ORGANISATIONAL QUALITY POLICY PRACTICES OF NIGERIAN BUILDING DESIGN FIRMS IN RELATION TO NUMBER OF EMPLOYEES

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Ensuring availability of resources (including human) is among the requirements of quality management system. This paper is aimed at investigating the relationship between Organisational Quality Policy of Nigerian Building Design Firms and their number of employees. Organisational Quality Policy is among 20 quality management sections contained in various design standards. Questionnaire survey was used to generate data for the study. Average Prevalence, Regression and Correlation Analyses were adopted for data analysis. The overall average quality practice prevalence values recorded by the firms indicated that only firms under the group of'Over 20 Employees* attained the status of'Require Slight Improvement' with overall average quality practice prevalence value of 76.17%. All the remaining groups require serious improvement as indicated by their respective overall average quality practice prevalence values that generally fall below 75%. Improvement in practice was noted to increase with increase in number of employees. A correlation coefficient of 0.74 indicated that there is a strong correlation between the quality practice performance of the Nigerian Building Design Firms and their number of employees. It is recommended that the Nigerian Building Design Firms need to improve in all aspects of Organisational Quality Policy practices, particularly in the areas of staff improvement.

Keywords: quality management, quality policy, design firms, quality practices, employees.

INTRODUCTION

Quality Management is observed to include "all the activities that managers perform in an effort to implement their quality policy', (Harris and McCaffer 2005). Quality policy is described in ISO 9000 (2005) as the overall intention and direction of an organisation related to quality as formally expressed by top management". It provides the framework for establishing and reviewing organisational quality objectives. The success of an organisation largely depends on how sound its quality policy and objectives are established and pursued. The achievement of quality objectives can have a positive impact on product quality, operational effectiveness and financial performance and thus on the satisfaction and confidence of interested parties, (ISO 9000 (2005).

Design activity is essentially a service work and it is an important aspect of construction activities; its success contributes immensely to the overall project quality (Kado, 2011). Sanvindo *et al,* (1992) in Soentanto *et al,* (2001) mentioned that "quality in construction projects, as well as project success, can be regarded as the

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fulfilment of expectations of those participants involved". The participants include client/user, design team and their workforce and contractors. The most important among them is the satisfaction of the client as testified by Barret (2000) that "client's satisfaction is the ultimate measure of construction quality..."

Kolawole (1998) categorised the factors militating against achievement of quality in construction into "cheapest first cost attitudes, design and construction," also recognising that "cheapest first cost" attitude is perhaps "the most prevalent reason for absence of quality in the end product of the Nigerian Building Industry." The same attitude also affects the extent to which professionals are employed in the design, construction and quality control of building.

Some of the steps involved in meeting the customers' needs according to ISO 9000 (2005) include:

Determine who the customers are.
Determine their needs.
Develop product features which respond to customers' needs.
Develop processes which are able to produce those products.
Transfer the resulting plans to the operating forces.

The last step highlights the relevance of organisation quality plans in achieving quality. This is clarified by Wilkinson and Scofield (2003) that "the purpose of such plans is to put in place a quality control system for the project." Such system sets out *inspection, testing, control and verification requirements for all aspects of the project.* The step also points out the relevance of human resource in achieving the success of the quality plans. In this respect, Wilkinson and Scofield (2003) pointed out that the quality plan not only sets out a mechanism for showing how quality will be achieved, but also contains information about key personnel involved in the project and how they will be used. In essence, it is the employees of organisation that are responsible for implementing quality plans. Responsibilities of employees, their requirements and contributions in quality management system have been discussed by Stebbing (1987), Hendrickson and Au (1989), Stebbing (1990), Kume (1992), Aggarwal and Rezaee (1996), Harris and McCaffer (2005), Osofisan (2007), and ISO 9001 (2008).

Furthermore, ISO 9001 (2008) noted that "the adoption of a quality management system should be a strategic decision by the top management of an organisation". In this respect, the standard outlined the following factors that influence the design and implementation of an organisation's quality management system. These are;

Its organisational environment, changes in that environment and the risks associated with that environment.

It's varying needs.
Its particular objectives.
The product it provides.
The processes it employs.
Its size and structure.

It is imperative to note that organisational quality performance is enhanced when there are sound management and control disciplines and effective and efficient working methods implemented through trained and committed management and workforce.

RESEARCH AIM

Studies conducted on the performance of the Nigerian Building Design Firms in relation to quality management practices revealed that their performances vary according to certain grouping criteria. For instance, by Kado *et al*, (2010) conducted a similar study on the quality management practice of the North-Western Consultancy Firms of Nigeria using consultancy activity as a grouping factor. The study established that only Mechanical and Electrical group of consultancy firms had a percentage prevalence of between 75-80% which indicated need for slight improvement. Using similar grouping criterion with sample of Building design Firms across Nigeria, Kado (2011) determined that the Structural and Multi-disciplinary groups of design firms had overall average prevalence values of 77.4% and 75.63%, respectively; this indicated that both attained the status of 'Require Slight Improvement.' Moreover, Kado and Abubakar (2012) studied the quality policy of the Nigerian Building Design using organisational age as a grouping factor. Findings showed that firms falling between 6 – under 10 years, 16 – under 20 years and firms over 20 years require slight improvement as indicated by their average prevalence values falling between 75-80%. However, firms falling between 1 – under 5 years and 11 – under 15 years require serious improvement. Thus, the result suggested that their performance did not vary (proportionally) with increase in their ages.

Another approach to the similar studies highlighted above is by grouping the Nigerian Building Design firms based on their number employees. Based on this criterion, this paper is aimed at investigating the relationship between Organisational Quality Policy of Nigerian Building Design Firms and their number of employees.

RESEARCH METHOD

Questionnaire survey was used to generate primary data of the study based on identified 20 design quality sections with a total of 100 practices. Some of the standards and source of these quality sections and practices include International Standard Organisation (ISO 9000 family series), Malcolm Baldridge Standards, BS 5750, Stebbing (1987), Ducan *et al*, (1990), Bubshait *et al*, (1999), Sebastian *et al*, (2003), Bamisile, (2004) and Kado, (2011). Organisational Quality Policy is among these quality sections with six practices as outlined below.

'The organisation has a defined quality philosophy and is understood by all'.

'The organisation has an established quality programme.'

'Organisational objectives and individual responsibilities for quality are clearly defined.'

'Quality manual is available and is updated to reflect current quality policies and procedures.'

'Quality plan is prepared for individual projects.'

'The organisation has a specified design methodology.'

The work of Bubshait *et al*, (1999) was adopted for the research. Respondents were asked to rate their quality practices as; 'Always – 100%'; 'Mostly – 75%'; 'Sometimes – 50%'; 'Rarely – 25%' and 'Never – 0%'. Responses obtained were used for conducting analysis based on which inferences were drawn.

SAMPLING FRAME AND QUESTIONNAIRE ADMINISTRATION

From the list of registered consultancy firms obtained from the Headquarters of the Corporate Affairs Commission (CAC, 2010), table 1 was constructed to show the distribution of the Building Design Firms according to the Nigerian six geopolitical zones.

Table 1: Distribution of the Nigerian Building Design Firms

S/No	Geographical Zone	Number of Consultancy Firms	Percentage (%)
1	North-East	140	2
2	North-West	489	7
3	North-Central	1,747	25
4	South-East	350	5
5	South-West	2,796	40
6	South- South	1,468	21
	Total	6,990	100

Source: (CAC, 2010).

Sample size of 237 was calculated using 95% confidence level based on approaches and recommendations outlined by Krejcie and Morgan (1970), Cochran (1977), Salkind (1997), Bartlett *et al* (2001), United Nation Development Programme (UNDP – 2004) and Olanruwaju (2010).

DATA ANALYSIS TECHNIQUES

Data analysis was also adopted from the work of Bubshait *et al* (1999). Average quality practice prevalence values for each quality practice under the quality section were calculated using equation 1.

$$\text{Average Prevalence} = \frac{\Sigma(a_i x_i)}{\Sigma(x_i)} \quad \text{--} (1)$$

Where a_i takes the value 100, 75, 50, 25 and 0; and x_i (x_1, x_2, x_3, x_4 and, x_5) are the numbers of the corresponding respondents answering always, mostly, sometimes, rarely and never. Average values were also calculated across the rows and down the columns. The quality practices were then ranked according to a particular group of firms.

Four category of performance were observed from the work of Bubshait *et al,* (1999). They are – 'Commendable (90-100%)', 'Satisfactory (81-89%)', 'Require slight improvement (75-80%)' and 'Require increased improvement (less than 75%)'. Inferences were drawn using the four categories.

Regression and correlation analysis were also conducted to investigate the relationship between the number of employees (Independent Variable) and average quality practices prevalence values (Dependent Variable). Regression line equation and correlation coefficient (r) were obtained according to (Keller and Warrack, 2003).

RESULTS AND DISCUSSION

Analysis of Administered Questionnaires

A response of rate 44.7% was obtained. Moser and Kalton (1971) asserted that the result of a survey could be considered as unbiased and significant if the return rate is not lower than 30-40%. Based on the total response (the number of returned questionnaires), 90.6% were observed to be usable and adequate for analysis.

The numbers of employees employed by respective groups of the design firms were presented in figure1 below.

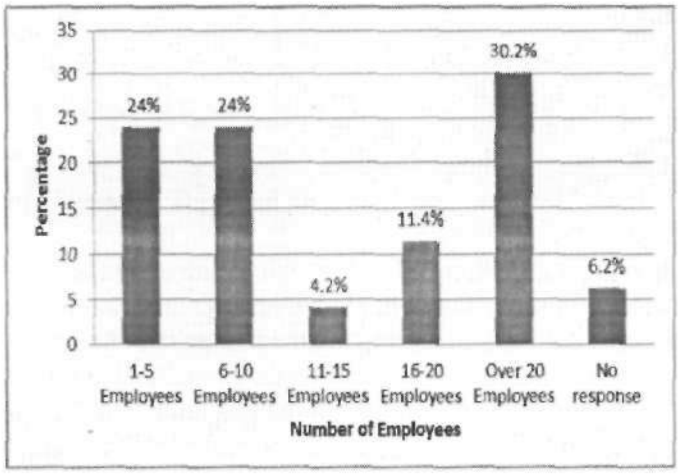

Figure 1: Distribution of number of employees of Nigerian Building Design Firms.

From the figure the fifth group of firms with over 20 employees happened to be the largest in terms of number of employees. The group represented 30.2% of the whole responding design firms. Generally, it can be depicted that about an average of the firms employ not more than 10 employees (about 47.9%). The least group (group 3 – 5%) employ over 11-15 staff, while, 6.3% of the firms did not indicate their number of employees.

Quality Practices

The overall details of the assessment of the various quality practices under the 'Organisational Quality Policy' in relation to number of employees of design firms are presented in figure 2. It should be noted that the code 'QP' in the figure represents 'Quality Practice.'

From figure 2 it can be deduced that the best quality practice by the groups of firms was generally in area that relates to establishing organisational quality programme (QP2) while the least practice was in the area of provision and update of quality manual (QP4).

Figure 3 shows the overall average quality practice prevalence values of the groups. Note that the steady increase in performance according to increase in the number of employs suggests some positive relationship between the number of employees and their performance. Note also that the highest performance of 76.17% prevalence value is recorded by the last group having over 20 employees. This indicated that it is the only group that require slight improvement. All the other groups require serious improvement. However, overall average prevalence of 72.3% for the whole groups revealed that much is desired from the Nigerian Building Design Firms with respect to Organisational Quality Policy.

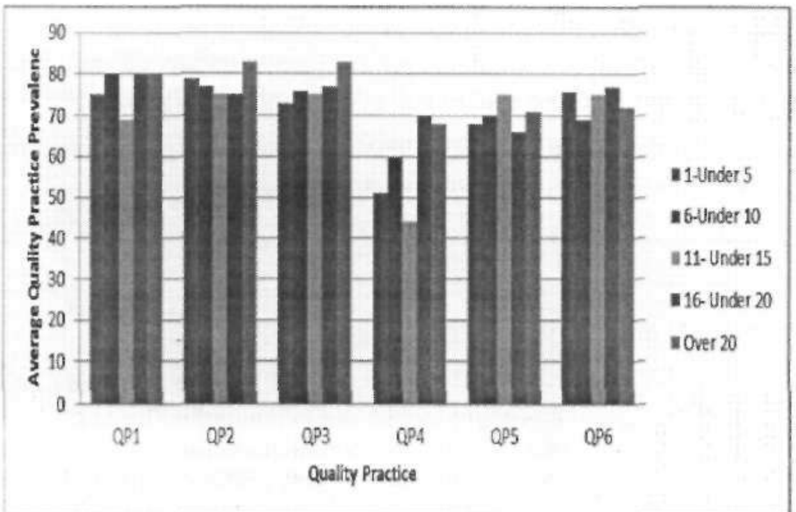

Figure 2: Average quality prevalence for nigerian design firms according number of employees

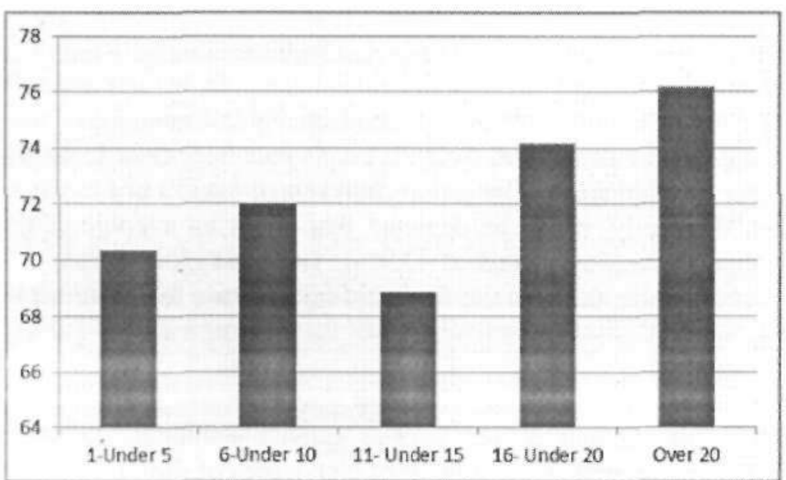

Figure 3: Overall average quality prevalence for the nigerian design firms according number of employees

Results of the regression and correlation analysis yielded the following results. Regression equation obtained is presented in equation 2.

$y = 0.27x + 68.93$--(2)

Where y stands for Overall Average Quality Prevalence and x stands for Number of Employees. The slope of the equation (0.27) suggests a positive relationship between the two variables.

Correlation coefficient (r) of 0.74 indicated a strong relationship between the two variables. However it should be noted that correlation does not means causality, (Afonja, 1985).

CONCLUSION

The result of the study revealed that the best quality practice by the Nigerian Building Design Firms under Organisational Quality Policy was in establishing quality programme. The best performing group of firms was the group that were employing over 20 employees as suggested by the group's prevalence value of 76.17%. The results also indicated that there was a strong relationship between the performance of the Nigerian Building Design Firms and their Number of Employees. The poorest practice recorded by the firms was in the availability and update of quality manual.

RECOMMENDATIONS

The fact that the study established a strong relationship between the performance of the Nigerian Building Design Firms and their Number of Employees, however it is imperative point out that increasing number of employee in the Nigerian design firms may not necessarily improve their performance towards attaining the requirements of Organisational Quality Policy and that of Quality Management System in general. It is therefore recommended that requirements of employees in the design firms should be adequately planned using relevant procedures and techniques. Similarly, employees' needs and requirement in the provision of adequate training/retraining, motivation tools and other resources must be met in order to ensure attainment of quality in the Nigerian construction industry.

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