

Assessing the Impact of Contractor Selection Strategy on Project Delivery in Jos Plateau State

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Abstract

Contractor selection strategy is a critical decision process that is undertaken by client or its representative which is significant to the success of any construction project. Contractor selection is a process which involves examining, investigating, screening and determining whether candidate contractors have the technical, professional and financial capacity to be accepted to formally tender for construction work. This process should be conducted prior to the award of contract, characterized by many factors such as experience on similar projects, financial stability, track- record in the industry, and contractor's skills. This research assesses the impact of contractor selection strategy on project delivery, with specific application to construction projects in Jos. Feedback received from these professionals were analyzed with the aid of SPSS 22.0. The impact of contractor selection on project delivery were analyzed and the results indicated that setting clear and visible standards for performance was done to a very high extent and contractor selected through the process handled complexity of a project has a large impact on project delivery. The identified factors were found to fall between low to high level of importance with weighted mean values between 3.41-4.30. The identified factors were therefore recommended as factors of contractor selection strategy that affect project delivery. Furthermore, this research will help decision makers and others involved to be more aware of and have a better understanding of the selection procedure that affect project delivery in the construction industry. The understanding of this factors will help decision makers to make more efficacious decisions and to adopt good short and long term policies for contractor.

Keywords: Construction Industry, Contractor Selection Strategy, Construction Professionals, Project Delivery.

Introduction

To have a successful project, a contractor has to be carefully selected based on availability of knowledge, capability, technical know-how and experiences; this ought to be considered before the tendering stage in order to ensure that an appropriate contractor is selected. But studies have shown that, despite pre-qualification exercise and the final selection, most clients are still faced with challenges as some contractors have been reported to demonstrate incompetency and failed to deliver on scheduled, with the required quality and within the budget. Sidik (2010) asserted that there is no commensurate improvement in construction project success despite all the procurement and contractor selection methods adopted. In Nigeria, a large number of projects have failed due to lack of competence and ability of the contractors (Ajayi, 2010). This may have been caused by the

absence of appropriate selection criteria which allowed selection of “the wrong” contractor. This may have been due to the absence of appropriate selection criteria which allows selection of contractor which are incompetent. To improve and enhance the operations of the Nigerian construction industry, it is necessary to understand the key factors affecting the construction industry and its associated operations. From the foregoing, it is clear that there are unsatisfactory approaches in both private and public sectors in contractor selection methods which are considered most important factors that impacts on construction project success in Nigeria construction industry.

Selecting the most appropriate contractor is an important step in a project, as the decisions made during the early stages of the construction project has a significant bearing on the outcome of the project. However, it is not entirely responsible for a successful project. Nevertheless, Contractor selection is a critical decision that has significant influence on the success of any project, hence, decision makers need to adopt various criteria to award contract. Despite this fact, there is little to no research that shows a direct relationship between the selection strategy and the outcome of the construction project. Furthermore, the fact that contractor selection criteria are uncertain, as it varies depending on the type of projects, some important factors of finance and technical ability need to be considered. This section will first investigate how project performance is measured in construction projects and how contractor selection affects it. As the thesis aims to offer a new understanding of cost overruns, it is important to understand the sources of cost overruns but also project delay. By doing so in this chapter, one will understand that though selecting the most appropriate contractor has an influence in the project’s success, it is by no means the only reason. There are other reasons for overruns, and claiming appropriate contractor selection as the remedy for it will be naive; while ignoring the other reasons for it will only serve as the recipe for future overruns.

According to Olaniran (2015)¹¹ out of 22 reasons for poor performance in construction project were linked to contractors wrongly selected. Wrong selection of contractor can lead to altercations, elongated resolution of controversy, project termination, contractor termination, poor timely delivery of project, low quality products and defects. Wrong selection of contractor may lead to problems during project execution phase such as overlapping of construction activities, substandard construction, low quality and delay in the expected duration of the project, none compliance with budgetary terms; which then ultimately results in cost overruns. Construction industry is a multidimensional and multifaceted large industry with different types and sizes of projects, it is always assumed that these cost overruns happen in only certain types of projects; even in larger projects handled by larger firms. according to Love et al. (2014) overruns occur without prejudice to type and size of a project.

Quite large number of projects have been delayed and failed in Nigeria because of a lack of efficiency, effectiveness in response to challenges and ability of the contractors. This may have been due to the absence of suitable selection criteria which allows the selection of

capable and appropriate contractor. However, contractor selection is an essential issue in relation to the achievement of construction projects and should be taken into consideration. Delays in project completion time and increases in cost of construction projects have been closely related to specifications, project needs and contractors' qualification such as financial, technical, experience, contract type, also variation between bid price and the lowest bidder's price is connected with the contractor's capability (Omran, et al., 2012).

Selecting an experienced contractor who have the ability to technically management a project and finance is significant to the successful delivery of a construction project. Also, the contractor's managerial abilities have a strong impact on the performance of any project. Considering this fact, it is very important that due care be taken in the selection of contractors for construction projects so as to ensure that the required performance of the project in terms of cost, time, and quality is met. The successful performance of a contractor will lead to increased client satisfaction, an enhancement in the reputation of the contractor and thus their competitiveness in the market. Consequently, it is important for the client to take all necessary precautions and to properly select a contractor so that the project is completed efficiently as the participation of a capable contractor with excellent management track records will help the project team members to reach the project's aims. Mahdi et al. (2002) confirm that when a construction contract is awarded to the lowest bidder without consideration of the selection criteria, it normally results in big problems such as delays, cost over-runs, and poor performance generally. A lower bid amount may be attractive to the client at the tender stage, which might lead project managers to overlook other criteria that should receive more consideration and be given a higher priority. If a contractor is not able to finish the project on time, for example, quality will be compromised in an effort to reduce costs. In addition, other problems embedded in the contractor selection process are that such contractors have to rely on the experience, skills, and relevant knowledge of the decision-maker, i.e., the client. Experience and knowledge of the relevant decision-makers differ from one to another and there are no specific standards to ensure the quality of the selection process even when being made by knowledgeable and experienced decision-makers.

Choosing the most appropriate to execute particular project is a vital decision for proprietor and project managers alike. The process of choosing contractor is such a difficult decision to be taken by a client. Any project can encounter risk, uncertainty and adversity. Picking up an inappropriate contractor would certainly lead to cost overruns, delays and substandard work. The only way to avoid this is to make sure that the contractor is able to execute the project and comply with contract specifications and requirements which indicate client's needs (Kog & Yaman, 2014). Palaneeswaran and Kumaraswamy (2001) indicated that the selection of contractors constitutes a major part of the construction industry. The risk, complexity and adversity are aggravated in the construction industry, as well as influencing their ultimate performance levels.

Literature Review

Aims of Contactor Selection Strategy (CSS)

Contactor Selection Strategy (CSS) is aimed to make certain that candidates who apply for such a tendering process complete project need. Contractor selection strategy or process, is a selection phase where the minimum abilities, below which the benchmark for any potential contractors would not be considered for the assessment phase, are established (Topcu, 2004). According to Aje and Ogunsemi, (2006), only contractors who are able and capable should be given the contract. It also gives a chance to the client to assess the candidate potential thoroughly before recruiting him for the job, as well as, which means the candidate so selected achieved the optimum result in cost, time and quality triangle for the construction project management (Kog & Yaman, 2014). It also helps to reduce and eliminate incompetent, unsuccessful contractors from the bidding process (Morote & Vila, 2012).

It has been pointed out that contractor means the elimination of unqualified contractors from the bidding process, in order to assist the private and public client in attaining successful and efficient use of their money. This is engineered to guaranty that it is competent contractors who will execute the project efficiently (Huang, 2011). In addition, because of the efficiency, capability, effectiveness and skill of the contractor, completion of work within the specified cost and time is more probable and highly guaranteed.

Darvish et al. (2009) state that the main goal of contractor selection process is to reduce the number of eligible contractors involved in bidding. To also reduce and restrict the opportunity of default contractors in the bidding process. However, contractor selection process is an essential task carried out by a contract administrator or clients to enable capable hands are involved in the execution of the project. Hence, it is highly important to reduce and avoid the risks of contractor failure, to improve client satisfaction, bring sanity to construction profession and to optimize the contractor selection in terms of attaining a better balance between the parameters of price and performance.

Attribute of a Contractor

The contractor should be attributed to some qualities which will aid securing the possibly the better and capable hands on a project. Apart from securing lower prices, clients would usually prefer to choose a contractor who is responsive, responsible and competent.

Responsiveness

Palaneeswaran & Kumaraswamy (2001) and Huang (2011) reported that to be responsive, a bidder must comply to all the requirements of the instruction to bid. To be responsive, a contractor has to conform to all the requests of the instruction to contractor; for instance, the forms have to be completed properly and the bidder may not place condition or restriction on his willingness to be awarded a contract (El-Sawalhi, 2007).

Responsibility

Palaneeswaran & Kumaraswamy (2001) and Huang (2011) confirmed that responsibility can be attributed according to the contractor's track record and compliance with other mandatory/desirable requirements such as quality system, registration with professional organizations, safety policy, conformance with bylaws, standards and regulations, and experience in/ attitude to partnering. The responsibility of the bidders can however be evaluated based on records and reports of past performance. It refers to a bidder's apparent competence, ability and capacity to perform the contract (El-Sawalhi, 2007).

Competency

Palaneeswaran and Kumaraswamy (2001) and Huang (2011) pointed that the competency of the bidders is their capability to undertake contracts of the type usually awarded by the given organization with respect to their resources and capacities such as financial capacity, technical capacity, plant and equipment, human resources, organizational and management capabilities. The competency of the bidders can be evaluated on the basis of available resources, track record, and current workload.

Method

This study used descriptive method (questionnaire survey). The study targeted contractor, consultant and client in Jos metropolis. A study questionnaire was employed to elicit information on respondent's demographic profiles and how they apply contractor selection strategy when selecting contractor for a particular project, through a closed ended question. A total of 170 copies of questionnaire were evenly administered through purposive sampling technique to respondents. The use of purposive sampling was due to the unavailability of an authoritative sampling frame of active contractors in Nigeria (Achueni, Izam and Bustani, 2000). The study records an overall response rate of 87.1% (148). This response rate is higher than 25.4% (Emuze, 2011) and 33.5% (Olatunji, 2010) in the construction industry. SPSS was used to run: mean ranking (descriptive statistics) to analyses the data obtained from the questionnaire responses. In describing the data, the study writes out the facts the way it is, in clear and fair descriptive reporting, also it filters out those matter which are not relevant to the research problem.

Results and Discussion

The result from Table 1 shows the job description of the respondents. 52.0% of the respondent shows they are under the contractor organization, 29.1% of the respondent of the questionnaire are under the consultant organization, while 18.9% of the respondent are under the client organization. Thus, this indicates that every stakeholder in the construction field is involved in the survey.

From Table 1, present result on the profession of the respondent. The percentage of people whose is project manager is 4.7%, those whose profession is Architecture include 21.6%, the builders as shown in the table makes up 30.4% of the surveyed personnel's, the quantity

surveyor in the firms as surveyed make up 25.0%. while the professionals whose profession is engineering are 18.2%, The highest group of profession who were involved in the survey is the building profession.

present result on the qualification of the respondent. The percentage of the professionals with diploma in term of qualification of the respondent is (9.5%), those having higher national diploma with a percentage of (23.6%), those with BSc/Btech has a percentage of (46.6%), those with master's degree have a percentage of (18.2%), while personnel with PhD have a percentage of (2.0%) of the respondents. Thus, people with Degree are the highest in number of the respondent in the surveyed area, this shows that the surveyed area are made up of experienced professional.

The result form the Table 1 above shows that the percentage of professionals with years of experience within 0-5 years is 23.0%, those within the years of experience between 6 to 10 years have a percentage of 31.10%, the professionals with years of experience between 11 to 15 years have a percentage of 18.20%, the professionals whose years of experience ranges within 16-20 years is 13.5%, while those professionals with years of experience within 20 years and above is 14.2%. Thus, this indicates that the working groups with years of experience between 6years to 10 years are mostly found in the construction field in the study area.

Table 2 shows the impact of contractor's selection strategy on project delivery, showing their impact of importance using the Likert scale: 1= Very low, 2= Low, 3= Moderate, 4= High and 5= Very high. The result shows that setting clear and visible standards for performance was done with a mean of 4.30 to a large extent affect project delivery, contractor selected through the process handled complexity of a project with a mean of 4.26 has a large effect on project delivery, enhanced confidence in the ability of the contractor to deliver project satisfactorily in terms of time, cost and quality and contractor cooperation with other parties has a large effect on project delivery with both having a mean of 4.16, awarding the contract to the lowest bidder affect project delivery has a major effect in project delivery with a mean of 4.14, overall quality of the work compromised due to choice of selection is also a major factor which affect project delivery with a mean of 4.03. Project delivery may be halt with unreasonable risk allocation in contract selection process, contractor compliance with instructions, contractor asked to attend to warranty calls, contractor handled excessive change order using earlier project history, contractor compliance with the specification all have moderate effect on project delivery. According to Akortsu (2011), the method used in the selection of the contractor must be simple and transparent, to make it easier to explain why a particular contractor was unsuccessful or the extent to which it is successful. A capable and responsible contractor is recognized as the key to smooth project delivery (Watt et al. 2010). As such, cautious assessment is critical to ensure that the selected contractor is capable of smoothly delivering the project according to its contract requirements (Jaskowski et al. 2010). Modern capital projects require high technology and aesthetic design so the selection of an appropriate contractor leads to

economical and timely construction service with good quality (Arslan et al. 2008). Essentially, the selection of a contractor involves a multi-attribute decision process that requires individuals to leverage competing objectives and limited resources when making their decisions (Watt et al. 2009).

Table 1: Personal Data of the Respondents

Variable	Frequency	Percentage
Job Description		
Contractor	77	52.0
Consultant	43	29.1
Client	28	18.9
Total	148	100
Profession		
Project Manager	7	4.7
Architect	32	21.6
Builder	45	30.4
Quantity Surveyors	37	25.0
Engineers	27	18.2
Total	148	100
Qualification		
PhD	3	2.0
Msc/Mtech	27	18.2
Bsc/Btech	69	46.6
HND	35	23.6
ND	14	9.5
Total	148	100
Years of Experience		
0-5 years	34	23.0
6-10 years	46	31.1
11-15 years	27	18.2
16-20 years	20	13.5
20 years and above	21	14.2
Total	148	100

Source: Field Survey, 2022

Table 2: Impact of contractor's selection strategy on project delivery

Variable	VL	L	M	H	VH	Mean	Rank
To what extent do you think awarding the contract to lowest bidder affect project delivery	1	2	26	65	54	4.14	5
To what extent do you think overall quality of work is compromise due to choice of selection	0	17	22	48	61	4.03	6
To what extent do contractor cooperate with other parties	0	11	17	58	62	4.16	3
To what extent do you think setting clear and visible standards for performance was done through							

contractor selection strategy	0	0	24	56	68	4.30	1
To what extent do you have enhanced confidence in the ability of the contractor to deliver project satisfactorily in terms of time, cost and quality	0	9	22	53	64	4.16	3
To what extent do you think the contractor was asked to attend to warranty calls	0	28	32	27	61	3.82	9
To what extent do you think the contractor complied with the specification	10	18	51	40	29	3.41	11
To what extent do you think project delivery may be halt with unreasonable risk allocation in contract selection process	0	10	36	57	45	3.93	7
To what extent do you think the contractor complied with instructions	5	21	22	33	67	3.92	8
To what extent has contractor selected through the process handled complexity of a project	0	5	27	41	75	4.26	2
To what extent has contractor handled excessive change order using earlier project history	11	19	24	23	71	3.84	10

Source: Field Survey, 2022

Conclusion

Contractor selection strategy has high effect on project delivery as, setting clear and visible standards for performance has effect on project delivery, contractor selected through the process handled complexity of a project has a large effect on project delivery, enhanced confidence in the ability of the contractor to deliver project satisfactorily in terms of time, cost and quality has a large effect on project delivery, the study also shows that contractor cooperation with other parties has a large effect on project delivery, also awarding the contract to the lowest bidder affect project delivery, overall quality of the work compromised due to choice of selection is also a major factor which also affect project delivery.

Recommendations

1. Different methods of contractor selection should be used to evaluate contractors' bids in order to eliminate all incompetent contractors from winning contracts
2. Setting clear and visible standards for performance is required from the contractors.
3. As registration of contractors is mandatory during the contractor selection process, professional's registration through the regulatory body should be made mandatory, this will enable quality selection and ensure that quality of the edifice is produced.
4. Political influence needs to be eliminated in the process of selecting contractors to prevent underperformance of project and quality defect in projects.

Recommendation for Further Studies

1. Environmental and Political assessment on contractor selection process should be carried out to determine its effect on construction project delivery.
2. Comparison of performance of contractors on projects awarded using the different bidding methods.
3. Influence information technology on contractor selection process should be carried out to determine its effectiveness and ease of usage in contractor selection process.

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