

Factors considered by successful and profitable contractors in mark-up size decision in Singapore

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Abstract

Identifying the optimum mark-up for a project increases the chance of winning the tender. The aim of this study is to investigate the factors considered by more successful and profitable contractors in mark-up size decision. From the literature, 52 factors that may affect mark-up were identified.

A postal survey was conducted to whether contractors felt that the factors are important in determining mark-ups. The questionnaire requested respondents to indicate on a five-point scale the importance of various factors. They were also asked the usual profitability level in their successful projects and their success rates in tendering. Data were collected via mailed questionnaire.

Twenty-one of the 52 factors were found to be important. Of these, factors relating to client characteristics (payment record, size and type of client) are the most significant. Contractors who are profitable and successful would place more emphasis on factors that affect schedule-cost-quality of the project. It is recommended that contractors who are less profitable and successful take note of these findings.

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1. Introduction

Identifying the optimum mark-up for a job is an essential part of tendering, because a slightly different mark-up percentage applied to the same job would result in different bid price. The percentage added to the cost estimate is usually based on the subjective judgement of senior management [1]. Deciding on a mark-up is a challenging job because many uncertain and complex factors need to be considered in the tendering stage. Moreover, the relationship among the factors is dynamic and complex. Therefore, for a long time, mark-up percentage estimation is looked at as a kind of mysterious work mainly based on the estimators' intuition and experience [2]. In some companies, only

the senior management decides on the mark-up. In other companies, both parties are usually involved (even sequentially, if not together) in arriving at mark-ups.

The aim of this paper is to investigate the factors that contractors in Singapore consider when deciding on mark-up size for jobs that they tender for. The objectives of this paper are as follows:

- To identify the important factors affecting mark-up size decision for projects in Singapore.
- To determine whether profitable contractors consider different factors from less profitable contractors when deciding on mark-up.
- To determine whether contractors who are more successful in winning tenders consider different factors from less successful contractors when deciding on mark-up.

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As profitability and tendering success rate are subjective, three accountants who work in contracting firms of different sizes were consulted. They generally agreed that a project which has a profit margin above 5% is considered profitable. Furthermore, if a contractor can win one project for every five bids that he submits, he can be considered reasonably successful.

The importance of this study is that the factors that are considered by successful and profitable contractors in mark-up size decision in Singapore are identified and the important and relevant ones are highlighted. This study is relevant to construction industry players such as contractors, consultant quantity surveyors, other consultants and clients. For contractors, especially those who are planning to enter Singapore's construction industry, this study helps them to consider the more important and relevant factors when deciding on mark-up size. Contractors who are already operating in Singapore can use the results of this study to help them price a more competitive mark-up, so as to help them to win tenders. At the pre-tender stage, consultant quantity surveyors may find this study useful because it assists them in providing more accurate pre-bid forecasts. By knowing the factors that contractors consider in mark-up estimation, consultant quantity surveyors will be better able to predict the likely tender price. Other consultants and clients can try to improve themselves in the critical areas identified in this study, as these improved actions may lead to lower mark-ups by their tenderers.

In this paper, the factors affecting mark-up estimation are first briefly discussed. This is followed by a description of the research method, and then the results are presented and discussed. The final section discusses the possible limitations and concludes the study.

2. Overview of factors affecting mark-up

Estimating is the technical process of predicting costs of construction, and tendering is a separate and subsequent commercial function based upon the estimate [3]. Akintoye argued that factors affecting project cost estimating and tendering are different [4]. He identified 24 variables that affect cost estimating, and after a factor analysis, seven factors emerged. The most important is project complexity, followed by technological requirement, project information, project team requirement, contract requirement, project duration and market requirement. He also found that construction firms, irrespective of company size, generally have quite similar opinions regarding the factors influencing cost estimating practice.

After cost estimating, the next step is to transform this into a tender, by including a suitable mark-up. Several important studies on factors influencing the level of

mark-up have been conducted in different parts of the world. Ahmad and Minkarah [5] and Shash [6] studied bidding practices in the USA and UK, respectively. Studies were also conducted on Saudi Arabia contractors [7,8]. Fayek et al. studied bidding practices in the Australian and Canadian construction industries [9,10]. Dulaimi and Hong [11] studied whether contractor size has a significant impact on their attitude towards bid mark-up decision. They found that large contractors tend to be more concerned with the nature of the project while medium-sized contractors are more concerned about the financial situation of their own firms.

In these studies, many factors were identified, and their importance ranked. However, one gap is identified, and that is no attempt was made to differentiate the views of contractors who are more successful in clinching projects and more profitable, from those who are less successful and less profitable. This means that new contractors and those who want to improve their performance are unable to know if the factors they consider would help them clinch projects or become profitable in future projects or otherwise.

3. Research method

Using Shash's studies [6–8] as the starting point, a questionnaire was designed to suit the working conditions in Singapore. The purpose of the questionnaire was to collect data via postal survey, to achieve the three objectives identified earlier. The questionnaire was divided into two parts. The first part of the questionnaire comprised introductory questions for data classification. Among the questions, respondents were asked to indicate their average profit margins in successful tenders, and success rates in tendering from 1995 to 1998. This period was chosen because the Singapore economy was in a healthy state, and there was strong demand for constructed facilities. Contractors' performance after 1998 was not taken into account because Singapore economy slowed down after the Asian economic crisis, and there were very few jobs available for bidding.

The second part of the questionnaire comprised statements regarding factors that may be considered when deciding on mark-up size. These are the factors identified from the literature. Respondents were asked to indicate the importance of the factors on a five-point Likert scale, where 1 represented 'very unimportant', 3 for 'moderate' and 5 stood for 'very important'. Respondents were invited to add further factors that they consider when deciding on the mark-up, if any. A pilot study preceded the major industry survey.

A research decision was made to send the survey package to all 142 government registered General Building and Civil Engineering contractors with issued

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