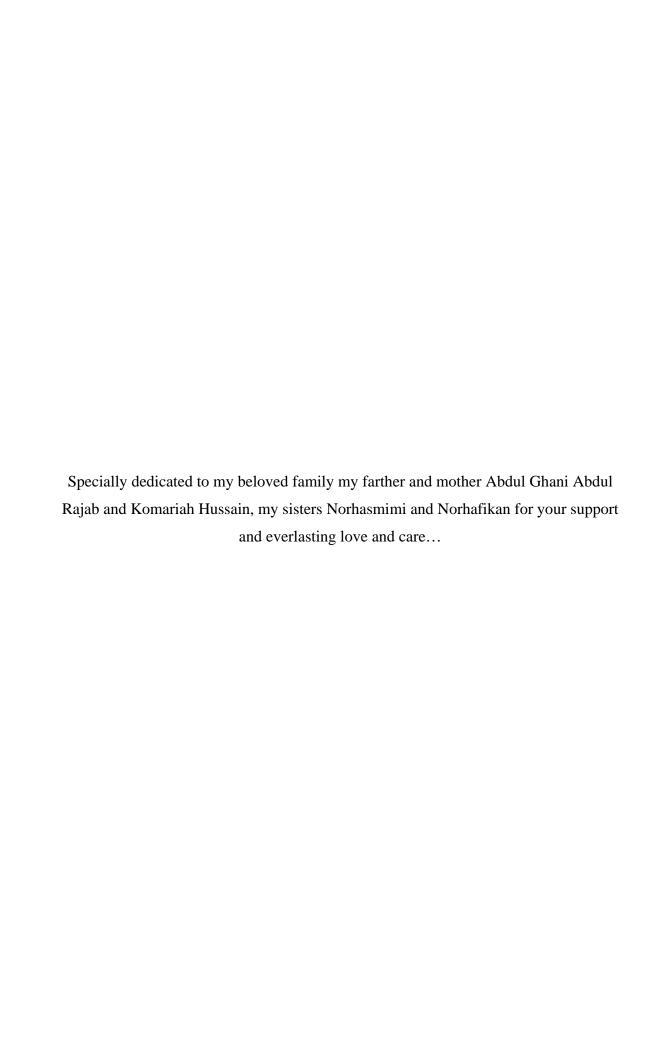
THE IMPORTANCE OF PRELIMINARIES ITEMS

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In preparing this master project report, it was never an individual effort. I was in contact with many people especially contractors and academicians. They have involved in contributing towards my understanding and thoughts directly or indirectly. In particular I wish to express my greatest sincere appreciation to my supervisor Asso. Prof Azirudin Ressang with all the guidance and advices given from the supervisor this master project was able to complete on time. His dedication and continuous assistance have led the author to strive for better achievement in this master project.

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ABSTRACT

The items found in the preliminaries section of a bill of quantities are usually the most difficult to price and would produce the greatest variation in prices with each contractor having his own idea of pricing preliminaries. Not all preliminary items need to be priced, some are remain unpriced. The aim of the study to understand the preliminaries item and identify mandatory items in selected project that should be priced by contractors. The findings will give benefits to contractor as strategies to price preliminaries accordingly and accurately. The study conducted with reference to the selected group of contractor who has vast experiences in tender pricing. The methodology adopted for the study includes interviews with contractor and industry wide questionnaire survey among the contractors that involved in JKR projects. The data collected were analysed using content analysis method and using appropriate statistical method such as frequency analysis and relative index method. The study has determined what the items are considered as mandatory items that should be price by contractor and the strategies in pricing preliminaries as a guide. Apart from that the study also established factors that influence in pricing preliminaries as well as can help contractor pricing preliminary accurately.

ABSTRAK

Item kerja-kerja awalan yang dijumpai di dalam senarai kuantiti adalah selalunya yang paling sukar untuk dihargakan dan menghasilkan perbezaan yang ketara di dalam harga dengan setiap kontraktor mempunyai idie dan cara tersendiri dalam menghargakan kerja-kerja awalan. Tidak semua kerja-kerja awalan perlu dihargakan, sesetengah adalah kekal tidak berharga. Matlamat kajian adalah untuk memahami item bagi kerja-kerja awalan dan mengenal pasti item mandatori di dalam projek terpilih yang sepatutnya dihargakan oleh kontraktor. Hasil kajian akan memberi faedah kepada kontraktor sebagai strategi untuk menghargakan kerja-kerja awalan dengan sebetulnya dan tepat. Kajian telah dijalankan dengan rujukan kepada kumpulan kontraktor terpilih yang mempunyai pengalaman yang luas dalam menghargakan tender. Kaedah yang dipilih bagi kajian ini termasuklah temubual bersama kontraktor dan soal selidik industri di antara kontraktor yang terlibat dengan projek JKR. Data terkumpul di analisa dengan menggunakan kaedah kandungan analisis dan kaedah statistik yang sesuai seperti kaedah analisis frekuensi dan indeks relatif. Kajian telah menentukan apakah item-item yang dikira sebagai item mandatori yang sepatutnya dihargakan oleh kontraktor dan strategi untuk dijadikan sebagai panduan. Selain dari itu, kajian juga telah mengetahui faktor yang mempengaruhi dalam menghargakan kerja-kerja awalan dan seterusnya dapat membantu kontraktor untuk menghargakan kerja-kerja awalan dengan tepat.

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CHAPTER 1

INTRODUCTION

1.1 Background

The preliminaries section in bill quantities is one of the most important sections that require being priced preliminaries, describing and consisting of informations of project, requirements related to project, services and facility that need to be prepared, contract conditions and so forth. Items in this section are divided into two parts, one is descriptive item where intended to give contractor overall picture of project that no need to priced. The other part is where contractor need to prepare and provide where it needs to be priced. Doing estimating for preliminary items is really complicated and always changed for every project.

There is no specific and standard way of doing the estimate for preliminaries. However previous project can be used as guidance for the estimating in the future. Although the approximate cost for each item can be obtained, by using previously priced similar jobs as yardstick still remains at best (John Milne, 1990). Nowadays, there are many contractors company in the country looking for projects. They are competing each other by putting in low price in order to get the projects. The best way is by cost cutting in the preliminary items. Yet, they have to follow all restrictions and requirements by the client's and priced what client's wanted for that particular project. Failure in fulfilling and pricing such items will raise problem later especially during construction. The contractor has to bare their own cost and definitely will incurred lose to contractor. This is because whatever items listed inside the preliminary is deemed to be priced by the contractor.

1.2 Problem Statement

The items found in the preliminaries section of a bill of quantities are usually the most difficult and arbitrary of all to price. If all the tenderers' priced bills for any project could be examined, this preliminaries section would produce the greatest variation in prices with each estimator having his own idea as to the scale and extent of the costs involved. There is problem encountered by client during preparing tender evaluation especially on cost comparison for preliminaries each of tenderer. If there are 20 tenderers, there will be 20 different set of price. Some of them not even priced the preliminaries and just sufficiently allowing certain percentage out of construction cost to the preliminaries. Overhead cost can be divided into general overhead and job overhead costs. General overhead costs include all overhead costs include all overhead and job but cannot be charged to labour, materials, or equipment(H.E. Pulver, 1989).

Preliminaries are all about cost overhead that has to be borne by the contractor to start the work and during the construction period. The first thing they have to do when deciding to go for tender is to understand what the items that need to be priced are. What are the extra restrictions, limitations and extra requirements that client's imposed for that particular project. Pricing of the preliminaries section will usually be one of the last operations before adjudication of the tender price, and will require that decisions relating to working methods, major plant, gang strengths, subcontractors, temporary work (Mudd D.R., 1993). When there is not enough time, the contractor tend to look back at a previously priced set of preliminaries similar project and then extract the price for use in the current project for tender (John Amile, 1986). If contractor overlooked such item, it could lose him a great deal of money and they have to bare all the cost. It is believed that an under-assessment of Preliminaries as far as cost is concerned is one of the reasons why many builders and contractors do not receive a proper return of profit – that is to say, by under-pricing their Preliminaries the loss sustained thereby is deducted from profit (R.D Wood, 1990). This because all preliminaries items listed in the tender deemed to be priced by the contractor accordance with the Principle of the Standard Method of Measurement of Building Works.

Since each set of preliminaries is different in pricing, therefore is a necessary to understand each of preliminary items. A tremendous amount of thought and care is needed when pricing preliminaries. A constant check of the site costs and an appreciation of all problems which arise on the site need to be understood by an Estimator (R.D. Wood, 1990). To understand which items that mandatory to be priced by the contractor based on findings of research so as to avoid any discrepancies and problems arise during construction as well as reduced loses to the contractors due to overlooked the preliminaries items and reasons why many of them do not receive a proper return of profit.

1.3 Aims and Objectives

The aim of the study is to understand the preliminaries item and identify mandatory items in selected projects that should be priced by contractors. The findings will give benefits to contractor as strategies to price preliminaries accordingly and accurately. The aim of this research can be achieved with the following objectives.

- 1) To identify the mandatory items in the preliminary
- 2) To identify the factor that influence in pricing preliminaries
- 3) To propose a strategies for contractor to price preliminaries.

1.4 Scope of the Study

The scope of study will focused on the government projects with the medium to bigger project capacity within range of RM 1 million and above carried out by JKR using PWD 203A form of contract. The study specifically carried limited in the area of Selangor and Kuala Lumpur. The data collection about preliminary estimate will be gathered from literature review a survey will be carried out among contractor specifically class A and B contractor just to know their understanding agreed on the results that have been produced.

1.5 Brief Research Methodology

The methodology used in conducting this research is through literature search, data collection, structured interviews with the professionals who are involved in their estimating and contract works and questionnaire survey among the contractors in the Selangor and Kuala Lumpur.

Data collection will be gathered from the project as stated in the scope of study. From the results, the questionnaire survey will be conducted among the contractors within the category of the study to asses their opinions of the findings towards the objectives of the study. Besides the questionnaire survey some interviews has also been conducted with the professionals as the expert panel, project manager, engineer and quantity surveyor to assess their opinions toward the findings each preliminaries items based on data that have gathered. The interviews are divided into face to face question and answer session and answering the structured questionnaire.

The qualitative data generated from the questionnaire has been analyzed using statistical method and finally inferences were made to support the study findings. The overall sequence of research process undertaken is shown in figure 1.1

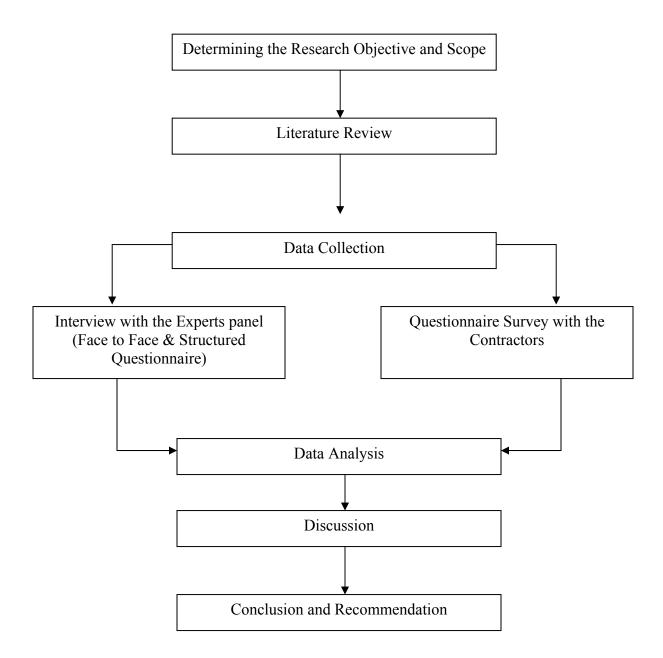


Figure 1.1 Research Methodology Sequence

BIBLIOGRAFI

- Mudd. D.R(1980). *Pricing Prelimnaries; Construction Cost Estimate*. Second Edition. Canada. John Miley & Son. Inc
- H.E.Pulver, B.S. CE (1985). *Construction Estimate and Cost*. Forth Edition. Macgraw-Hill Book Company, New York Toronto London Sydney.
- Frank, R. Dagostino (1990). *Estimating in Building Construction*. Third Edition. Prentice Hall, Eaglewood Clifft, New Jersey.
- George E. Deatherage, P.E (1965). *Construction Estimating and Job Planning*. Magraw Hill Book Company New York San Fransisco Toronto London Sydney.
- The Royal Institution of Chartered Surveyor (1978). Standard Method of Measurement of Building Works. Fifth Edition. The Royal Institution of Chartered Surveyors.

 12 Great George Street Parliament Square London.
- R.D Wood (1985). *Principles of Estimating*. The Estate Gazatte Limited 18 Denmark Street. London. WC2.
- W. Howard Wainwright (1990). *Practical Builders' Estimating*. Hutchinson Educational.
- W. Atton (1968). *Introduction to Estimating for Builders*. GeorgeGodwin Ltd. for The Builders Ltd 4, London.
- J.I.W Bentley (1992). Construction Tendering on Estimating. E & F.N Spon.
- John A. Milne (1985). *Construction and Estimating Procedure*. GeorgeGodwin Ltd. for The Builders Ltd 4, London.
- Akintola Akintoye (2000). *Analysis of Factors Influencing Project Cost Estimating Practice*. Routledge, Part of The Taylor & Francis Group. Volume 18, Number1/Jan 1.
- Akintola, Akintoye and Skitmore, Martine R. (1990). *A Conceptual Model of Contruction Contractors' Pricing Strategies*. In Baxeudule; A Proceedings 6th Annual Conference Association of Researchers in Construction Management. Page pp 31-47.

P.D. Steane, D.H.T. Walker (2000). *Competitive tendering and contracting public sector services in Australia – a facilities management issue*. MCB UP Ltd. Volume: 18 Issue: 5/6 Page: 245 – 255