Assessment of Procurement Methods Based on Clients Selection Criteria in Ogun State, Nigeria

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***Abstract*:** One of the reasons given for the poor performance of the construction industry is the use of inappropriate procurement arrangements. Thus, the selection of an appropriate method is critical to construction projects' success. This paper therefore examined the procurement methods adopted by clients in Ogun state, Nigeria and determined the criteria influencing their adoption. Structural questionnaire were administered on 50 project participants out of which 40 copies were found to be suitably completed and used for data analysis. Statistical techniques like mean score, frequency counts and percentages were used to present and analyse the data. The results showed that Traditional Contract was still the preferred method in Nigeria by both public and private clients while Direct Labour was preferred by private individual clients. The major criteria desired by clients for selecting Traditional Contract method were clients' familiarity and ability of the method to offer competitive bids. Similarly, Design and Build was mostly desired when time is of the essence, when early start on site is required, for projects with high level of technicality and sensitivity and for risk avoidance. Management Contracting was mostly desired for quality assurance and to enhance responsibility of the building team.

Key Words: Clients, Procurement Methods, Selection Criteria, Construction Projects.

Introduction

Ramus (2006) defined procurement, in a building context, as the overall process of acquiring a building. According to Rashid *et al* (2006), procurement derives from the word 'procure' which literally means 'to obtain by care or effort', 'to bring about' or 'to acquire'. Thus, project procurement is concerned with the organised methods or processes and procedure for obtaining or acquiring a construction product such as a house, shopping complex, road or jetty. It also involves arranging and coordinating people to achieve prescribed construction goals and objectives. Kadiri and Odusami (2003) defined procurement methods as the various arrangements under which the activities required by a client to realize a building may be met. This implies that when a client wishes to extend or renovate an existing facility or construct a new one,

there are a number of arrangements which can be used to acquire the services of the construction-related organizations or individuals to realize the desired product.

The procurement of construction projects is vast in scope because it involves the organisation of myriads of separate individuals, firms or organizations to design, manage and construct facilities for specific clients and 'customers'. Today, there are several types of procurement arrangements in use in the construction industry. They range from the Traditional system to the several variations of 'fast-track' systems such as Design and Build, Managing Contracting, Build-Operate-Transfer and so on.

According to Alinaitwe (2008), a construction client is the individual, firm or organisation responsible for commissioning and paying for the design and construction of a facility. Ibiyemi *et al* (2009) affirmed that the client is responsible for developing the business case for a project, providing a brief and budget, and appointing a team of consultants to prepare a design and other tender documents. The client also appoints the building contractor to carry out the works to the design, by the completion date and for the agreed price. Maizon (2006) opined that construction clients can be broadly divided into two: public and private clients. The public clients consist of the three tiers of government and their agencies while the private clients may be individuals, firms, associations or developers. By clients' selection criteria is meant the factors clients consider in their selection of procurement methods. Love *et al* (1998) asserted that time, flexibility, quality, complexity, risk, price competition, responsibility and dispute are the common criteria concerning the choice of procurement methods.

The selection of an appropriate procurement method for a project is critical to both the client and other project participants as it is an important factor which contributes to the overall client's satisfaction and project success. Owing to the strategic nature of construction projects, the manner in which they are procured and the measures to ensure their success should not be underestimated. That means that all activities related to the process of procurement must be informed, structured and carried out in a manner designed to meet or enhance those objectives strategic to the needs of the client. Consequently, Richard *et al* (2005) recommended that any measure of project performance ought to be tied to the strategic outcome required by the construction client in terms of the investment/business case, the product, and the desired organizational and stakeholders' outcomes. It was against this background, therefore, that the study assessed the procurement methods in use in Ogun state,

Nigeria and determined the criteria construction clients' desire in selecting them.

Previous Studies

Maizon (1996) recognised that one of the principal reasons for the poor performance of the construction industry is the use of inappropriate procurement systems for the execution of construction projects. Several factors amongst which are increasing complexity of buildings, the need for greater financial management and the need to reduce design and construction periods have put pressure on the client to seek alternative approaches to the Traditional method of procurement. Muriro and Wood (2010) argued that the proliferation of the procurement methods used for construction necessitated a comparison of the performance associated with each of them. However, the focus of most previous studies on procurement methods has been on performance with very few studies on selection criteria. For instance, Babatunde *et al* (2010) appraised the procurement methods in use in Nigeria and concluded that the Traditional Contract procurement method was the one most commonly used in the country.

Ojo (2009) investigated the performance of procurement types in Nigeria using the concept of performance indices. The study which compared the Traditional Contract, Management Contracting, Design and Build and Build-Own-Operate-Transfer methods concluded that the Traditional procurement was the most commonly used in Nigeria. Furthermore, Ojo and Aina (2010) investigated the performance of a variant of the Traditional method (Lump sum contract method), Management Contracting method, Design and Build method and Build-Own- Operate-Transfer method against selection criteria in Nigeria. The study concluded that in the Nigerian construction industry, participants did not agree on the performance of procurement methods and selection criteria. Similarly, Kadiri and odusami (2003) compared the cost and time performance of Direct Labour and Labour-only Contract procurement methods in Nigeria. The study which used archival data of projects executed using the two systems concluded that the labour-only method was more effective in terms of both cost and time performance. Ogunsanmi *et al* (2001) investigated the factors influencing the performance of Traditional and the Labour-only procurement methods in Nigeria. The study concluded that the Traditional method was more in use than Labour-only method. From the foregoing studies, it is obvious that these is paucity of empirical studies on clients' selection criteria concerning procurement methods, hence the study.

Methodology

The data for the study were obtained using structured questionnaire which were administered on construction participants including clients, Architects, Quantity Surveyors and Engineers in the study area. The consultants were accessed through practicing firms who are most likely to be more involved in advising clients on the selection of procurement methods than individual professionals. Because of the absence of data bases of these professionals in Ogun state, the questionnaire was administered on 50 respondents who were purposively selected through stratified sampling technique. The questionnaire elicited information on the objectives of the study which were the procurement methods in use by clients in the study area and the criteria desired in the selection of the procurement methods. The respondents were required to provide information on a five-point Likert Scale. Forty out of the 50 copies of the instrument were retrieved and analyzed using mean score, percentage and frequency counts.

Data Analysis and Results

The results of data analysis are presented below:

Characteristics of the Respondents

Table1 shows the characteristics of the study sample under the various categories of the nature of organizations, years of experience, academic and professional qualifications. On the nature of organizations of respondents, 52.5% of the respondents work for client organizations, 32.5% work for consulting firms while 15% work for contracting firms. This representation was considered fair enough due to the fact that client organizations were the major foci of the study. Thus, construction professionals who work for client organizations provided very vital information on the criteria desired by their organizations in selecting procurement systems.

On academic and professional qualifications, 35% of the respondents had Bachelor of Science degrees in cognate professions, 25% had Master of Science degrees while 40% were holders of Diploma Certificates. Similarly, 75% of the respondents were registered members of cognate professional bodies. Going by the academic and professional backgrounds of the respondents, the information provided could be taken seriously. On overall, from the average years of experience of 14.9 years, all the respondents were deemed to know their onions on the issue of procurement methods selection criteria.

Table 1: Characteristics of the Respondents

Category	Frequency	%
Nature of organizations		
Clients	21	52.5
Consulting	13	32.5
Contracting	6	15.0
Total	**40**	**100**
Academic Qualification		
HND	8	20
PGD	8	20
B.Sc./B.Tech.	14	35
M.Sc./M.Tech.	10	25
Total	**40**	**100**
Professional Qualification		
MNIQS	8	20
MNIOB	7	17.5
MNSE	12	30
MNIA	3	7.5
Others	10	25
Total	**40**	**100**
Years of Experience		
0-5	4	10
5-10	8	20
10-15	6	15
15-20	9	22.5
>20years	13	32.5
Total	**40**	**100**

Mean=14.9 years

Usage of Procurement Methods

The usage of the various procurement methods by clients in the study area are presented in Table 2. Private individual clients were shown to use Direct Labour most with a mean score of 3.7. Public organizations were also shown to favour the use of Direct Labour with a score of 3.1. The other procurement methods used by private individual clients in the study area were Traditional Contract and Labour – only Contract with mean score of 3.3 respectively. The Traditional Contract method was mostly used by private organizations (3.7). It was closely followed by Design and Build (3.5) and Management Contracting (3.4) while Direct Labour and Labour-only Contract

were the least in use by private organizations. Similarly, public clients mostly favoured the use of Traditional Contract system (3.7) for the execution of their projects. This method was closely followed by the use of Management Contracting (3.4) and Direct Labour (3.1). On overall, construction clients in the study area favoured the use of Traditional Contract, Management Contracting, Design and Build, Direct Labour and Labour-only Contract methods in that descending order.

Table 2: Clients' Usage of Procurement Methods

Clients	**Procurement Methods**				
	TC	**D&B**	**MC**	**LOC**	**DL**
Private individuals	3.3	2.8	2.4	3.3	3.7
Private organisations	3.7	3.5	3.4	2.3	2.3
Public organisations	3.7	2.8	3.4	2.1	3.1
Overall	3.6	3.0	3.1	2.6	3.0
Rank	**1**	**3**	**2**	**5**	**4**

Key: TC: Traditional contract; DB= Design and Build; MC= Management Contracting; LOC= Labour-Only Contract; DL= Direct Labour

Determinants of Selection of Procurement Methods

Table 3 shows the project participants responsible for the selection of the procurement method to use for project execution in the study area. Client organisations (55%) were mostly responsible for taking the decision as to which method to use for project execution. They were followed by Architects (17.5%), Builders (10%), Contractors (7.5%), Quantity Surveyors and Engineers with mean score of 5% respectively.

Table 3: Determinants of choice of Procurement Methods

Stakeholder	**Number**	**Percentage of Total**
Client	22	55
Architect	7	17.5
Quantity Surveyor	2	5
Engineer	2	5
Builder	4	10
Contractor	3	7.5
Total	**40**	**100**

Clients' Selection Criteria

Table 4 shows the criteria clients consider in selecting procurement systems for the execution of construction projects in the study area. The Table indicates that clients prefer to use Design and Build when time is of the essence, early start on site is required, and when a project has high level of sensitivity or technical complexity. Design and Build method was also preferred for risk avoidance and due to the familiarity of the clients with the method. Similarly, Management Contracting procurement route was preferred by clients for its ability to ensure quality work is done, control variations, its claims reduction potential and for its adaptability for use with projects of exceptional complexity or sensitivity. It was also preferred for its enhancement of building team responsibilities. The Traditional Contract procurement method was preferred by clients because of its ability to offer competitive bidding. Design and Build and Management Contracting were the most preferred alternative methods due to price certainty and ability to keep overall cost within original estimate. Similarly, Traditional Contract and Design and Build were most preferred alternatives due to clients' familiarity with the methods.

Table 4: Clients' Criteria for Selecting Procurement Methods

	Selection Criteria	**TC**	**DB**	**MC**	**LOC**	**DL**
1.	Time is of essence (when early completion is required).	3.5	4.6	3.9	3.0	2.3
2.	Time (when early start is required)	3.4	4.3	3.7	3.5	2.5
3.	Price certainty (certainty required at an early Stage in the project development)	3.9	4.1	4.1	3.1	2.4
4.	Cost (ability to keep overall within original estimate)	3.9	4.2	4.2	2.9	2.4
5.	Quality (ability to ensure good work is done or specifications are adhered to)	4.1	4.2	4.3	2.9	1.6
6.	Facility for change/variation control by client, or others during the progress of the works.	3.8	3.8	4.2	2.7	2.4
7.	Technical complexity (when the project has a high level of structural/mechanical service or other complexity.	3.9	4.3	4.1	2.2	1.5
8.	Claims reduction (ability to reduce	3.5	3.6	3.7	2.9	2.5

	Contractual claims).					
9.	Exceptional size and/or administrative Complexity (involving varying clients' User requirements, political sensitivity, Etc).	4.0	4.1	4.2	2.2	1.4
10.	Risk avoidance(ability to avoid risk)	3.7	4.3	4.1	2.4	1.7
11.	Responsibility (responsibility of the building team).	3.9	4.1	4.3	2.1	1.5
12.	Familiarity of the procurement method (client is familiar with the procurement method).	4.1	4.1	3.8	3.0	2.6
13.	Competition (competition required at every stage).	4.3	4.0	4.0	2.2	1.5

Discussion of Findings

The foregoing results showed that on the usage of procurement methods by clients in the study area, Traditional Contract continue to enjoy most favourable patronage on over all, followed by Management Contracting and Design and Build methods. These findings are in agreement with Babatunde *et al* (2010) and Ojo (2009). The former study concluded that the Traditional contract method was mostly used in Nigeria. The latter study also concluded that Traditional contract, Management contracting and Design and Build, in that descending order, were mostly used in Nigeria. The continued use of the Traditional Contract method in Nigeria could probably be the reason for the continuous cost and time overruns on construction projects in the Country. This is because the method does not offer any incentive of cost or time certainty. It would have been expected that the industry had a paradigm shift from the use of the same inappropriate procurement systems which Maizon (1996) claimed to be responsible for the industry's poor performance

On the drivers of the selection of procurement systems, it was not surprising that clients were reported to be in overwhelming leading position. This position aligns with Ibiyemi *et al* (2009) that the client is responsible for developing the business case of construction projects. However, it would have been expected that the client organisation maximised the use of professional advisers for more informed decision in the selection of procurement route to adopt. This is because most Nigerian clients may not have requisite knowledge on the advantages and

disadvantages of the various procurement routes.

On selection criteria, the preference of Traditional Contract because of familiarity and ability to offer competitive bidding may not necessarily offer cost, time and quality incentives in the long run. On price certainty and control of variations, Design and Build would have been expected to score higher than Management Contracting since the contractor's tender would have rigid implications. Thus, it is expected that the client will enjoy considerable element of risk avoidance which risks would then be on the contractor. The Management Contracting method is expected to guarantee claims reduction and be amenable to exceptionally complex and sensitive projects, as the results indicated. This is because of the early involvement of an experienced contractor as manager of the design and construction processes. Similarly, quality work and clear delineation of boundaries of responsibilities amongst the building team are expected outcomes of the Management Contracting method.

Conclusion

The study has shown that most construction clients in the study area still prefer the Traditional contract procurement method for project execution. However, private individual clients continue to show preference for Direct Labour method. It is also concluded that clients were mostly responsible for the selection of the procurement methods used to execute construction projects in the study area. The use of Traditional contract method was mostly influenced by clients' familiarity and ability to offer competitive bids. The use Design and Build was mostly influenced by time and cost certainty as well as ability to provide early price certainty and risk avoidance for clients. Management contracting was preferred by construction clients due to claims reduction, variation control, quality assurance and amenability to exceptionally complex and sensitive projects, amongst others.

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