

SELECTION OF CONTRACTORS FOR MINOR WORKS BY QUOTATION

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Abstract: The maintenance of building is important to ensure that the life span of the buildings is lengthened. Most of the building maintenance works are carried out by contractors through quotation works. The selection of good contractors is important to ensure the successful completion of the project. The evaluation and selection of the contractors are usually carried out in three stages. The first stage is to check all relevant documents submitted by the contractors, the second stage is to evaluate the technical and financial capabilities of the contractors and the final stage is to evaluate the tender price. However, the tender price is evaluated either by the comparison of price quoted to the department estimate method or the evaluation of the price quoted by cut-off method. The aim of this study is to evaluate the performance of the contractors selected through the 'cut-off' method and the 'comparison against office estimate' method and to identify the method preferred by the contractors. The objectives of the study are to study the quotation evaluation process in the selection of contractors for building maintenance work, to evaluate the performance of contractor selected through comparison of quoted price to the department estimate method, to assess the performance of contractor selected through the evaluation of the quoted price by cut-off method and to identify the method preferred by the contractor in evaluating the tender price. The scope of this study is conducted at JKR Daerah Johor Bahru. The study is carried out by interviews, questionnaires and through records checking at the JKR's office. A total of 100 questionnaires were distributed and 50 questionnaires were returned duly answered. The data is analyzed using Average Index. From the study, the evaluation process for contractors executing minor works comprises of 3 stages namely; Stage 1, checking all documents submitted by the contractors, Stage 2: analyzing the technical and financial status of contractors and stage 3: analyzing the contractors' tender amount. The performance of contractor selected through comparison of price quoted to the department estimate method are the contractor is able to complete the job as stated in the contract and there is an increase in construction cost. The performance of contractor selected through the evaluation of the quoted price by cut-off method are increase in construction cost and the contractors applied for extension of time. Only 68% of the contractors preferred the evaluation of the quoted price by cut-off method. Among the reasons given are it gives more confidence to the contractors and the selection criteria is clear and transparent

Keywords: *Tender evaluation, comparison method, cut-off method, performance*

1.0 Introduction

Contractor selection is one of the critical activities of clients. Without a proper and accurate method for selecting the most appropriate contractor, the performance of the project will be affected. Quotations were conducted with a primary purpose which is to select a qualified contractor who is capable of completing the project successfully. In the process of reviewing the adequacy of the quotation, consideration is given to the minimum capital adequacy and the reasonableness of the price quoted by the contractor is one of the main criteria for determining whether the bidder can be acknowledged in the quotation evaluation by PWD.

1.1 Statement of the Problem

The government is committed to ensure successful completion of the project within the period and cost tendered. Among the causes of the failure in government construction projects is due to the contractor being unable to perform because of the low bid price. Contractors are willing to enter the quotation with low price due to current market conditions which are extremely competitive.

Therefore, to minimize the failure in the execution of government projects, the method of assessing the price quoted by the contractors should be amended. Presently, the method of assessing the price quoted by the contractors is by means of comparison method. The prices quoted by the contractors are compared to the Departmental estimates. This method of comparison to the Departmental estimates has seen many weaknesses. Common weakness are regarding the accuracy of the Departmental estimate itself. Due to the many problems arising, a new method of assessing the prices quoted by the contractors known as the 'Cut-Off' method was introduced in 2002. However problems still persists. There are projects that are not completed on time and also the projects experienced cost overrun.

Therefore, a study need to be carried out to assess the performance of the contractors, based on the bid price, selected by the 'Comparison method' and the 'Cut-off' method.

1.2 Aim and Objectives

The aim of this study is to evaluate the performance of the contractors selected through the 'cut-off' method and the 'comparison against office estimate' method on the bid price and to identify the method preferred by the contractors.

The objectives of the study are as follows:

- i. To study the quotation evaluation process in the selection of contractors for building maintenance work (Minor Works)
- ii. To evaluate the performance of contractor selected through comparison of bid price to the department estimate method.
- iii. To assess the performance of contractor selected through the evaluation of the bid price by cut-off method
- iv. To identify the method preferred by the contractor in evaluating the bid price

1.3 Scope of Study

The study is conducted at JKR Daerah Johor Bahru. The study focus only on quotation for building works only excluding Civil works, Mechanical and Electrical. Minor works in this

study indicate the maintenance works. Only government buildings involving contractors grade G1 and G2 are included in this study.

2.0 Literature Review

2.1 The Importance and Application of Project Performance

According to K.N.Jha et al. (2005) there are four parameters that are included in the success of a project i.e. in terms of structured scheduling, project cost, quality and having no contract dispute. This include project monitoring and encouragement from the top management and the good communication between the Main Contractor and Sub-contractors.

2.2 The Factors Affecting Project performance

According K.N.Jha et al. (2005) there are several elements that can cause ‘deterioration’ of a project i.e. a conflict between the individuals involved in the construction process, the work environment, the role of the Project Manager and the failure of the concept of projects.

2.3 Evaluation Method in Project Performance

There are 3 basic elements in the project performance which is time, quality and cost of the project. Time is the essence of the contract. Based on JKR 203A, in case of delay in the completion of the project, the contractor is either granted Extension of Time (EOT) or Liquidated Ascertained Damages (LAD) is imposed on them in case the EOT is not granted. At the same time the quality of construction is also one of the important elements in the success of a project. In terms of cost, the most reasonable price is normally chosen from the contractor’s bid to carry out the government’s project. According to P.Shrestha et al. (2012), the design stage should be given careful attention because it is one of the factors contributing to the increase in the cost of a project. Request from the client at the last minute is also one of the factors that lead to an increased in the cost of the project.

2.4 Tender evaluation practiced by PWD

The assessment procedures undertaken for the evaluation of quotation works is similar to the tender evaluation. The tender evaluation is normally carried out in three (3) stages for tenders and two (2) stages for quotation works. However, some PWD districts practiced the three (3) stages evaluation for quotation. The first stage is to check all the compulsory documents that have to be submitted by the contractors, the second stage is to analyse the financial capabilities of the contractor, the adequacy of the workers and machinery. Lastly, the third stage is to analyse the price bid quoted by the contractors. The price reasonableness analysis is carried out either by “bid comparison to the departmental estimate” method or the “Cut-off” method.

2.4.1 Departmental Estimate

The departmental estimates is done by the quantity surveyor. The estimate is calculated based on the PWD schedule of rates. Based on KPKR 4/2013, theoretically between 15% to 18% of the rate established in the PWD schedule of rates are reasonable and correspond to the market price.

2.4.1 Cut-off Method

The cut off price was based on a statistical method to evaluate the bids submitted by contractors including the project cost estimated by the Department, i.e departmental estimate. The calculation is carried out using the computer program (Microsoft Excel) to establish the mean, standard deviation coefficient variation and frequency distribution. The contractors' price which is the closest and below the "cut-off" price will be chosen.

The formula used for the cut-off method are as follow;

- a) Cut Off price : 'Adjusted Mean - 15% Adjusted Mean' OR 'Adjusted Mean - Stdev'
- b) Mean = $\sum X/N$, average for all quotation price including department estimate
- c) Standard Deviation = $\sqrt{\frac{N\sum X^2 - (\sum X)^2}{N}}$
 Which, X = The total of quotation price including department estimate
 N = The total number of quotation + 1

3.0 Methodology

Data is collected by questionnaires, interviews and also from the office records at the PWD's office. A total of 100 questionnaires were distributed and 50 questionnaires were returned duly answered. The data collected is analysed using the "Average Index" (AI), the formula and the interpretation of the result as shown below.

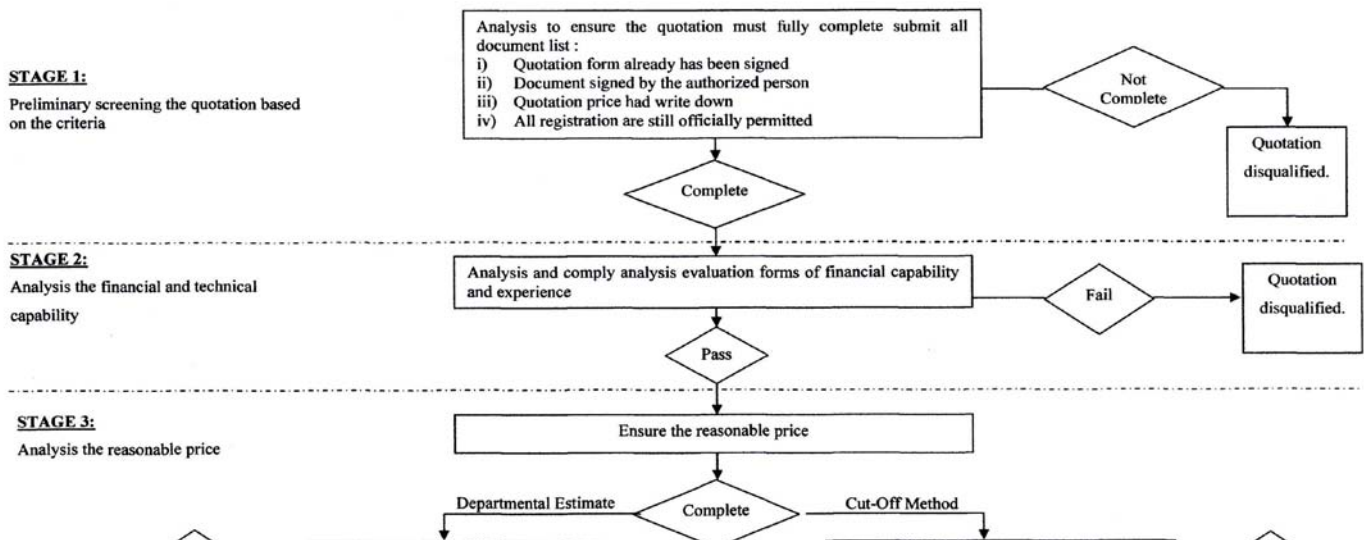
Formula: $AI = \sum w_i \cdot x_i / \sum x_i$

Rating scale of Average Index

| | | |
|---------------------|------|--------------------------|
| "Strongly Disagree" | 1.00 | Average Index (I) < 1.50 |
| "Disagree" | 1.50 | Average Index (I) < 2.50 |
| "Average"- "Neural" | 2.50 | Average Index (I) < 3.50 |
| "Agree" | 3.50 | Average Index (I) < 4.50 |
| "Strongly Agree" | 4.50 | Average Index (I) < 5.00 |

4.0 Result and Analysis

4.1 The Quotation Process



Based on figure 2, the selected contractor is capable of delivering the scope of work. However there is additional cost and extension of time.

4.3 Performance of contractor selected by Cut-Off Method

Figure 3 : Assessments By Cut-Off method

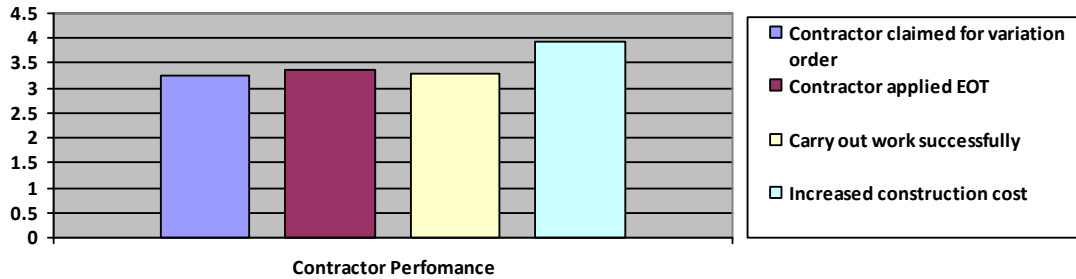


Figure 3 shows additional cost by using the Cut-Off method. There is also an increase in the cost of the projects. The contractors also applied for extension of time.

4.4 Contractor's choice of assessments method and selection of the contractors in quotation work.

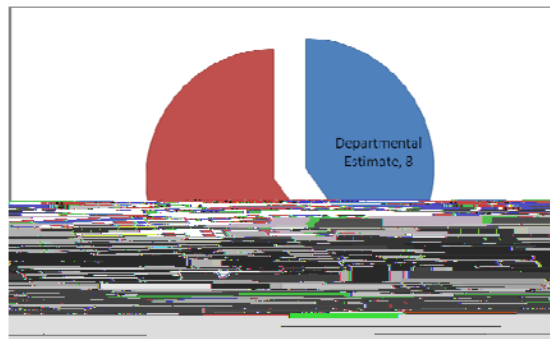


Figure 4: Contractor's preference of price (bid) assessment method

Figure 4 shows 60% of the contractors preferred the cut off method for bid assessment while 40% prefer the bid assessment by departmental estimate method.

5.0 Conclusion

The conclusion for the study are as follows:

5.1 Objective 1: The quotation evaluation process in the selection of contractors for building maintenance work (Minor Works)

From the study, the evaluation process comprises of 3 stages namely;

- Stage 1: Check all documents submitted by the contractor
- Stage 2: Analyze the technical and financial status of contractors
- Stage 3: Analysis of the contractors' tender amount.

5.2 Objective 2 : The performance of contractor selected through comparison of quoted price to the department estimate method.

From the study, the performance of contractor selected through comparison of quoted price to the department estimate method are as follows:

- a. The contractor is able to complete the job as stated in the contract
- b. There is an increase in construction cost
- c. Contractor applied for extension of time
- d. Contractor claim for extra works (Variation order)
- e. Able to complete the works
- f. High quality work
- g. Good contractor
- h. Having good project management

5.3 Objective 3 : Performance of contractor selected through the evaluation of the quoted price by cut-off method

From the study, the performance of contractor selected through the evaluation of the quoted price by cut-off method are as follows:

- a) Increase in construction cost
- b) Contractors applied for extension of time
- c) Contractors able to complete job as stated in the contract
- d) Contractor claimed for extra work
- e) Good project management
- f) Good quality work
- g) Able to complete work
- h) Good contractor

5.4 Objective 4 : The method preferred by the contractor in evaluating the tender price

From the study, only 60% of the contractors preferred the evaluation of the quoted price by cut-off method. Among the reasons given are as follows:

- a) Give more confidence to the contractors
- b) The selection criteria is clear and transparent
- c) Reduce the selection by comparison of quoted price to the department

estimate method.

- d) Prevent bias in the selection process
- e) Even though the result of the selection is late, the contractor still preferred the 'cut-off' method

6.0 References

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