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TO STUDY EFFICIENT BID PROCESS MANAGEMENT FOR PRIVATE PROJECTS

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ABSTRACT

Generally, successful completion of construction projects requires many important processes and one of them is the bidding process. During the bidding process, selecting the most appropriate contractors to execute the project seems to be quite difficult. Contractor selection plays a vital role in the overall success of any construction project. Clients generally need the best criteria in selecting contractors in order to get best results in term of cost, time, and quality for their projects. The project often get delayed and show time and cost overruns as a consequence. The importance of bidding documents, good bidding process and the selection of contractor are some of the important prerequisites for the successful completion of project. The aim of the study was to identify factors in the bid process management that any lead project success. Subsequently, these factors were ranked by expert for their importance and ability to influence the project results. Two brainstorming sessions were organized for identifying factors, one with a government organization which executes a large number public project mainly through cost based selection and second with a private developers organization which hires contractor through quality based selection process. Twelve factors were shortlisted through this process and they were given importance ranking by experienced professionals. The mean value and the descriptive statistics were worked out to rank the factors.

***Keywords*—**Bidding, Eligibility, Factors, Mean variation,.

I. INTRODUCTION

The project often get delayed and show time and cost overruns as a consequence. The importance of bidding document, good biding process and the selection of contractor are some of the important prerequisites for the successful completion of a project. The aim of the study was to identify factors in bid process management that may lead to project success. Subsequently, these factors were ranked by expert for their importance and ability to influence the project results. To brainstorming sessions were organized for identifying factors, One with a government organization which executes a large number of public projects mainly through cost based selection and second with a private developer organization which hires contractor through quality based selection process. Twelve factor were shortlisted through this process and they were given importance ranking were experienced professionals. The mean value and the descriptive statistics were worked out to rank the factors. Top five factors in the bidding process, identified by using this process are specification, special condition are contract, overall and similar experience, award criteria and estimates.

Government officials in the developing countries face public ire for delay in project execution and resultant cost increase. Delay and cost overruns occur in private projects also, though the consequences of delay are different. Top five factors featured in the list are insufficient equipment, inaccurate time estimate, payment to the contractors, change orders, and inaccurate cost estimate. Many factors influence failure and success of a project and contractor selection is one of the prominent reasons amongst that. The importance of selecting right contractor and having proper bid documents is recognized by the industry and also by the researchers. Standard bidding documents have been developed by the owners all over the world or they have adopted standard documents developed by world Bank, Asian Development Banks, FIDIC and others. However, in the developing countries, bidding documents and procedures are yet to be standardized. Even where the process has been standardized, the weightage of different selection criteria is a matter of debate.

II. METHODOLOGY

The methodology adopted to achieve above objectives comprises of following steps.

1. Literature survey was carried to describe, summarize, evaluate, clarify or integrate to content of information regarding critical success factors for a project. The sources of information for Review Literature include journal publications, books, magazine articles, international agendas and reports.
2. To identify the most important factors in bid process, brainstorming techniques was used. There are four widely used processes for such purpose .

1) Brainstorming
2) Focus Group Discussion
3) Group Interview
4) Delphi

Out of these four, the Brainstorming technique was selected based on high researcher- informant and informant-informant interaction. Actually the brainstorming sessions conducted, covered planning, design, bid process management and project control related factors of project development, however the scope of this project is restricted to bid process, a total of twelve factors were identified and grouped in three categories as shown below.

1) To study Survey Work Based on Education, Work Experience, Distribution Based on Organization to affect the project success
2) To study the project, the twelve factors identified in the brainstorming sessions have varying degree of influence on efficient Bidding process.
3) A questionnaire was designed for the survey in construction project .Data collection is obtained from

different sizes of construction projects with the help of questionnaire prepared on basis of twelve factors. It aims at collecting information about the important factors that can be attributed to the success of construction project

4) To analyze the top most important factors and prepare the result depending upon the data received from site. Data collection and survey will investigate the success factors in construction projects. Data analysis on the basis of survey responses received from expert opinion, It will possible to identify the five important factors by analysis of brainstorming techniques.

III. BID CONCEPT

Bidding is a method of competitive procurement, which can bring more economical and higher quality projects, goods or services to the purchasers. It is also the internationally used and verified project procurement method, which is adopted widely by developed countries and most of developing countries. Bidding for water projects is a complex system, concerning project owner, contractor, evaluation experts, design engineers, relevant authorities, etc. The activities of bidding need to process amounts of complex data and information, and considering artificial bidding and tender evaluation lack of efficiency with high cost, the application of information technology to bidding for water projects needs to be extended. With the development of IT, the bidding system based on Web is a kind of trend, which can provide an open and fai information processing platform, further standardize bidding process, and promote the bidding process into informatization.

Construction estimating consists of three parts:

1. Quantity Survey
2. Price Extension
3. Bidding

Quantity survey is the physical removal of quantities from the working drawing sand specifications. This can be done using instruments such as a scale, tape, wheel or a digitizer attached to a computer program. Price extension is the portion of the estimate in which the contractors "price out" the individual items, such as pricing out labor and material using current labor rates and material prices. Due to technological advancement and specialization in today's construction world, the prime contractor's work is confined to those trades that the company performs directly, usually without subcontracting. Depending on the type and size of the projects and the bid strategy the prime contractor's portion of the total estimate may be only 5% to 20%.The amount of direct work contributed to the project reflects the "risk" that the prime contractor determines to take on a certain project. The remainder of the work is them "brokered out" or subcontracted.

Bidding is the process whereby the prime contractor receives subcontractor and vendor prices for labor, material and/or the combination of the two. It is a systematic process of simplifying facts, reducing errors and omissions, relying upon speed and efficiency to produce relatively accurate results. Tensions rise because of the mental concentration required, apprehension over possible errors and anxiety regarding financial success or failure. It has been said that during the construction bid there is more competitive pressure and more performance intensity than in any other industry.

In bidding, one is dealing with many divisions of the specifications, both broad
and narrow scope in nature. Subcontractor and vendor quotations are matched to the specifications by the CSI 16 Division format. The various subcontractor and vendor trades, personalities, ambiguities, omissions, contradictions - not to mention having to meet state and federal regulations
-make "number crunching" within a few hours of bid time a major feat.

The main purpose of bid process management is to identify and select a suitable delivery partner for any activity or a project. This is one of the most important aspects of any project lifecycle as the quality of outputs is grossly dependent on it. Over the years the process of bid management has undergone many refinements as the natures of services as well as the requirements of delivery partners have become more and more complex. Thus, it is important to have adequate clarity on nature; scale and quality of services are being sought from a delivery partner. Often, it is assumed that the bid process management is an end of project activity and time line for the same do not reflect adequately in the project schedule.

IV. FACTORS AFFECTING THE BID PROCESS MANAGEMENT

In the identified in the brainstorming sessions have varying degree of influence on efficient bidding process. It would be important for the industry to know which bid process management factors has more influence than the other. In order to ascertain this, a questionnaire was prepared having all the factors identified and categorized as described in earlier section. Respondents were asked to assign a possible ranking in a scale of 1 to 5.Importance according to scale

1. Not applicable
2. Moderately Important
3. Strongly important
4. Very strong
5. Extremely Important

Table 1:-Important Factors In Bid Process Management

SI. No.	Factors
1	**Bidding process**
1.1	Splitting the contract packages/ Work Packages
1.2	Sequence of awarding contracts
1.3	Award Criteria
2	**Bidding Documents**
2.1	Bills of Quantities &Estimated cost
2.2	Tender Drawings
2.3	Specifications

2.4	Special Conditions of contract
2.5	Standard Bidding &contract Document
3	**Contractor Qualification Criteria**
3.1	Overall &Similar Experience
3.2	Financial Capacity
3.3	Bid Capacity
3.4	Proposed development of tools, equipment& plant for given project

For understanding the Efficient Bid process of various success factors on their projects I did survey on various construction projects . I choose questionnaire survey method for collecting data. Data is collected by taking personal interviews of different level management people having different positions in company from small, medium as well as large construction project. Then analysis of data collected is done for each company and identify the topmost factors.

The data is collected from different private contractors. Data entry was carried out and responses against each factored were added to the 1 to 5 column heads. After data entry was complete and preliminary checks regarding correctness assured, the total counts for each of the importance ranking were calculated. Table shows the number of counts for each options selected by the respondents. Mean value was obtained using MS-Exel functions. Descriptive statistical analysis was also carried out using MS-Exel. The top five factors having the highest mean value were sorted as shown table.

Table 2:- Education Profile Of Respondents

Sr. No	Education	:urren ce	Percentag e (%)
1	Diploma Bachelors	12	25.53
2	Bachelors	26	55.32
3	Post Graduate	9	19.15
4	Ph.D	-	-
	Total	47	100

Table 3:- Respondents Work Experience

Sr. No	Work Experience	Count	rcenta ge (%)
1	< 5years	15	23.07
2	6 to 10 years	18	27.7
3	11 to 20 years	10	15.38
4	More than 20 years	22	33.85
Total work Experience in Years		65	100

Table 4:- Distribution Of Respondents On The Basis Of Their Organizations

Sr. No	Type Of Organization	Cou nt	rcenta ge (%)
1	Builder/owner	9	13.85
2	Contractor	6	9.23
3	Consultant	22	33.85
4	Government	15	23.07
5	Academics	5	7.7
6	Public Sector/Board/Semi-Government	5	7.7
7	Others	3	4.62
Total		65	100

Table5:-Mean and standard deviation of responses

1	Splitting the contract packages	2	6	18	32	17	15	11.747
2	Sequence of awarding contract	1	5	16	28	19	13.8	10.895
3	Award criteria	2	4	17	26	28	15.4	12.075
4	Bills of quantities and estimated cost	1	2	20	29	27	15.8	13.480
5	Tender Drawing	1	6	15	22	24	13.6	9.9649
6	Specification s	1	4	16	24	30	15	12.490
7	Special Conditions of contract	1	3	17	25	22	13.6	10.991
8	Standard bidding and Contract Document	1	2	18	27	29	15.4	13.353
9	Overall & similar Experience	1	4	19	20	31	15	12.390
10	Financial Capacity	1	5	18	23	24	14.2	10.569
11	Bid Capacity	0	6	16	24	26	14.4	11.261
12	Proposed Development of tools, equipments and plants for given project	1	4	17	33	29	16.8	14.360

Table 6:- Factors with highest mean value

Rank	Factor	Mean Value
1	Proposed development of tools and equipment & plant for given project	16.8
2	Bills of Quantities & Estimated cost	15.8
3	Award Criteria	15.4
4	Standard Bidding &contract Document	15.4
5	Splitting the contract packages/ Work Packages	15

CONCLUSION

The study is mainly focused project get delayed due to poor project development practices. Although it is convenient to blame it on the contractor , We need to retrospect the causes of delay. A good project

development practice on the other hand leads to smooth and effortless execution of a project. The efficient bid process management ensures selection of right contractor for the project.

Companies must be able to deal with various bidding situations successfully in today's highly competitive construction market. The first step that the companies need to consider is whether to bid or not to bid and that bid/ no bid decision making is very complex that are required to consider large number of relevant factors to achieve the decision. Contractor selection in public sector, has been a much debated issue over the past ten years. Today, public clients are most often constrained to select the lowest bidder by public procurement laws on the grounds of financial accountability and competitiveness. Bidding is the process whereby the prime contractor receives subcontractor and vendor prices for labor, material and/or the combination of the two. It is a systematic process of simplifying facts, reducing errors and omissions, relying upon speed and efficiency to produce relatively accurate results.

The contract should be awarded to the lowest responsive bidder. Choosing a qualified contractor increases the chances of successful completion of a project by achieving the client's goals of keeping the schedules of the cost, time and quality. The ever increasing clients and regulatory agencies demands coupled with the high competition amongst contractors in the construction market make effective management of construction projects highly important. Contractors play a key role in successful completion of a construction project. As we know that the experienced contractor can handle projects more efficiently. However, only selecting right contractor will not ensure 100% project success. The Bid documents also need to be accurate in terms of specification and estimates.

This above three construction contractor can observe the graphically educational profile, Work Experience, and distribution by organization and conclude who is the better than other. These factors were further ranked for their importance which resulted in Sequence of awarding contracts, Proposed development of tools and equipment & plant for given project, Overall & Similar Experience, Standard Bidding &contract Document, Bills of Quantities & Estimated cost. Splitting the contract packages/ Work Packages. Bills of Quantities & Estimated cost, As top important factors that may have maximum influence on the project success.

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