

The Criteria for Contractors' Selection and Bid Evaluation & Factors Affecting Bidding Strategy in Construction

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Abstract:- Construction contractors have big influences upon projects and their successes. Therefore, it is quite critical to select a qualified contractor in the process of construction management. A competent construction contractor is one of the indispensable conditions of a proper process and completion of a construction project. This paper analyzed the actual criteria for the selection of contractors. Bidding strategy in construction defines as a management skills of using all available resources both physical and financial, in order to offer a comprehensive and competitive bidding through consider various aspects, including internal, external and environment, with aim to win the bidding competition, and provide maximum project performance. This study aims at identifying the criteria for selection of contractor and bid evaluation means by which different emphases can be recommended to suit the requirements of clients and projects and There are many factors that influence the bidding strategy. These factors influence depend on the situation, when the research done.

Keyword:- Criteria for Contractors' Selection, Bid Evaluation, Factors Affecting Bidding Strategy, Bidding Strategy dimension and indicators

I. INTRODUCTION

Construction project must be managed in an effective manner. The demands from clients and competition have been growing rapidly. Few of these demands directly contribute to the physical construction of the project. The selection of a proper construction contractor increases chances of successful completion of a construction project. It can also fulfill the client goals, and keep the schedule of the cost, time and quality. So it is extremely critical to select an appropriate contractor in the process of construction management. The selection of construction contractors are very often conducted during tendering. Tendering definitely gives a client a choice in awarding contract a company which proposes the lowest price and short construction cycles, but usually they do not allow to precisely evaluate a tender. At the same time there are more and more procedures in which the decision criterion of choosing a tender is the price. Accepting the lowest price is the basic cause of the project completion problems because very often lowering the price means lowering the quality. It is true in some cases. In some cases the economic situation and the competition is crucial environmental factors. Besides, external factors such as the contract, characteristics of the client, company experience and project characteristics are very influential. Internal factors that should be concern are the characteristics of the company, benefit, and the project financing. We analyzed in Selecting the most suitable contractor for a construction project is a crucial decision for owners and project managers. Therefore, this paper aims at selection of construction project contractors with recommendations about the suitable criteria for better evaluation of construction bids both technically and financially.

II. BID EVALUATION

Bid evaluation is amount to the 'major' criteria of cost, time, and quality as measured by the bid amount, time of execution, and quality of previous work respectively. This implies that the winning bid is fully responsive to the contract in addition to the bidder's being sufficiently well qualified to undertake the contract. Bid evaluation is used to indicate the procedure for strategic assessment to tender bids submitted by pre-qualified contractors. The strategy used for bid evaluation should reflect the client's objectives & have also further project-specific criteria, including safety, durability, security, and maintenance. The evaluation of bids by multi-attribute methods may encounter some difficulties when comparing different criteria measured by different scales. Hence various ways have been suggested for combining criterion values into a single scale. On the other hand, proposed a time/cost approach to determine the winning bid in the highway construction contracts. By converting the contract time to cost, a straightforward comparison can be made on a single criterion.

The Selection of Construction Project Contractors: It is problematical to select a suitable contractor. Bid evaluation is one of the major challenges that face owners and consultants in the public and private sectors some models and frameworks have been created to evaluate contractors' bids and select the most suitable one.

The Cost Consideration: Among all factors the main evaluation factor is cost or price consideration that may affect the selection of a contractor. Although the lowest bidder system protects the public from improper practices, it has certain disadvantages. These include unreasonable low bids either accidentally or deliberately or unqualified contractor which cause extensive delay, cost overrun, quality problems and increased number of disputes. Over the years some modification to the lowest bidder system were made, such as reasonable bidder, public interest and prequalification list which open the door to other evaluation methods to be adopted instead of the single criterion system lowest bidder system.

Pre-Qualification and Bid Evaluation Criteria: To ensure the quality of contractors, the valuation can be done beforehand with a prequalification method. Facing the owner's scrutiny regarding its competency to handle the business aspects of the operation during prequalification allows the contractor to focus on the specifics of the construction project once it has passed through prequalification and been short-listed. This also allows the owner's bid evaluation team to focus only on the specific elements of the project, without being distracted by the other business considerations. In the simplest meaning prequalification is a before tendering procedure which allows to choose the most appropriate candidates from amongst those declaring willingness to participate in the tendering. Pre-qualification and bid evaluation procedures involve different types of criterion to evaluate the overall suitability of contractors such as: General, technical, managerial, and financial criteria, financial stability, managerial capability and organizational strength, technical expertise and experience of comparable construction Relevance of experience, size of firm, and safety record.

Table 1: Main Criteria and Sub-criteria for Contractors' Prequalification and Bid Evaluation

Financial soundness	Financial stability Credit rating Banking arrangements and bonding Financial status
Technical ability	Experience Plant and equipment Personnel Ability
Management capability	Past performance and quality Project management organization Experience of technical personnel Management knowledge
Health and safety	Safety Experience modification rating OSHA Incident rate Management safety accountability
Reputation	Past failures Length of time in business Past owner/contractor relationship Other relationships

III. FACTORS AFFECTING BIDDING STRATEGY IN CONSTRUCTION

There are many factors that influence the bidding strategy. These factors influence depend on the situation, Contractor must build their strategy with considered many factors. in which identified classifications factors that affect bid/no bid decision. Strategic decision making in bidding incorporates into three broad groups of factors i.e. internal, external and environmental factors. The internal factors are those related to the company such as experience, resources, capabilities etc. External factors, outside the company include the number of bidder, bidding risk, type of project, cash flow requirements etc. The environment factors as social and economic conditions, availability of other project, availability of qualified labor, availability of qualified staff, availability of equipment.

Construct with reflective indicators examined through convergent and discriminate validity. Convergent validity related to the principle that the indicators (manifest variables) of construct should have a high correlation.

According to the analysis is done from the latent constructs dimension to their indicators, construct bidding strategy is measured with ten order such as client characteristics, project characteristics, contract, profit, project financing, company characteristics, company experience, bidding situation, economic situation and competition, with each indicators. By using the approach repeat indicators, all the indicators of each dimension is used as an indicator of second order analysis.

Table 2: Bidding Strategy dimension and indicators

Dimension		Indicator
External	1.Client Characteristics	1. Local custom 2. Relationship with owner 3. The client reputation among contractors 4. The client requirements 5. Owner (Private/Public) 6. Prompt payment habit from owner 7. The client financial capacity
	2. Project Characteristics	8. Contract Size 9. Duration of the project

		10. Type of project 11. Methods of construction 12. The project's stakeholder 13. Safety hazards
	3. Contract	14. Contract type 15. Use of Nominated Sub-contractors 16. Fines for delay 17. Clearness of the work and specifications
Internal	4. Benefit of Business	19. The benefits expected 20. Need for continuity 21. Establishing long relationship with owner
	5. Project Financing	22. Original price estimate by client 23. Project cash flow 24. Project Markup 25. Percentage of insurance 26. Anticipated value of liquidated damage 27. Tax liability 28. Market Share
	6. Company Characteristics	29. Availability of required cash 30. Ability of doing the job 31. Availability of required equipment 32. Availability of qualified human resources 33. Current workload 34. Project matching with the company strategy 35. Specific features that provide competitive advantage
	7. Company Experience	36. Past experience with similar project 37. Past profit in similar job 38. Past experience with general contractor
Environment	8. Bidding Situation	39. Required bond capacity 40. Time allowed to submitting bids 41. Bidding document price 42. Prequalification requirements 43. Bidding methods
	9. Economic Condition	44. Risk involved 45. Overall economic situation 46. Fluctuation in material and labor
	10. Competition	47. Who else likely to bid for this job? 48. How many bidders will there be? 49. Future project 50. Market conditions

IV. CONCLUSION

This paper proposed criteria to evaluate contractors and bid selection based on chosen criteria. The objective of this paper is to deliver a completed project that serves the intentional function. Some clients may choose to use just one of the criteria used to qualify a candidate to the stage of tendering procedure and it is usually the contractor's experience. A good safety record reduces the cost of construction and helps to support the desired attitude toward quality and productivity. Comprehensive contractor evaluations conducted prior to selection can significantly reduce the risks faced by a construction project, also The most influence factors of environmental as the economic situation, and the competition. While external factors and internal factors respectively is contract, client characteristics, project characteristics, and company experience, company characteristics, profit/benefit, project financing, are the important factors. The influence factors can be considered as guidance for contractors in preparing their bidding strategy in order to win the competition and obtain the best results.

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