

**A CASE STUDY ON THE MANAGEMENT OF UTM NEW HOSTEL BASED  
ON DESIGN AND BUILD ARRANGEMENT**

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*To those who always love and care for me;*

***MY FAMILY***

*Mohamed bin Ismail*

*Zaiton binti Salleh*

*Nurul Shakirah binti Mohamed*

*Amir Hakimi bin Mohamed*

*Amir Faiz bin Mohamed*

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## **ABSTRACT**

This study attempts to get the insight into the management design and build of UTM hostel. The objectives of the research are to identify the dominant procurement system in Malaysia, to study the management of design and build in UTM and to identify problems in UTM's project related to design and build. This can be achieved by semi-structured interviews, unstructured discussion and questionnaires to garner a better understanding. This paper covers the traditional system is the most dominant procurement system in Malaysia followed by design and build and management contracting. While the management of the UTM hostel project was conducted fully by the project management consultant from the initial until the completion of the project and the main contractor was acted as the construction manager. The client just observed the activities and get involved when there is changes in cost and contract. The analysis of the problems encountered provides lessons to be learned for application to future projects.

## **ABSTRAK**

Kajian ini dijalankan untuk mendalami pengurusan sistem reka dan bentuk bagi pembinaan asrama Kolej 9 dan 10, Universiti Teknologi Malaysia. Objektif bagi kajian ini adalah untuk mengenalpasti sistem perolehan yang dominant di Malaysia, untuk mendalami pengurusan sistem reka dan bentuk di UTM dan untuk mengenalpasti masalah projek pembinaan di UTM berkaitan dengan sistem reka dan bentuk. Objektif ini dapat dicapai dengan temuramah semi-struktur, perbincangan dan soal-selidik untuk memperoleh pemahaman yang lebih mendalam. Tesis ini mendapati sistem tradisional merupakan sistem perolehan yang paling dominan di Malaysia diikuti dengan sistem reka dan bentuk dan pengurusan kontrak. Pengurusan pembinaan asrama Kolej 9 dan 10 diuruskan sepenuhnya oleh perunding pengurusan projek dari awal projek sehingga projek siap manakala kontraktor bertindak selaku pengurus pembinaan. Pihak klien hanya memantau aktiviti-aktiviti yang dijalankan dan hanya terlibat sekiranya berlaku perubahan projek yang melibatkan kos dan kontrak. Cadangan untuk memperbaiki pengurusan projek pembinaan di UTM turut dikemukakan untuk diaplikasikan untuk projek pembinaan akan datang.

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**LIST OF ABBREVIATION**

<b>ABBREVIATION</b>	<b>MEANING</b>
CIDB	Construction Industry Development Board
D&B	Design and Build
JKR	Jabatan Kerja Raya
MC	Main Contractor
PMC	Project Management Consultant
PWD	Public Work Department
UTM	University Technology Malaysia

# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Over the years, the construction industry has been familiar with the contractual arrangement for allocating responsibility and risk of all the parties under the traditional procurement method. However, many clients are becoming increasingly dissatisfied with the traditional form of project delivery and seek other methods of procurement, such as Design-build (D/B) to meet their more exacting needs. The choice of the most appropriate contractual arrangement involves consideration of management and construction law. A chosen procurement route has to be supported by a management framework, which is governed by legal rules embodied in the contractual arrangement. With the mixed roles of tradesman and design consultant under the Design-build system, its contractual arrangement is drastically different to the concept in traditional procurement method. Indeed it tends to reverse the risk and the role of team members in a development project and introduces new legal implications.

It is vital that clients make the correct choice of building procurement method in an increasingly complex situation, with a wide range of objective criteria and procurement system. Morledge (1987) has aptly described how construction clients

range from experienced clients who may have their own professional team and an effective procurement policy to the inexperienced client with little or no knowledge of procurement methods and who requires extensive professional advice. Furthermore, the needs of clients vary considerably with regard to certainty of price, cost limits, time requirements, complexity of design and many other factors.

The design and build concept, as originally conceived, was based on the concept that a single firm had the in-house staff and expertise to perform all planning, design, and construction tasks. Later, increased interest in the concept had engineers, architects, and conventional contractors seeking to compete with the original design and build firms to meet the growing interest by owners in the project delivery process.

Under the current approach, instead of limiting design and build to firms with in-house capability in both areas, the field has now been opened up to permit contracts with engineers who subcontract the construction portion to a contracting firm, with construction contractors that subcontract design services to an engineer or architect, and with engineers and architect in joint-venture with contractor firms. (Fisk, 2003)

A design and build contract is often used to shorten the time required to complete a project or to provide flexibility for the owner to make changes in the project during construction. It is a two-party arrangement between the owner and the design and build firm. Since the contract with the design and build firm is awarded before starting any design or construction, a cost-reimbursable arrangement is normally used instead of a lump sum, fixed-cost arrangement. This method requires extensive involvement of the owner for decisions that are made during selection of design alternatives and the monitoring of costs and schedules during construction. (Oberlender, 2000)

## **1.2 Problem Statement**

With a design and build arrangement, instead of using an architect or engineer from a separate design service, the client chooses to employ a contractor directly for an all-in design and construction service. While there are clear advantages for appointing a single firm to accept all of the responsibilities, there are also disadvantages that the client will need to consider.

A project commences with a design and it is important that this is correctly formulated. It could be argued that a contractor's design might be more suited to the contractor's own organization and construction capability rather than the interests of the client. Conversely, however, the project might result in lower production costs on site, a shorter overall design and construction period, consequently overall savings in price and perhaps even an implied warranty of suitability, since the single organization has provided an all-in service.

## **1.3 The Aim and Objectives**

The aim of this study is to get the insight of construction management applied by UTM. In achieving this aim, four objectives are being stated. Those are:

- a) To identify the dominant procurement systems in Malaysia.
- b) To study the management of design and build applied by UTM.
- c) To identify problems in UTM's project related to design and build.
- d) To propose improvements to enhancing best practice in UTM.



#### **1.4 Scope of Study**

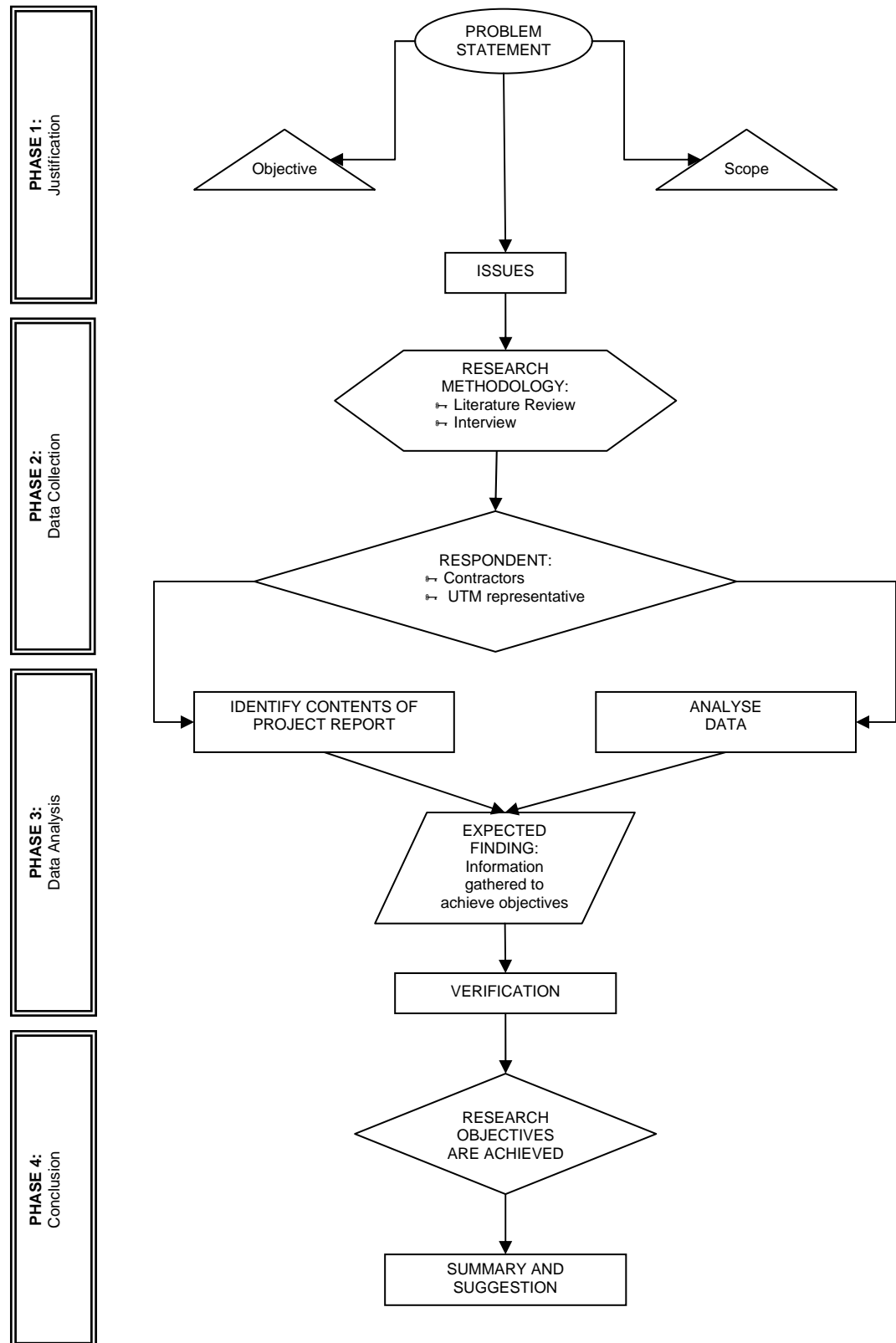
This study is focusing on UTM hostel building. Resources of this study are from the Office of the Asset and Construction, UTM and contractors. The scope of the study is narrowed down to simplify the process of information gathering, so that it can be analyzed within an appropriate time suit. The aspects being considered are:

- a) The types of procurement applied in UTM.
- b) The respondents are contractors and UTM representatives.
- c) The area of study is around UTM new hostel (9<sup>th</sup> and 10<sup>th</sup> college)

#### **1.5 Methodology of Study**

The methodology is set to get the data for achieving the outlined objectives. The first step is to rationalize the issue to help set up the topic of study. Then the aims and objectives are set. For the knowledge acquisition phase, the literature in connection with the study to be carried out is reviewed through journals, books, newspapers, standard contract forms, conference papers and websites. A pilot study is carried out in order to get a few feedbacks to list the respondents. As an empirical study, questionnaires and semi-structured interviews are to be conducted to the respondents. The data collected will be analyzed and the final phase will be the conclusion creation with reference to the objectives, subsequent to the analysis from the interview and questionnaire. Please refer methodology flow chart in Figure 1.

**Figure 1.0: Methodology of Flow Chart**



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