all the government regulations with regard to construction (licensing, registration, employment etc) are adhered to, while the informal construction industry is that part of the industry where some or all of the regulations are not complied with.

In general economy, formal sector by International Labour Organization (ILO) (2002) was described as the economy that is regular, stable and with protected employment and legally regulated enterprises. In term of workforce, it encompasses all jobs with normal hours and regular wages, and are recognized as income sources on which income taxes must be paid. In term of employment, it is the sector comprising 'proper' jobs that are usually permanent, with set hours of work, agreed level of pay, and sometimes pension and social security rights (ILO, 2002).

Informal sector on the other hands was described as an economic activity that is neither taxed nor monitored by a government, and is not included in that government's Gross National Product (GNP), as opposed to a formal economy (Wikipedia, 2009). ILO (2002) described informal sector as the sum total of all income-earning activities outside of legally regulated enterprises and employment relations. In construction sector, Uwakweh (2000) described the informal sector as "that segment of firms or individuals that engages in construction or other activities without obtaining the necessary designs, planning and construction documents". Informality in construction sector could therefore be referred to a situation where an individual is engaged in a construction enterprise or on a construction job and such individual has no regular working hour and wages; no permanent employment; no social safety and welfare packages, no pension scheme, no job security and do not pay tax. In a construction enterprise as well, informality refers to a situation when the engagement of construction workers do not obey employment laws or follow due process.

Jewell et al. (2005) stated that most construction sectors around the world have a high percentage of output being produced informally. Rogerson (1988) also described construction industry as one of the largest employers of the informal sector workforce and Well (2007) affirmed that there is absence of regulation in the terms and conditions of employment as well as in the construction process of informal sector in developing economies. Mitullah and Wachira (2003) also reported that in some low-income countries the vast majority of construction labourers have always been employed informally. Mlinga and Wells (2001) also argued that the informal part of the construction industry is generally ignored and receives little support from the government. They further retreated that policies to develop the construction industries of developing countries should address the needs of the informal sector, where the bulk of the labour force is found (Mlinga and Wells, 2001).

Hence, due to the level of employment provides by the informal sector to the general economy and Meagher and Yunusa (1996) stated that Nigeria has the largest and arguably the most dynamic, informal sector in sub-Saharan Africa; while ILO (2002) further affirmed that informal sector in Sub-Saharan Africa is the largest concentration of informality globally. This implies that informal sector (including construction) in Nigeria is significant both in Africa and developing economies thereby necessitate a need for its investigation. Hence, effort gears towards improving the informal sector activities will contribute to better performance of the construction industry. This paper therefore appraises the employment structure of informal workers/artisans in the Nigerian construction industry with a view to improve their performance and operational/occupational conditions in the Nigerian construction industry. The specific objectives examine the employment structure and engagement requirements of informal workers/artisans in Osun state of Nigeria.

II. Review of Previous Studies

Every employment has the manner(s) and way(s) by which employees are engaged and treated. The type of activities within an organization to be performed by an employee will also determine the structure of employment although some fundamental principles are common to employment system as generally and globally accepted. ILO (2002) has classified any employment either to formal and informal. Formal sector was described as the form of employment that is regular, stable and with protected against dismissal and legally regulated enterprises. In term of workforce, it encompasses all jobs with normal hours and regular wages, and are recognized as income sources on which income taxes must be paid. In term of employment, it is the sector comprising 'proper' jobs that are usually permanent, with set hours of work, agreed level of pay, and sometimes pension and social security

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rights (ILO, 2002). Informal sector on the other hands was described as an economic activity that is neither taxed nor monitored by a government, and is not included in that government's Gross National Product (GNP), as opposed to a formal economy (Wikipedia, 2009). ILO (2002) described informal sector as the sum total of all income-earning activities outside of legally regulated enterprises and employment relations. In construction sector, Uwakweh (2000) described the informal sector as "that segment of firms or individuals that engages in construction or other activities without obtaining the necessary designs, planning and construction documents".

There are also forms of employment such as permanent, temporary, casual, shifting etc. Permanent employment means engagement for a long period of time while temporary is for a limited period. Casual or short-term employment means that there will be frequent changes of job. Most temporary contracts are for the duration of a project. Hence, previous researches on informal workers' employment on construction sites show that; study in Spain by Byrne and Van der Meer (2000) established that the average number of contracts per worker per year was almost eight in 1998 and with this rate of turnover; it is almost inevitable that there will be periods spent out of work. A research in the United Kingdom found much higher levels of unemployment amongst temporary workers than workers on permanent contracts (Harvey, 2000). Harvey (2000) also established that on a site employing 1,400 construction workers, there was a labour turnover of 200 per cent in six months and workers have no protection from dismissal. The study further affirmed that workers affirmed insecurity such as temporary nature of employment, the vulnerability to dismissal and the loss of workplace solidarity as inhibiting factors. A survey of 2,600 construction workers in five towns by Vaid (1999) found that both the skilled and unskilled workers were more or less fully employed; 80-90 per cent could find work for at least 25 days a month and for nine months of the year. Yuson (2001) study in Malaysia confirmed this and on the other hand, underemployment is currently a major problem in Philippine. The outcome of the Trade union research in Malaysia suggests that the average employment period for the eighty-five (85) per cent of construction workers who are employed on temporary contracts in one year varies from four to six months (Yuson, 2001).

Mitullah and Wachira (2003) in Kenya established that most of the surveyed workers were working as employees with minority working either as subcontractors or self employed. The result shows that employees are largely hired by the owners of the development or by subcontractors. They further established that the informal nature of doing business is revealed by the fact that the work agreement is not based on written contracts but on verbal agreements. There are very few working on some forms of written agreement with insignificant proportion had a standard written contract, as applicable in most formal employment. There is paucity of literature on situation in the Nigerian construction sector which necessitates her investigation.

III. Statement of Problem of the Study

A major concern of stakeholders in the Nigerian emerging construction sector is how to improve service delivery. Mitullah and Wachira (2003) also reported that the development of an efficient construction industry is an objective of policy in most countries. In recent years, the informal construction sector has grown in size and importance in many African countries (Mlinga, 1998; Ngare, 1998; Wells, 2001). While small, unregistered construction enterprises were previously involved in the building, maintenance and repair of individual residential houses, they are now increasingly involved in the construction of complex and much larger commercial buildings (Wells, 2001). At the same time, due to unpredictable workloads in the construction industry and high costs involved in keeping idle labour, formal registered enterprises are resorting to subcontracting to the informal sector (Wells, 2001). This affirmed the level of significance and relevance of informal sector to the construction industry in African continent and effort directed towards improving informal sector will be a giant stride to construction sector in an emerging economies.

Review of literature on the level of employment of construction workers show that in both the developed and developing countries, unemployment is very high to workers on temporary contracts than those on permanent contracts (Vaid, 1999; Harvey, 2000; Yuson, 2001), also those on permanent or formal contracts earn far more than their counterparts on temporary or informal contracts (Allen, 1994; Saboia, 1997; Muteta, 1998; Vaid, 1999; Lux & Fox, 2000; Harvey, 2000; Yuson, 2001; Connolly, 2001).

In Nigeria, related studies on informal construction sector such as Oladapo (2006) undoubtedly confirmed the existence of informal construction sector. Fagbenle and Olawunmi (2010) and Oladapo (2001) emphasized the poor impact of informal sector on construction output. Adeyemi et al. (2006) also established that the vast majority of labourers of the informal sector in the Nigerian construction industry are female who act either as labourers or unskilled labour force. Wahab (2010) established that the stress factors attributed to artisans in the Nigerian construction industry include qualitative and quantitative workloads, tight-time frame of works and unstable working hour. Nwaka (2009) emphasized on the need for the government (formal sector) to support informal sector and not content with self-help and fending for themselves. Hence, Mitullah and Wachira (2003) have

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equally submitted that the focus of research and technical assistance on informal construction sector to date has largely been upon the enterprises that comprise the sector – the contractors, subcontractors and consultants. Little attention has been paid to the labour force, about which often very little is known.

None of these studies in Nigeria has examined the employment structure of informal construction workers/artisans with respect to their medium of engagement, types of employers they work for and forms employment they often get from various employers as well as the requirements for engagement. Equally, ILO (2002) had stated that statistics on informal sector are needed as a tool for evidence-based policy-making and advocacy. Therefore, in Nigeria such statistics are not available and where exist there are little research works that provide such statistics about informal construction sector. This study therefore filled this identified gap by examining the employment structure of informal construction workers/artisans in Osun state of Nigeria.

IV. Research Methodology

This paper was a part of an outcome of research for Master of Science (M.Sc.) in Quantity Surveying on the informal sector players of construction industry in Osun State conducted at Obafemi Awolowo University, Ile-Ife Nigeria. The state consists of thirty Local Government Areas, the primary (third tier) unit of government in Nigeria (Wikipedia, 2012). Figures 1 shows the map of Osun state with their respective local government areas.



Figure 1 : The Map of Osun State by Local Government Areas

In other to obtain the population and sample size for this study, a preliminary survey was conducted within the study areas to establish the sample frame for the study. The statistics on the informal workers/artisans including masons, carpenters, iron benders, painters, plumbers and electricians were obtained by contacting the leaders of their various associations eventhough opinions in terms of accuracy of the numbers of their registered members vary with different zones. The figures obtained were harmonized and factored for the purpose of this study. Primary data was elicited for the purpose of this study. The information obtained served as the basis for the study population. The distribution of the informal workers within the study area is shown in Table 1 below.

Table 1 : Distribution of Informal Workers/Artisans in the Study Area

S/N	Informal Workers/Artisans	Osogbo & Olorunda LGAs	Iwo & Ayedire LGAs	Ife Central & Ife East LGAs	Total No
1	Masons	460	320	410	1190
2	Carpenters	815	665	705	2185
3	Iron Benders	205	115	135	455
4	Painters	100	75	116	291
5	Plumbers	120	95	160	375
6	Electricians	270	205	230	705
	Total	**1970**	**1475**	**1756**	**5201**

The study population comprised 1190 masons/bricklayers, 2185 carpenters, 455 iron benders, 291 painters, 375 plumbers and 705 electricians obtained from the preliminary survey conducted. The list of active construction sites within the study area was also obtained for the purpose of comparing informal workers' opinions on the subject of discussion with their employers' responses. A list of 80 active construction sites was gotten. The sample size comprised 5% of informal workers in the study area comprising 60 masons, 109 carpenters, 23 iron benders, 15 painters, 19 plumbers and 15 electricians including 20 construction sites which were randomly taken from the study population. This gave a sample size of 261 informal workers/artisans of the construction industry as shown in Table 2 and 20 construction sites in the study area. Purposive sampling technique was adopted in the administration of questionnaire to the respondents.

In other to collect relevant primary data for this study, a well structured multiple choice questionnaire was designed and administered on informal workers. Most of these workers/artisans were contacted through

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site visits and attending association's meetings. The questionnaire was administered to them by the survey crew. The questionnaire was divided into four sections. The first section identified the characteristics of the informal workers/artisans. These include their sex, age group, marital status among others. The other sections of the questionnaire addressed the specific objectives of this study. The data obtained were imported into Statistical Packages for Social Sciences (SPSS) and were analyzed using descriptive (percentage and mean score), cross-tabulation and Chi-Square as applicable to this paper. The percentage shows the ratio of the responses among the informal workers on variables of their characteristics while mean score measures the average response to variables of means of engagement and engagement requirements of the informal workers/artisans while Chi-Square established the level of significance of these variables.

Table 2 : Distribution of Questionnaire among Informal Workers/Artisans in the Study Area

S/N	Informal Workers/Artisans	Osogbo & Olorunda LGAs	Iwo & Ayedire LGAs	Ife Central & Ife East LGAs	Total No	Response Rate	% Response Rate
1	Masons	25	15	30	70	56	33.9
2	Carpenters	35	29	45	109	52	31.5
3	Iron Benders	11	4	8	23	15	9.1
4	Painters	5	5	5	15	13	7.9
5	Plumbers	7	4	8	19	14	8.5
6	Electricians	9	7	9	25	15	9.1
	Total	**92**	**64**	**105**	**261**	**165**	**100**

V. Results and Discussion

a) *Respondents' Information*

This paper examined the employment structure of informal workers/artisans in the construction industry in Osun state Nigeria. The paper further examined the respondents' information such their sex, age group; marital status and academic qualification. The results obtained show that all the respondents were male and this agreed with the work of Mitullah and Wachira (2003) in Kenya who established that construction sector was dominated by the male gender. A survey of major employers by Mackenzie et al. (2000) also revealed a high level of scepticism about the recruitment of women in the construction industry. A similar study from USA confirmed the overt and covert discrimination against female gender among building trades (Eisenberg, 1998). This paper was further supported the study of Eisenberg (1998) who reported cases of biasness against female gender in the industry. The investigation of Swami Vivekananda Youth Movement (2011) further established that men workers primarily dominate the masonry trade. The study also revealed the age group of the informal workers/artisans in the construction industry and found that 8.5% are less than 20 years of age while 63.6%, 26.1% and 1.8% are of 21-40, 41-60 and above 60 years respectively. This supports the survey of construction labour in Kenya by Mitullah and Wachira (2003) who found that the youngest construction workers was only 21 years old, the eldest was 63 years and in general the sector accommodates a comparatively young workforce with a majority being below 45 years of age. For the respondents marital status, 79.4% are married, 20.6% are single while none are widow.

The highest academic qualifications of the respondents shows that 29.7% are holders of primary school certificate, 14.0% hold junior secondary certificate, 37.0%, 12.7%, 4.2%, 1.2% and 1.2% hold senior secondary certificate, NABTEB Certificate/Trade test, OND/NCE, HND and other academic qualifications respectively. With the senior secondary education being the highest, this study shows that the level of education of the informal workers/artisans in the Nigerian construction industry is better when comparing with other developing countries like India where education of construction workers was low and poor (Vaid, 1999 and Anand, 2000). Other studies in Brazil, Malaysia and China reported that construction worker do not require schooling and education (Zylberstajn, 1992; Abdul-Aziz, 2001 and Lu and Fox, 2001) respectively. This study was also supported by the work of Mitullah and Wachira (2003) on construction labour in Kenya who established that the majority of informal worker/artisans had primary and secondary education. This shows that informal workers/artisans in African continent have higher educational qualifications than their counterparts in the Asian developing economies.

b) *Engagement Structure of Informal Workers/Artisans*

i. *Means of Engagement*

Key to Table 3-5 shows the engagement structure of the informal workers of the construction industry in Osun state. The mean values of informal workers and contractors' responses on their means of engagement are described in the Table 3. Examination of the means of engagement shows that the informal players are often engaged through previous employers with mean value of 2.87. Others means of engagement are through previous friends, other operatives and

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relatives with mean values 2.43, 2.43 and 2.29 respectively on rating scale of 3.00. The least ranked mean of engagement is through sub-contractors (1.79). But the view of contractors shows that they often engage informal workers through previous contact with mean value of 2.86. Others means of engagement are through sub-contractor, company register and labour market with mean values of 2.50, 2.14 and 2.03 respectively. The least ranked mean of engagement is through personal search (1.03). The common mean of engagement to both the informal workers and contractors (employers) is the previous employers or contacts. This implies that previous works done, contacts made and work experience has lots of impact in engaging informal workers or artisans on construction activities or sites in Nigeria. This opinion by the informal workers and their employers was in agreement with the study of Harvey (2000) who submitted that the length and frequency of unemployment depend primarily on demand and supply in the labour market and ultimately on the state of the economy. The result shows that informal workers/artisans will not be engaged unless the employers who have previously engaged them have new construction activities which implies that relying on contact or engagement from new employer(s) could pose a serious impact on informal workers continuity in their work-life. It could be further inferred that establishing a new employer(s) by informal workers may be tasking and since there are no permanent employment. It also means that failure in losing any existing employer is equally detrimental to economic scale of the informal workers.

ii. *Types of the Employers*

The Table 4 also shows the type of employers the informal workers often work for, the informal players ranked that they often work for building owner with mean value of 2.76. Others employers work for include contractor, subcontractor and foremen or other operatives with mean values of 2.44, 2.36 and 1.93 respectively. Although, all employer types were ranked high by the respondents. The result shows that most of them often work for building owners, contractors and sub-contractors in descending order. This was supported by the work of Harvey (2000) whose submitted that most of the informal workers often work for building owners and contractors.

iii. *Forms of Employment*

Table 5 examined the form of employment often offered informal workers by the both the building owners and contractors. Informal workers indicate that the building owners often offer them is contract with mean value of 2.56. Others forms of employment often offer by their employers include temporary, permanent and casual with mean values of 2.43, 2.14 and 2.00 respectively. The least ranked type of employment is shifting with mean value of 1.14. This indicates that the informal workers are often offer contract employment by the building owners than any other forms of employment. From the perception of the informal workers, the type of employment often offer by contractor is contract with mean value of 2.57 which was in agreement with the type of employment they get from the building owners. Other forms of employment from the contractors are permanent, temporary and casual with mean values of 2.11, 2.08 and 1.79 respectively. The least ranked is shifting with mean value of 1.38. The perceptions of the contractors show that they often offer informal workers a contract as form of employment with mean value of 2.56. Other types of employment offer them by the contractor include temporary, permanent and casual with mean values 2.20, 2.09 and 1.87 respectively and the least rank type of employment offer informal workers was shifting. This was supported by the work of Harvey (2000) whose submitted that the type of employment often offer informal workers by their employers were contract and temporary and they never engaged in shifting work which was in line with outcome of the researches of Vaid (1999) and Yuson (2001) who confirmed that unemployment is very high to workers on temporary contracts than those on permanent contracts.

The result shows that from the informal workers perception, the forms of employment often offers by both the building owners and contractors is contract while the least is the shifting. But contractors' perception show that they often offer informal workers a temporary employment followed by permanent and contract. There was no agreement in the perception of both the contractors and informal workers because the contractors as an employer prefer to offer the informal workers temporary employment than contract. This could be as a result of workload of the contractor at a time while building owners would prefer to offer informal workers a contract due to his/her financial capacity at a time.

The ANOVA test conducted on the result (at 5% significance) shows that among the group of 8 mean of engagement, the most significance are through labour market, relatives/family members and personal search. This gives a different opinion except through labour market which forms part of highly ranked means of engagement. Also, among the types of employers the most significance is the sub-contractors which may be due to the fact that this type of employer may provide informal workers with a more close dealings and interaction between the informal workers and sub-contractor which could lead to more performance on their job. On form of employment with building owners, the most significance is permanent followed by contract, casual and shifting forms of employment. This result also shows a difference from the highly ranked forms of employment with building owners except contract form. The difference could be based on the fact that getting casual and shifting job could reduce excess workloads

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of the informal workers and provide them room for diversification and opportunities to work for more than an employer at the same time thereby increasing the informal workers' sources of job opportunities. From the form of employment with contractors, the most significance are permanent, contract and temporary which also agreed with highly ranked forms of employment. This reason could be the fact that working with the contractors could emanate from a formal process which could be affected by lots of factors among these are the type of client contractor an informal worker is working for, sources of finance and complexity of the project among others.

iv. *Engagement Requirements*

In Table 6, the informal workers' engagement requirements were examined. The mean values of informal workers' responses and contractors are described in the table. From the informal workers' perception, previous work experience was ranked highest as engagement requirement often adopted by their employers with mean value of 2.82. Others include competence and performance on past job, recommendation from previous employer, long term relationship with employers and level of trade certification with mean values of 2.77, 2.77, 2.70 and 2.06 respectively which were equally ranked high with the mean rating of 3.00. The least ranked was the academic qualification with mean score 1.55. Contractor's perception ranked previous work experience high as engagement requirements often adopted in engaging informal workers with mean value of 3.00. Other requirements include competence and performance on past job, long term relationship with employers, recommendation from previous employers and level of trade certification with mean values of 2.93, 2.64, 2.57 and 2.51 respectively. The least ranked was academic qualification with mean value of 2.43. The result indicates that the basic requirement for the engagement of informal workers as often considered by their employers is previous work experience and academic qualification is least considered as an engagement requirement. This implies that the previous work experience of the informal workers determines the frequency of their engagement by the employers either as building owners or contractors. The ANOVA test conducted on the result (at 5% significance) shows that among the group of 8 means of engagement, the most significance is academic qualification and this show a different opinion from those ranked high by the informal workers and contractors. This means that academic qualification should be a key requirement for the engagement of informal workers in the construction industry. This is because academic experience/exposure and training will have significant influence in improving the technical skills and general performance of the informal workers/artisans of the construction industry.

Key to Table 3-5 : Engagement Structure of Informal Workers/Artisans

Key	Engagement structure
	Means of Engagement
1	Through labour market
2	Through company register
3	Through previous employers/contact
4	Through relatives/family members
5	Through friends
6	Through other operatives/apprentices
7	Through Personal Search
8	Through sub-contractors
	Type of Employers
1	Building Owner
2	Contractor
3	Subcontractor
4	Foremen/other operatives/apprentices
	Form of Employment (Building owners)
1	Permanent
2	Contract
3	Temporary
4	Causal
5	Shifting
	Form of Employment (Contractors)
1	Permanent
2	Contract
3	Temporary
4	Causal
5	Shifting

Keys to Table 6 : Engagement Requirements of Informal Workers/Artisans

Key	Requirements
1	Academic qualification
2	Level of trade certification
3	Previous work experiences
4	Long term relationship with employer
5	Competence and performance on the past job
6	Recommendation from previous employer

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Table 3 : Means of Engagement of the Informal Workers/Artisans

Key	Mason		Carpenter		Bender		Painter		Plumber		Electrician		Overall		Contractor		F	Sig.
	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk		
Means of Engagement																		
1	2.22	4	2.14	4	1.34	8	1.89	8	1.76	7	1.96	7	1.89	7	2.03	4	1.685	.034 *
2	2.14	6	1.68	8	2.12	5	2.06	7	1.82	5	2.14	6	1.99	6	2.14	3	.567	.459
3	2.81	1	2.62	1	2.87	1	2.86	1	2.92	1	2.87	1	2.87	1	2.86	1	1.506	.191
4	2.11	7	1.98	5	2.60	2	2.21	6	1.69	8	2.29	4	2.29	4	1.42	5	3.827	.003 *
5	2.43	2	2.18	3	2.20	4	2.36	4	2.15	3	2.43	2	2.43	2	1.36	6	1.082	.373
6	2.21	5	2.31	2	2.60	2	2.38	3	2.23	2	2.43	2	2.43	2	1.12	7	1.024	.408
7	2.11	7	1.82	7	1.57	7	2.43	2	2.00	4	2.21	5	2.21	5	1.03	8	2.530	.032 *
8	2.32	3	1.92	6	2.12	5	2.24	5	1.80	6	1.96	7	1.79	8	2.50	2	.657	.459

**: significant at 5% level*

Table 4 : Types of Employers of the Informal Workers/Artisans

Key	Mason		Carpenter		Bender		Painter		Plumber		Electrician		Overall		Contractor		F	Sig.
	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk		
Type of Employers																		
1	2.74	1	2.73	1	2.67	3	2.93	1	2.77	1	2.87	1	2.87	1	Nil		.742	.593
2	2.52	2	2.58	2	2.87	1	2.21	3	2.54	2	2.43	2	2.43	2	Nil		1.905	.096
3	2.25	4	2.20	3	2.87	1	2.36	2	2.31	3	2.36	3	2.36	3	Nil		2.537	.031 *
4	2.31	3	1.96	4	2.13	4	2.07	4	2.25	4	1.93	4	1.93	4	Nil		.575	.719

**: significant at 5% level*

Table 5 : Forms of Employment of the Informal Workers/Artisans

Key	Mason		Carpenter		Bender		Painter		Plumber		Electrician		Overall		Contractor		F	Sig.
	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk		
With Building Owners																		
1	2.13	2	2.61	1	2.87	1	1.93	4	2.00	3	2.14	3	2.14	3	Nil		6.823	.000 *
2	2.60	1	2.36	2	2.20	3	2.71	1	3.00	1	2.73	1	2.73	1	Nil		5.191	.000 *
3	2.13	2	1.94	3	2.60	2	2.14	3	2.15	2	2.43	2	2.43	2	Nil		2.097	.069
4	1.61	4	1.65	4	2.00	4	2.21	2	1.83	4	2.00	4	2.00	4	Nil		2.284	.049 *
5	1.32	5	1.41	5	2.00	5	1.21	5	1.31	5	1.14	5	1.14	5	Nil		3.585	.004 *
With Building Contractors																		
1	1.89	3	2.34	2	**2.33**	3	1.93	3	2.00	3	2.07	3	2.11	2	2.09	3	2.709	.023 *
2	2.43	1	2.43	1	2.67	1	2.79	1	2.89	1	2.93	1	2.57	1	2.56	1	3.164	.010 *
3	2.07	2	1.87	3	2.33	3	1.71	4	2.54	2	2.50	2	2.08	3	2.20	2	3.538	.005 *
4	1.61	4	1.43	4	2.47	2	2.36	2	2.00	3	2.00	4	1.79	4	1.87	4	7.809	.000 *
5	1.20	5	1.21	5	1.73	5	1.14	5	1.23	5	1.14	5	1.25	5	1.38	5	2.842	.081

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Table 6 : Engagement Requirements of the Informal Workers/Artisans

Key	Mason		Carpenter		Bender		Painter		Plumber		Electrician		Overall		Contractor		F	Sig.
	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk	Mean	Rk		
1	1.51	6	1.30	6	2.13	6	1.50	6	1.46	6	2.14	5	1.55	6	2.43	6	6.327	.000*
2	2.08	5	2.16	5	2.33	5	1.57	5	1.85	5	2.07	6	2.06	5	2.51	5	1.085	.115
3	2.90	1	2.72	2	2.87	1	2.86	1	2.85	2	2.80	3	2.82	1	3.00	1	.923	.468
4	2.76	2	2.66	4	2.67	3	2.50	4	2.85	2	2.71	4	2.70	4	2.64	3	.810	.544
5	2.76	2	2.69	3	2.73	2	2.71	3	2.92	1	3.00	1	2.77	2	2.93	2	1.269	.280
6	2.74	4	2.85	1	2.43	4	2.79	2	2.82	4	2.92	2	2.77	2	2.57	4	2.027	.079

**: significant at 5% level*

c) Significance of Informal Workers' Academic Qualifications on their Means of Engagement

Table 7 shows the relationship between the informal workers/artisans' highest educational qualification and their perception on the job engagement through previous employers to increase their accessibility to job. The result shows that the value of chi-square obtained is 23.885 with p-value of 0.299. Since the p-value is greater than 0.05, it can be concluded that there is no significant relationship between the informal workers/artisans' educational qualification and their perception on the job engagement through previous employers as the most ranked mean of engagement.

Table 7 : Relationship between Highest Educational Qualification and Job Engagement of Informal Workers/Artisans through Previous Employers

Crosstab						Chi-Square		
Highest Educational Qualification	Means of Securing Job: through previous employers				Total	df	X^2	P
	never	rarely	often	5				
Others	0	1	1	0	2	21	23.885	.299
HND	1	1	0	0	2			
OND/NCE	0	1	6	0	7			
NBT Cert./Trade Test	0	3	18	0	21			
Sen. Sec. Cert	5	6	49	1	61			
Jun. Sec. Cert.	1	4	16	0	21			
Prv Sch. Cert.	1	3	44	0	48			
0	0	0	1	0	1			
Total	**8**	**19**	**135**	**1**	**163**			

Table 8 shows the relationship between the informal workers/artisans' highest educational qualification and the perception on the job engagement through their relatives to increase their accessibility to job. The result shows that the value of chi-square obtained is 30.586 with p-value of 0.085. Since the p-value is greater than 0.05, it can be concluded that there is no significant relationship between the informal workers/artisans' educational qualification and the perception on the job engagement through their relatives as a mean of engagement. Table 9 shows the relationship between the informal workers/artisans' highest educational qualification and the perception on the job engagement through their friends to increase their accessibility to job. The result shows that the value of chi-square obtained is 15.961 with p-value of 0.316. Since the p-value is greater than 0.05, it can be concluded that there is no significant relationship between the informal workers/artisans' educational qualification and the perception on the job engagement through their friends as a mean of engagement.

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Table 10 shows the relationship between the informal workers/artisans' highest educational qualification and the perception on the job engagement through other operatives/apprentices to increase their accessibility to job. The result shows that the value of chi-square obtained is 15.442 with p-value of 0.800. Since the p-value is greater than 0.05, it can be concluded that there is no significant relationship between the informal workers/artisans' educational qualification and the perception on the job engagement through other operatives as a mean of engagement.

Table 8 : Relationship between Highest Educational Qualification and Job Engagement of Informal Workers/Artisans through Relatives

Crosstab						Chi-Square		
Highest Educational Qualification	Means of Securing Job: through relative				Total	Df	X^2	P
	never	rarely	often	33				
Others	0	1	1	0	2			
HND	1	0	1	0	2			
OND/NCE	4	3	0	0	7			
NBT Cert./Trade Test	0	13	7	0	20	21	30.586	.085
Sen. Sec. Cert	12	25	22	1	60			
Jun. Sec. Cert.	2	16	3	0	21			
Pry Sch. Cert.	5	31	10	0	46			
0	0	1	0	0	1			
Total	**24**	**90**	**44**	**1**	**159**			

Table 9 : Relationship between Highest Educational Qualification and Job Engagement of Informal Workers/Artisans Through friends

Crosstab					Chi-Square		
Highest Educational Qualification	Means of Securing Job: through friends			Total	Df	X^2	P
	never	rarely	often				
Others	0	2	0	2			
HND	1	1	0	2			
OND/NCE	2	3	2	7	14	15.961	.316
NBT Cert./Trade Test	2	11	8	21			
Sen. Sec. Cert	8	23	28	59			
Jun. Sec. Cert.	1	13	7	21			
Pry Sch. Cert.	2	22	22	46			
0	0	1	0	1			
Total	**16**	**76**	**67**	**159**			

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Table 10 : Relationship between Highest Educational Qualification and Job Engagement of Informal Workers/Artisans through other operative/apprentice

Crosstab						Chi-Square		
						Df	X^2	P
Highest Educational Qualification		Means of Securing Job: through other operative/apprentice				Total		
		0	never	rarely	often			
	Others	0	1	1	0	2		
	HND	0	0	0	2	2		
	OND/NCE	0	1	3	3	7	21	15.442	.800
	NBT Cert./Trade Test	0	1	10	9	20		
	Sen. Sec. Cert	1	6	23	28	58		
	Jun. Sec. Cert.	0	1	13	7	21		
	Pry Sch. Cert.	0	7	24	15	46		
	0	0	0	1	0	1		
Total		1	17	75	64	157		

From the result of the assessment of the significance of Informal Workers' academic qualifications on their means of engagement, the result obtained shows that the academic qualification of the informal workers is insignificant to their mean of engagement either through previous employers, relatives, other operatives etc. The result also supports the outcome of means score ranking which ranked academic qualification of the informal workers as the least requirement considered by the employers (building owners/contractors) for their engagement. The informal workers highest educational qualification was senior secondary certificate. With the senior secondary education being the highest, this study shows that the level of education of the informal workers/artisans in the Nigerian construction industry is better when comparing with other developing countries like India where education of construction workers was low and poor (Vaid, 1999 and Anand, 2000). Other studies in Brazil, Malaysia and China reported that construction worker do not require schooling and education (Zylberstajn, 1992; Abdul-Aziz, 2001 and Lu and Fox, 2001) respectively. This study was also supported by the work of Mitullah and Wachira (2003) on construction labour in Kenya who established that the majority of informal worker/artisans had primary and secondary education.

d) Significance of Informal Workers' Means of Engagement on their Engagement Requirements

Table 11 indicates the relationship between the informal workers/artisans' engagement by previous employers and their previous work experience to increase their accessibility to work or job opportunity. The result shows that the value of chi-square obtained is 17.783 with p-value of 0.001. Since the p-value is less than 0.05, it can be concluded that there is a significant relationship between the informal workers/artisans' engagement by previous employers and their previous work experience in enhancing the informal workers accessibility to work. This implies that previous employers engage informal workers to work for them because of their performance history on previous works they have done for the employers. The level of the significance of informal workers' previous work experience with their previous employer was equally ranked first by the informal workers and the contractor as the mean of engagement of informal workers in the study area. This result was also in agreement with the study of Harvey (2000) who submitted that the length and frequency of unemployment depend primarily on demand and supply in the labour market and ultimately on the state of the economy.

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Table 11 : Relationship between Informal Workers' Engagement by Previous Employers and their Previous Work Experience

Crosstab							Chi-Square		
Means of Securing Job: through previous employers * Engagement Requirements: previous work experience	Cases Valid N	Valid Percent	Missing N	Missing Percent	Total N	Total Percent	Df	X^2	P
	157	95.2%	8	4.8%	165	100.0%	4	17.783	.001

Table 12 indicates the relationship between the informal workers/artisans' engagement by previous employers and their level of certification to increase their accessibility to work. The result shows that the value of chi-square obtained is 3.038 with p-value of 0.551. Since the p-value is greater than 0.05, it can be concluded that there is no significant relationship between the informal workers/artisans' engagement by previous employers and their level of trade certification in enhancing the informal workers accessibility to work. This implies that informal workers' previous employers do not take into consideration their level of certification before engaging them on construction activities. And as previously confirmed, the employers only consider informal workers' previous work experience on the job before engaging them.

The level of the insignificance of informal workers' level of trade certification as a requirement for their engagement with their previous employer was because it was ranked as the fifth by the informal workers and the contractor as the requirement considered in the engagement of informal workers in the study area out of six requirements highlighted by the study eventhough 66% and above of the informal workers surveyed were trade tested. This agrees with the study of Mitullah and Wachira (2003) in Kenya established that 74 per cent of informal workers were skilled, 21 per cent semi-skilled while 5 per cent had no skills. In the Philippines, an estimated 95 per cent of construction workers acquire their skills in traditional ways (Yuson, 2001). In Egypt 85 per cent of craftsmen are trained through traditional apprenticeships (Assaad, 1993).

Table 12 : Relationship between Informal Workers' Engagement by Previous Employers and their Level of Trade Certification

Crosstab							Chi-Square		
Means of Securing Job: through previous employers * Engagement Requirements: level of trade certification	Cases Valid N	Valid Percent	Missing N	Missing Percent	Total N	Total Percent	*Df.*	X^2	*P*
	156	94.5%	9	5.5%	165	100.0%	4	3.038	.551

e) Significance of Informal Workers' Types of Employers on Engagement Requirements

Table 13 indicates the relationship between the informal workers/artisans' engagement by building owners and their previous work experience. The result shows that the value of chi-square obtained is 26.917 with p-value of 0.000. Since the p-value is less than 0.05, it can be concluded that there is a significant relationship between the informal workers/artisans' engagement by building owners and their work experience in enhancing their accessibility to work. This implies that building owner as the most ranked employer by the informal workers take into consideration the previous work experience of informal workers before engaging them.

Table 13 : Relationship between Informal Workers' Engagement by Building Owners and their Previous Work Experience

Crosstab							Chi-Square		
Type of Employers: building owner * Engagement Requirements: previous work experience	Cases Valid N	Valid Percent	Missing N	Missing Percent	Total N	Total Percent	Df	X^2	P
	156	94.5%	9	5.5%	165	100.0%	4	26.917	.000

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Table 14 indicates the relationship between the informal workers/artisans' engagement by building owners and their level of certification. The result obtained shows that the value of chi-square obtained is 13.086 with p-value of 0.011. Since the p-value is less than 0.05, it can be concluded that there is a significant relationship between the informal workers/artisans' engagement by building owners and their level of certification in enhancing their accessibility to work. This implies that building owner as the most ranked employer by the informal workers take into consideration the level of certification of informal workers before engaging them.

Table 14 : Relationship between Informal Workers' Engagement by Building Owners and their Level of Trade Certification

Crosstab							Chi-Square		
Type of Employers: building owner * Engagement Requirements: level of trade certification	Cases						Df	X^2	P
	Valid		Missing		Total				
	N	Percent	N	Percent	N	Percent	4	13.086	.011
	155	93.9%	10	6.1%	165	100.0%			

Table 15 indicates the relationship between the informal workers/artisans' engagement by contractors and their previous work experience. The result obtained shows that the value of chi-square obtained is 25.882 with p-value of 0.000. Since the p-value is less than 0.05, it can be concluded that there is a significant relationship between the informal workers/artisans' engagement by contractors and their previous work experience in enhancing their accessibility to work. This implies that contractor as the second ranked employer of informal workers take into consideration the previous work experience of informal workers before engaging them.

Table 15 : Relationship between Informal Workers' Engagement by Contractors and their Previous Work Experience

Type of Employers: contractors * Engagement Requirements: previous work experience	Cases						Chi-Square		
	Valid		Missing		Total		Df	X^2	P
	N	Percent	N	Percent	N	Percent	4	25.882	.000
	156	94.5%	9	5.5%	165	100.0%			

Table 16 indicates the relationship between the informal workers/artisans' engagement by contractors and their level of certification. The result obtained shows that the value of chi-square obtained is 3.809 with p-value of 0.432. Since the p-value is greater than 0.05, it can be concluded that there is no significant relationship between the informal workers/artisans' engagement by contractors and their level of certification in enhancing their accessibility to work. This implies that contractor as the second ranked employer of informal workers take not into consideration the level of certification of informal workers before engaging them.

Table 16 : Relationship between Informal Workers' Engagement by Contractors and their Level of Trade Certification

Type of Employers: contractors * Engagement Requirements: level of trade certification	Cases						Chi-Square		
	Valid		Missing		Total		Df	X^2	P
	N	Percent	N	Percent	N	Percent	4	3.809	.432
	156	94.5%	9	5.5%	165	100.0%			

VI. Conclusion

This paper has examined the employment structure of informal workers/artisans in the construction industry in Osun state of Nigeria. It has systematically examined the informal workers' means of engagement, types of employers the informal workers work for and forms of employment offer them by their employers and by what requirements they have been engaged by their various employers. The paper also investigated the significance of relationship between informal workers/artisans' educational qualification and their means of engagement; and means of engagement and type of employers on engagement requirements respectively. The result of the study found out that in the study area, informal workers are engaged through previous employers/contacts and this means that previous workdone, contacts made in the past and work experience have lots of impact in engaging informal workers/artisans on construction activities or sites in

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Nigeria. However, the informal workers in Osun state of Nigeria work for building owners and contractors. The assessment of forms of employment from building owners and contractors who are the employers of informal workers shows that building owners as employers offer them contract employment which means that they are paid according to the workdone per time. But the contractors as the informal workers' employers indicate that they offer them temporary employment. Both the informal workers (employees) and contractors (employers) confirmed that the engagement requirement of informal workers/artisans in the study area is previous work experience while education was considered as the least requirement in engaging informal workers.

The study shows that there was no significance relationship among the educational qualification of the informal workers and their various means of engagement as sources of employment. But there was a significant relationship between the informal workers/artisans' engagement by previous employers and their previous work experience but such relationship do not exist between informal workers' previous work experience and level of certification in enhancing the informal workers accessibility to work. It was also established that types of employers of informal workers' has a significance relationship with the engagement requirements, namely, there is a significant relationship between building owner as employer and previous work experience and level of certification of informal workers; but contractor as an employer only has a significant relationship with informal workers previous work experience while level of certification was insignificant.

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