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Pragmatic Measures for Attracting Youths to Construction crafts Skills vocation as means to tackle Construction industry Labour shortage

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ABSTRACT

The reason for the progressive construction industry labour shortage is not too far from the fact that the youth who should take up the skills from the older generation have little or no interest in the construction craft skill vocation. Thus, this study was conducted to identify pragmatic measures for attracting youths to construction skills vocation using South-East Nigeria as a case study. It was effected with the use of intense literature review and structured questionnaires distributed mainly to the teaching staff of vocational/technical schools, and construction professionals in southeast Nigeria. Data collected was analysed using the SPSS version 20.0. Results revealed that the most pragmatic measure to attract youths in the area is to make craftsmen's wages attractive (Mean=4.63,). Similarly, skills and vocational training should be made free in the area (Mean = 4.57,) 'properly fund technical/vocational education (mean=4.39), ranked second and third respectively. Consequently, the study concludes that, in other to achieve sustainable construction activities, youths need to be attracted to take up a career path in construction. Thus, improved wages for craftsmen/artisans and, making skills acquisition and vocational training free are strongly recommended.

Keywords: Pragmatic measures, Construction crafts skill vocation, Labour Shortage

I. Introduction

Construction, as in other production processes, (Oyegoke, McDermott, Aouad, and Cleary, 2009) involves a process of transforming inputs into outputs by using necessary resources. These resources are accumulated stocks of means of production and overall product performance. Thus, the effectiveness of the construction industry depends on among other factors, the quality, and condition of its workforce (Abdullahi, Anum, Adole, and Williams 2015).

Skills have been one of the most important issues in the construction industry, and since the construction methods are largely primitive; hence the necessity of a labor-intensive workforce (Oyegoke *et al*., 2009). Moreover, the fact that the structure of the industry is highly fragmented entails the need for many different skill sets. A skill is an ability to perform a productive task at a certain level of competence (Bilau, Ajagbe, Kigbu, and Sholanke, 2015). It is associated with a particular task; hence a person who does not possess such a skill is unlikely to be able to carry out such a task or will be less productive than somebody who does possess this skill. Skills are often associated with qualification and its acquisition through formal and informal training and on-the-job experience (Darren, Mark, and Christopher, 2012).

Skilled labor plays a very essential role in the survival and development of the construction sector (Medugu, Rafee, Bustani, Bala, Abdullahi & Mbamali, 2011; Rafee, 2012), and in the practical realization of any building project (Iro, Inuwa and Dantong, 2013). They are mostly engaged in the technical aspect of building products, and at the management, level serve as frontline managers (supervisors); giving the role of interpreting the company policies into the practical realization of the organizational goal of the employer. They are operatives who contribute skillfully with their hands in the practical realization of a project in the construction industry. Unfortunately, there is a short supply of these technically skilled craftsmen which adversely affects productivity, work quality, projects duration, and overall organizational profit (Agbola, 2005; Fagbenle, 2004; Onibokun, 2002). On this note, this study attempts to identify the effective measures for attracting youths to construction skills crafts to ensure sustainability in the training and supply of indigenous skills in the construction industry.

II. Literature Review

2.1 Overview of the construction industry

The construction industry contributes significantly in terms of employment generation in both developed and developing economies as it provides an entry point into the labour market for the least educated and other disadvantaged sections of the society (ILO, 2001). The industry is, however, characterized by several challenges and difficulties which most often portrays it in a bad light. The poor image of the construction industry is generally thought to stem from the nature of its work, which is often described as 'dirty, difficult and dangerous (ILO, 2001; Kashiwagi and Massner, 2002). A report by Garrity, (1999) reveals that most young people see construction work as dirty and uninteresting, done in harsh weather by not very intelligent people. A survey of high school students in the United States, for example, shows that, out of 250 career options, the choice of construction came 247th as an attractive career option (Kashiwagi and Massner, 2002). Bokinni (2005) also observed that, for many people, the construction industry is seen as the employment of 'the last resort', entered into when an alternative is unavailable or just to continue a family tradition.

2.2 Construction craft skills

The Construction Skills Certification Scheme (CSCS) (2008) classifies construction-related skills into three broad groups as follows: Group A - Craft and Operative, Group B - Technical, Supervisory and Management, and Group C – Construction related Occupations. From the CSCS (2008) classification, the craft operatives' occupational skill is 178; the technical, supervisory, and management occupational group are 63 while construction-related occupation has 436 identified skills. According to Salute to Construction (STC) (2007), occupational skill in construction has two major classifications which are the Craft and Non-craft Careers in Construction. The Crafts Careers in Construction has **15** major crafts which are listed below:

a. Bricklayer
b. Painter and Paperhanger
c. Carpenter
d. Pipe-fitter/Steamfitter
e. Cement Mason
f. Plasterer
g. Electrician
h. Plumber
i. Glazier
j. Operating Engineer/Equipment Operator
k. Roofer
l. Iron Worker

m. Sheet Metal Worker
n. Labourer
o. Surveyor/Field Engineer (Rodman, Chainman, Instrument man, Party chief).

The construction industry's skills areas are vast and diverse, and the various craft skills-persons perform different and specific tasks in the course of any construction project. They also work under different conditions, undergo varied training, and need to meet some general academic and basic physical requirements.

This research however focuses on identifying effective measures of attracting the younger generation (youths) to the core construction skills vocation such as those in the Trowel trades, (i.e. masons, bricklayers), wood trades (carpentry, joinery, furniture making, wood machinist), metal and steel trades (metalwork, steel fixers), plumbing, roofing, tiling and painting and decorating, the site operatives who are directly involved in the actual construction work on the site.

III. METHODOLOGY

The study is carried out in three South-East States of Nigeria, Anambra, Enugu, and Imo using a survey research method.

3.1 *Method of Data collection*

The primary data for this survey was collected using a structured questionnaire, while secondary data was obtained from books, journals, magazines, conference/seminar papers. The questionnaires were used for data collection and were administered to the permanent staff of vocational /technical schools and various building professionals which include: Architect, Builders, Structural Engineers, and Quantity Surveyors in the study area.

3.2 Population and Sample size of the study

The population for this study comprises building professionals and permanent staff of technical/vocational schools in Southeast Nigeria. The selected technical colleges include Government Technical College (G.T.C) Enugu (Enugu State), G.T.C Owerri (Imo State), G.T.C Onitsha and Nigerian Science, and Technical College, NSTC Nnewi (Anambra State). The selected Building professionals comprised Architects, Builders, Structural Engineers, and Quantity Surveyors in the aforementioned States. The rationale behind this is that, by their training, education, and experiences in the construction industry, they are in the best position to provide answers to questions bothering the subject matter. Also to ensure that all information obtained from the structured questionnaires guarantees a reasonable level of validity to achieve the aim of this research work.

The population of the staff and professionals are 366 and 548 respectively (total of 914). Taro Yamane sample size method is employed to determine the appropriate sample size for the study. Taro's formula is represented as:

$$n = \frac{N}{1+N(e)^2}$$

When n = sample size
N = population
e^2 = Margin of error (assumed 5%)
1 = unity or constant
Therefore,
$n = 914 / (1 + 914(0.05)^2)$
n = 914/3.285

n = 278
Consequently, a total of 300 questionnaires were distributed

3.3 *Questionnaire administration*

Data were collected through a structured questionnaire administered to selected respondents. Accordingly, out of a total of 300 questionnaires administered, only 210 were returned, correctly completed, and found useful.

3.4 *Method of analysis and Data presentation*

In the analysis of data, Table; Mean; Percentage; Bar and Pie chart is used to express the statistical results. Suitable statistical tools were adopted for the analysis. The Statistical
Package for Social Sciences (SPSS) software was used to analyse the data using descriptive statistics.
However, Relative Important Index (RII) was used to assess the results, and is computed using the formula:

$$RII = \frac{\sum_{i=1}^{5} W_i X_i}{5 \sum X_i}$$

Where
W_i = the weighting given to each variable by the respondents, ranging from 1- 5
X_i = the percentage of respondents scoring
i = the order number of respondents

IV. DATA PRESENTATION

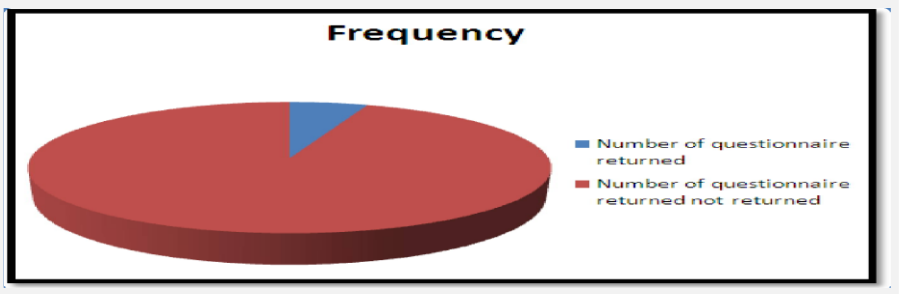
Table 1 presents the percentage responses of the survey. From the table, it can be seen that a total of three hundred questionnaires were administered to various respondents within the study area with only two hundred and ten adequately filled and returned giving a percentage response of 70/0%.

Table 1: *Questionnaire Distribution of the Respondents*

Questionnaire	Frequency	Percentage
Number of questionnaires not returned	40	16
Number of questionnaires returned	210	84
Total	250	100

Source: Researcher's Field Survey, (2020)

Figure 1: Pie Chart Showing Distribution of Questionnaire



Source: Researcher's Field Survey 2020

4.1 Respondents Profile

The breakdowns of the major component of the respondents' profile are presented in this session in Figure 2 — Figure 5 in the form of charts with their corresponding interpretation.

4.1.1 Respondents Professions

Figure 2 shows the bar chart distribution of respondents by nature of their professions in that 3.33% of the respondents were Architects, 23.81% were Builders, 20.95 % of the respondents are Civil/Structural Engineers, Quantity Surveyors (6.19%). while 40.48% were Vocational/Technical Educators and others (5.24%).

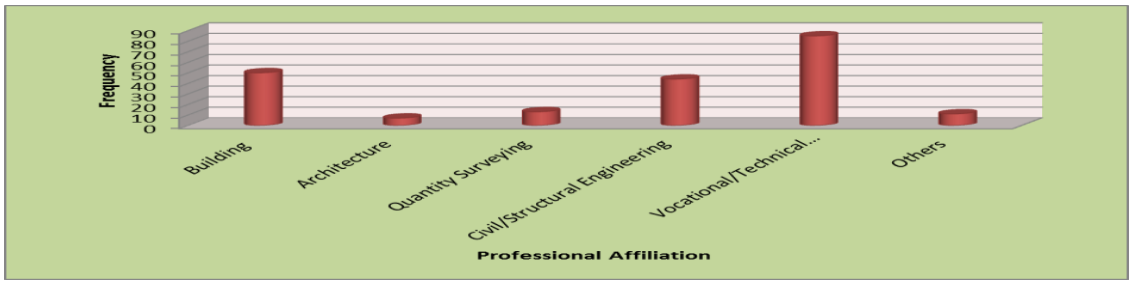


Figure 2. Bar chart of Professional Affiliation of the Respondents
Source: Field Survey 2020

4.1.2 Professional Practice Area

From Figure 3, the bar chart distribution indicates the professional practice areas of most of the respondents are training/education and project management (56.67% and 20.48% respectively), while 9.52% are into consultancy, 11.90% are into contracting services, while only a few (1.43%) are engaged in other professional practice areas.

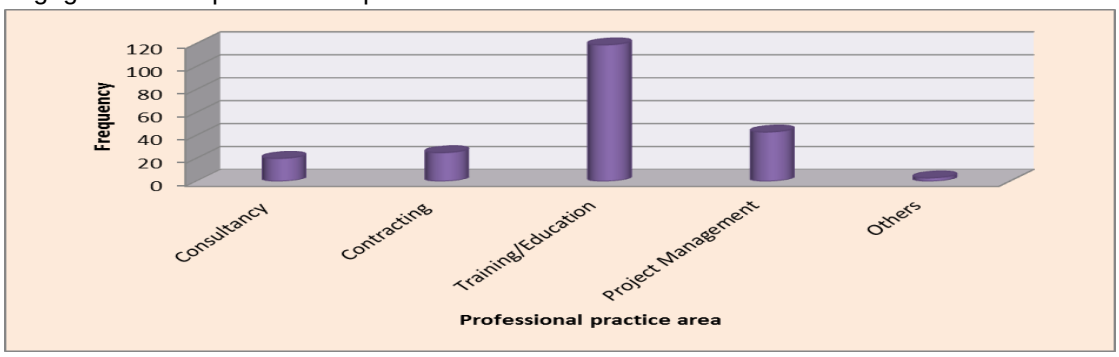


Figure 3. Bar chart of Professional Practice Area of the Respondents
Source: Researcher's Field survey 2020.

4.1.3 Years of Experience of the Respondents

The bar chart distribution in Figure 4 indicates that about 68.57% have been in the system for 10years or more; only 31.43% have less than 10years of experience. It is therefore implied that the respondents have enough experience in the field and can thus, provide adequate and reliable information needed for the study.

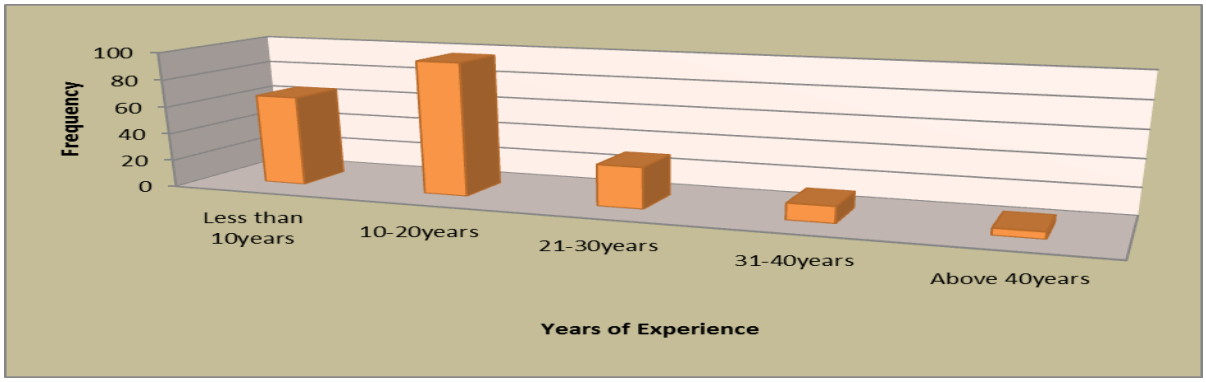


Figure 4. Bar chart of years of Experience of the Respondents
Source: Researcher's Field Survey 2020

4.1.4 Educational attainment/Professional Qualification of the Respondents

From Figure 5, the bar chart distribution indicates that most of the respondents are B.Sc. holders (33.33%) followed by Postgraduate Diploma (PGD) holders (24.76%), M.Sc. holders (20.00%), and HND holders (11.43%). Some (2.86% respectively) are OND and Ph.D. holders, while the rest are scattered around NCE holders (2.38%), WAEC/Technical/NABTEB holders (0.95%), Trade test holders (0.48%), Technical school certificate holders (0.48%), and those who have other professional certificates (0.48%). It is however confirmed that the respondents have adequate and required academic background to provide necessary information for this study

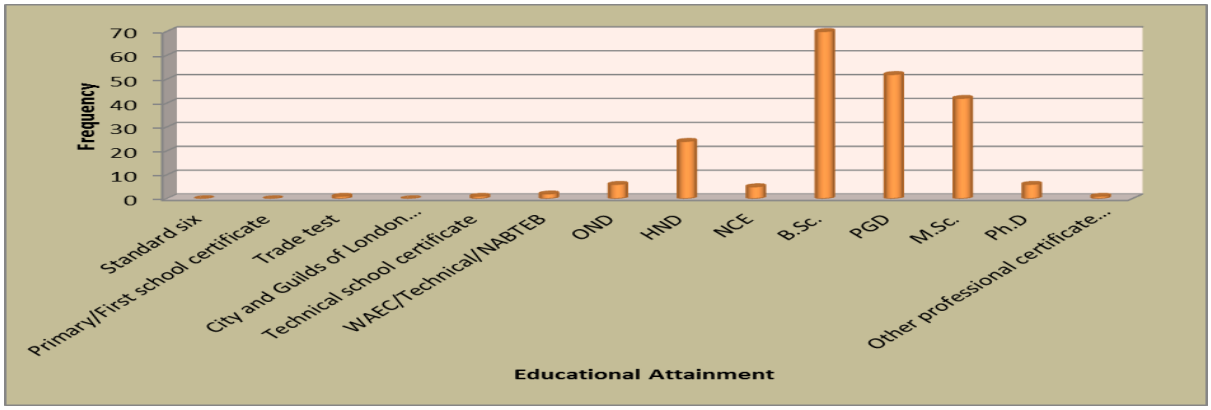


Figure. 5 Bar chart of Educational Attainment of the Respondents
Source: Researcher's field survey 2020

Measures of attracting the Nigerian youth to take up Construction skill

The respondent's ranking of the possible measures that can be used to attract the youth within the study is to take up construction skills and vocation are as presented in Table 3. From the table, it can be deduced that the respondents ranked 'making craftsmen wages attractive' (mean-4.63) as the most viable measure. This was closely followed by other measures such as 'Make skills and vocational training free (mean-4.57); 'properly fund technical/vocational education (mean-4.39), ranked second and third respectively. Close attention to the mean value of all the measures identified shows that the value is closer to 4.0 an indication that the respondent Agrees (4.0) with the viability of the measures as a remedy.

Table 3. Possible measures to attract Nigerian youths to take up construction skill vocation

S/N	Possible ways to attract youths to take up construction skill vocation	Frequency of response					N	Mean	Standard Deviation	Rank
		5	4	3	2	1				
1	Make skills and vocational training free	141	58	2	7	2	210	4.57	0.763	2nd
2	Make craftsmen's wages attractive.	144	59	3	4	0	210	4.63	0.614	1st
3	Make skills trainees earn while they learn	99	90	9	8	4	210	4.30	0.869	5th
4	Accord recognition to skills/vocational education.	93	93	10	8	6	210	4.23	0.922	6th
5	Make skills instruction mandatory at junior secondary	93	68	13	30	6	210	4.01	1.157	8th
6	Make skills instruction mandatory at senior secondary	97	74	15	20	4	210	4.14	1.035	7th
7	Properly fund technical/vocational education.	123	65	7	10	5	210	4.39	0.938	3rd
8	Make career guidance and counselling mandatory at junior secondary level	107	71	7	12	3	210	4.34	0.915	4th
	Cluster Result							**4.33**	**0.902**	

Note SA - Strongly Agreed (5), A-Agreed (4), UD- Undecisive (3), D-Disagreed (2), and SD-Strongly Disagreed (1).

Source: Researcher's Field Survey 2020

From the overall estimate (with cluster mean of 4.33>3.00 and standard deviation of 0.902<1.581), the factors listed in Table 3 are eight possible measures to attract youths to take up construction skill vocation in the area. It can be deduced that the key measure is to make craftsmen's wages attractive (mean=4.63, std. dev. = 0.614). Alternatively, skills and vocational training should be made free in the area (mean = 4.57, std. dev. = 0.763). However, making skills instruction mandatory at junior secondary should be the least option (mean = 4.01, std. dev. = 1.157).

V. CONCLUSION AND RECOMMENDATION

The effectiveness of the construction industry no doubt depends on the skills and condition of the workforce. In other to achieve sustainable construction activities, youths need to be attracted to construction vocations. This can be achieved through improved and attractive wages of craftsmen which were found to be the most effective and key strategy to attract the younger generation taking up a career path in the construction industry. Also, making skills acquisition and vocational training free is another beneficial and pragmatic measure that could be adopted after wages improvement. However, making skills instruction mandatory at junior secondary was considered the least and insignificant in this regard. Therefore the study recommends:

i. Improved wages for construction skilled labors (craftsmen and artisans) to commensurate the efforts in doing the work
ii. Make skills acquisition and vocational training free to make it accessible to any class of individual- the poor and the rich alike.
iii. Reorientation of the youths on the need for acquisition of construction skills,
iv. Proper funding and rehabilitation of technical/vocational colleges, making them highly equipped, appealing, efficient, and effective in the production of competent skills.

Furthermore, as part of the measures to encourage construction skill acquisition, the local government councils, professional bodies, senior secondary schools, and junior secondary school teachers are required to take an active role by creating awareness among the youths, and avenues for construction skills acquisition and training for them. This done, will ensure a sustainable supply of crafts skilled workmen for an effective building delivery process in the construction industry.

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