FACTORS AFFECTING JOB-SITE PRODUCTIVITY OF CONSTRUCTION WORKERS IN LAGOS STATE

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Abstract

Productivity is one of the most important factors affecting the overall performance of any organisation whether large or small organisation. It is on the basis of this that the study assess the factors that affect job-site productivity in Lagos State with consideration on recruitment policy, types of training and factors that affect quality of workers and their contribution to the various organisations surveyed. This is done through the self administration of 100 structured questionnaires to elicit information from the respondents using convenience sampling method. The results showed that 64.7% of the respondents used on the job training for their workers and 54.3% of the respondents conduct training for their staff as required. Experience of workers was ranked 1st while age of workers was ranked 14th out of 16 factors. Furthermore, improvements are needed in the areas of developing people (42%), safety consciousness (34%) and planning effectiveness (26%). It is however suggested among others that efforts should be made by the firms to invest in developing its work force (ability to select, train and appraise personnel, set standard of performance) so that on the long run, this will yield positive improvement on the overall productivity.

Key words: productivity, training, recruitment, job-site, construction.

Introduction

The construction industry according to Enshassi, Mohamed & Abushaban (2009) is complex in nature due to the fact that large numbers of parties such as clients, contractors, consultants, role players, and regulatory agencies are involved. However, not withstanding its complex nature, the industry plays a major role in the development and achievement of society's goals. In essence, Alzahrani & Emsley (2013) stated that the construction industry is essential for the development of any nation and the physical development of construction projects such as buildings, roads, and bridges is the measure of the economic growth experienced in that country. The construction industry according to Kolawole (2002) is a unique one, it is vital to the existence of other industries in that it provides the environment under which other industries operate. The industry accounts for 69% of the nation's fixed capital formation, about 3% to the gross domestic products (GDP) and more than 10% of the labour force in Nigeria (Adeyemi *et al*., 2006; Aganga cited in Odediran *et al*. & Akindoyeni cited in Balogun, 2007). The industry is highly fragmented with contractors ranging from a few multinationals that employ hundreds of labour to the majority of contractors that employ less than ten employees. Its contributions are more than just economic; the products of construction mentioned above contribute extensively towards the creation of wealth and the quality of life of the population (Ibrahim, Roy, Ahmed & Imtiaz, 2010). Karna & Jonnonen (cited by Ibrahim *et al.,* 2010) emphasised that unprecedented problems are faced by traditional ways of performing and managing construction processes. As a result of the growing competition within the construction industry, this forces construction organizations to have a rethink in order to improve productivity, quality and efficiency and to remain relevant.

Productivity

Hampson (cited by Ibrahim *et al*., 2010) stated that the construction industry when compared with the manufacturing industry has demonstrated lower productivity in spite its significance because construction performance affects all sectors of the economy. This is why it is estimated that a 10 percent increase in construction productivity will give rise to 2.5 percent improvement in Gross Domestic Product (Stoeckel & Quirke cited by Ibrahim *et al*., 2010). Kazaza & Ulubeyli (2007) asserted that productivity is one of the most important factors affecting the overall performance of any organisation whether large or small organisation. At the micro-level, improved productivity decreases unit costs and serves as an indicator of project performance. At the macro-level, improved productivity is a vital tool in countering inflationary effects and determining wage policies. Improved productivity according to Kazaza & Ulubeyli (2007) is always counted among the basic means of solving

economic problems. To this end, capital alone is an inadequate means of producing more wealth or for starting a business in developing countries as improved productivity is also a requirement; if all production inputs are well utilized, capital improvements and enhanced productivity go hand in hand. In other words, increased productivity enhances investments without any burden to governments in carrying out their statutory responsibilities.

Inefficient management of construction resources according to Shehata & El-Gohary (2011) can result in low productivity. Hence, they cautioned that it is important for contractors and construction managers to be familiar with the methods leading to evaluate the productivity of the equipment and the laborers in different crafts. To achieve the income expected from any construction project in general, it is important to have a good controlling hand on the productivity factors that contribute in the integrated production composition such as labor, equipment, cash flow. Olomolaiye *et al.* (cited by Enshassi, Mohamed, Mustafa & Mayer, 2007) established that the factors affecting productivity are not the same and constant which may vary from one country to another, from one project to another and even within the same project depending on the prevailing situation. Enshassi *et al.* (2007) asserted that in order for construction productivity to be improved, there is the need to study the factors affecting it. They further stated that in spite the researches that have been conducted, no uniform set of factors with profound influence on construction productivity have been found or even agreement on the mode of classification of the factors. In a related development, Chan (2002) concluded that even with the plethora of researches in labor productivity, there is still little to show for it in the construction industry. Chan (ibid) asserted that this may not be unconnected with the way most researchers have conducted their work by isolating the factors that affect labor productivity instead of looking at it in a multi-faceted way. It is on the basis of this that the study assess the factors that affect job-site productivity in Lagos State with consideration on recruitment policy, types of training and factors that affect quality of workers and their contribution to the various organizations surveyed.

Methodology

The study was conducted using the survey method. Survey design according to Creswell (2009) gives a quantitative description of phenomenon such as trends, attitudes, or opinion of population. Based on the results obtained, generalization to the population is possible. Collis & Hussey (2003) describe a survey as a positivistic methodology that draws a sample from a larger population in order to draw conclusions about the population. Non probability convenience sampling method was adopted; this is a sampling method according to Teddlie & Yu (2007) and Collins, Onwuegbuzie, & Jiao (2007) that involves choosing from a sample that is not only accessible but the respondents are willing to take part in the study. The factors identified were based on the work of Horner & Duff (2001) and Hendrickson (2008). It has to be stated that the unit of analysis were the construction firms but the respondents ranged from Architects, Builders, Civil Engineers and Quantity Surveyors that held forte in the construction firms surveyed. One hundred self-administered questionnaires were distributed to construction firms in Lagos State (based on Butler, 1982 and European Commission, 2003 cited by Bhaird & Lucey, n.d classification of firms). Thirty-seven (37) representing 37% of the questionnaires were returned and used for analyses. Simple percentages and mean scores were used to analyze the responses received, based on the analysis, conclusion was reached.

Discussion of Results

The questionnaires received from the respondents formed the basis of the analysis presented below.

Table 1: Company policy on recruitment and selection

Options	Yes	No	Total
Frequency	31	4	35
Percentage (%)	88.6	11.4	100
Valid response		35	

The table shows that 88.6% of the respondents indicated that there was policy on recruitment and selection while 11.4% claimed that their organizations have no policy on recruitment and selection. The extent to which the firms that have policy on recruitment adhere to it is another thing as pressure could be brought to bear for the management to employ people without recourse to the policy. It is one thing to have a policy on recruitment and selection and another to put to use. In essence, having this high percentage of respondents with policy on recruitment and selection does not necessarily translate to more job opportunities for those seeking for employment. The nature of

the construction industry may also be a determinant factor in either having a policy on recruitment and selection or not and even the content of such policy. However, according to Hendrickson (2008), it may not be out of place for construction firms to place flexibility in the way and manner workers are hired and fired as the quantity of their work fluctuates especially in an unstable economic climate.

Table 2: Frequency of recruitment

Options	Annually	Biennially	Every six months	Other, please specify	Total
Frequency	8	1	6	18	33
Percentage (%)	24.2	3.0	18.2	54.5	100
Valid response			33		

The table indicates that 24.2% the firms carried out recruitment on an annual basis, 3.0% of the firms conduct recruitment exercise biennially, 18.2% respondents pointed out that every six month is when recruitment is done while 54.5% respondents specified the frequency of recruitment (as occasion demand). The unpredictable nature of the construction industry may not give room for having a defined period when to recruit worker hence more than 50% of the respondents attest to this by recruiting when occasion demands. In addition to this, it is not surprising that more than 50% of the respondents recruit when occasion demands as outsourcing is common amongst construction firms' especially large ones as stated by Hassan *et al*. (2010). To this extent, policy on recruitment and selection may not be taking seriously.

Table 3: Organization policy on employee training

Options	Yes	No	Total
Frequency	22	15	37
Percentage (%)	59.5	40.5	100
Valid response		37	

The table indicates that 59.5% of the respondents had policy on employee training while 40.5% had no employee training policy in place. It is no gainsaying that firms with policy on employee training will be better positioned in service delivery especially when resources are channeled into training the employees in order to be better in their job functions. In a related development, ILO (2008) stated that experience has shown that the countries that have succeeded in linking skills with productivity by making sure that their skills development policy is channeled towards meeting skills demand in terms of relevance and quality.

Table 4: Method of employee training

Options	On the job training method	Off the job training method	Both	Total
Frequency	22	2	10	34
Percentage (%)	64.7	5.9	29.4	100
Valid response		34		

From Table 4, 64.7% of the respondents that their organizations use on – the – job training method, 5.9% of the respondents' organizations use off – the – job training method while 29.4% of the respondents organizations use both methods. Each method has its merits and demerits, the bottom line should be the firms should always way the options before them in determining which option is best at any given situation. Fellow *et al.* (cited by Abdel-Wahab, Dainty, Ison, Bowen & Hazlehurst, 2008) stated that on-the-job training may be a drawback to productivity in that the experienced workers may be forced to take time to teach the new apprentices especially on construction sites with many new entrants.

Table 5: Frequency of training employees

Options	Every six (6) months	Every year	Other, please specify	Total
Frequency	5	11	19	35
Percentage (%)	14.3	31.4	54.3	100
Valid response		35		

The frequency of training given to employees is shown in Table 5 above, 14.3% of the firms indicated that training is carried out every 6 months, 31.4% indicated that training is conducted every year while 54.3% indicated that training is conducted as required. Those that train their employees as is required may be the more realistic scenario just like in the frequency of recruitment discussed in Table 2.

Table 6: Ranking and effects of factors affecting job site productivity

S/N	Factors	Mean score	Rank (Consensus opinion)
1.	Age of workers	3.25	14 (unsure)
2.	Skills of workers	4.23	3 (high effect)
3.	Experience of workers	4.38	1 (high effect)
4.	Leadership style of management	4.00	5 (high effect)
5.	Motivation of workforce	4.03	4 (high effect)
6.	Job size	3.69	8 (high effect)
7.	Complexity of the project	3.76	7 (high effect)
8.	Job site accessibility	3.92	6 (high effect)
9.	Labour availability	4.30	2 (high effect)
10.	Equipment utilization	3.92	6 (high effect)
11.	Weather condition	3.68	9 (high effect)
12.	Temporary work stoppage due to material shortage	3.55	11 (high effect)
13.	Rework for correcting unsatisfactory work	3.35	13 (unsure)
14.	Contractual agreements	3.59	10 (high effect)
15.	Absentee time including late start	3.45	12 (unsure)
16.	Absentee time including early quits	3.24	15 (unsure)

Table 6 shows the effects of the factors identified that affects job-site productivity based on Morenikeji (2006) devised cut-off points used for interpretation. Factors 2 to 12 and 14 on the table showed that they have 'high effect' on the job-site productivity according to the respondents while the respondents were 'unsure' regarding factors 1, 13, 15 and 16. One important point is that of all the 16 factors identified, there was no consensus opinion on 'no effect' and 'low effect'. The ranking showed that skill of workers, experience of workers, labour availability, motivation and leadership style of management were ranked from 1st to 5th respectively while age of workers was ranked the 15th.

Table 7: Response on factors in terms of workers quality and contribution to organization

S/N	Factors	Percentage		
		RS	ME	ANI
1.	Quality of work (calibre of work accomplished)	29	68	3
2.	Quantity of work (volume of acceptable work)	18	68	13
3.	Job knowledge (demonstrated knowledge of requirements, methods and techniques involved in doing the job)	55	37	8
4.	Judgment (soundness of conclusions, decisions and actions)	24	47	29
5.	Initiative (ability to take effective action without being told)	24	47	26
6.	Resource utilization (ability to delineate project needs and locate, plan and effectively use all resources available)	21	61	18
7.	Dependability (reliability in assuming and carrying out commitments and obligations)	26	55	18
8.	Analytical ability (effectiveness in thinking through a problem and reaching sound conclusions)	16	68	16
9.	Communicative ability (effectiveness in using oral and written communications)	26	61	13
10.	Interpersonal skills (effectiveness in relating in an appropriate and productive manner to others)	18	71	11
11.	Ability to work under pressure (ability to meet tight deadlines and adapt to changes)	24	63	13

12.	Safety consciousness (has knowledge of good safety practices and demonstrates awareness of own personal safety and safety of others)	21	45	34
13.	Planning effectiveness (ability to anticipate needs, forecast condition, set goals and standards plan and schedule work and measure results)	32	42	26
14.	Leadership (ability to develop in others the willingness and desire to work towards common objectives)	24	53	18
15.	Delegating (effectiveness in delegating work appropriately)	18	68	13
16.	Developing people (ability to select, train and appraise personnel, set standard of performance)	21	34	42

RS – Recognised strength; ME – Meets expectation; ANI – Area needing improvement

The three point scale was used to calculate the percentage score of respondent that has for example recognized strength in a particular factor. The RS, ME and ANI were not included on the questionnaire in order to prevent bias responses. Generally, when the firms are examined in line with the 3 parameters (recognized strength, meets expectation and area needing improvement), the firms have been doing excellently well. However, when factors such as developing people, safety consciousness and planning effectiveness are factored in, the situation becomes worrisome because 42%, 34% and 26% of the firms need to improve in the areas of developing people, safety consciousness and planning effectiveness respectively. In addition to this, the 42% for developing people may not be unconnected with the low percentage (5.9%) that adopted off-the-job training method in Table 4.

Conclusion

An effort was made to study the factors the affect the job-site productivity on construction sites. It was discovered that age of workers was ranked 15th and also the respondents were 'unsure' if it has any effect on job-site productivity. However, the consensus among respondents was that factors such as skill of workers and experience of workers were not only ranked 1st and 2nd respectively but they have 'high effect' on the job-site productivity. The respondents also indicated that their firms needed improvement in the areas of developing people, safety consciousness and planning effectiveness because of the percentages arrived at. The implication of this for these construction firms is that these areas that needed improvement will have negative effect on the productivity of the firms and by extension; the profitability of the firms might be seriously affected. Based on this, the following are therefore suggested in order for the job-site productivity to be higher.

- Efforts should be made by the firms to invest in developing its work force (ability to select, train and appraise personnel, set standard of performance) so that on the long run, this will yield positive improvement on the overall productivity.
- Safety consciousness (has knowledge of good safety practices and demonstrates awareness of own personal safety and safety of others) should be imbibed by the firms. In a related development, Jimoh and Olayiwola (2008) earlier suggested that there is the need for Professionals to be regularly updated to be acquainted with new methods of construction; supervisors to ensure proper handling of tools by workmen and also identify unsafe practices so that accidents can be reduced.
- Planning effectively (ability to anticipate needs, forecast condition, set goals and standards plan and schedule work and measure results) is still a problem faced by many construction firms. To curb this problem, there is the need for Builders to regularly update themselves at workshops and conferences and to be abreast of new development in the construction industry.

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