

**TIME AND BUDGET OVERRUN IN THE CONSTRUCTION OF
TOWNHOUSES IN DUBAI U.A.E**

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A project report submitted in partial fulfilment of the
requirements for the award of the degree of
Master of Science (Construction Management)

Faculty of Civil Engineering
Universiti Teknologi Malaysia

AUGUST 2012

DEDICATION

To my beloved parent
Who paints a picture of love in my heart every day
Thank you for all love and motivation
I love you today, tomorrow and forever

ABDUL GHAFFAR SHAIKH
MRS. ABDUL GHAFFAR SHAIKH

And my beloved brother
Who give me moral supports and inspirations

ABDUL JABBAR SHAIKH

Thanks for supporting me days and night, until I reached to this level, may
ALLAH bless you all.

ACKNOWLEDGEMENT

In the name of Allah S.W.T the most gracious and most merciful, with His permission Alhamdulillah the study has been completed. Praise to Prophet Muhammad S.A.W., His companions and to those on the oath as what He preached upon, might Allah Almighty keep us His blessing and tenders.

I would like to express my sincere gratitude to everybody who had helped me with this Final Master Project. Especially to my supervisor, Mr. Bachan Singh who had given me lots of useful guidance, hints, and motivating advices to me till I've completed this task successfully, without their advices and guidance, it could be hard for me to produce such a meaningful project report for myself.

I am also thankful to all of my seniors, friends, teachers and university staff who helped me at different stages during my studies, and extended a lot of help and moral support at all the time.

I would like to give special appreciation and respect to my mother and father No expression could be enough to mention my love to him Also my brothers and sisters and my best friend Syera'z Othman who had helped me during the period of completing the master project report.

ABSTRACT

A construction contract normally have the duration for projects start date and finish date provided by the Client to the Contractor to finish the work. If the contractor is unable to finish the work within a specified finish date, then the Client has the right under a construction contract to impose liquidated damages (LDs) to the Contractor in breach for delay. On the other hand, if a delay occurs that is not within the Contractor's control the Contractor is entitled to the extension of time (EOT) to avoid liquidating damages. The main objectives of this study are to study the types of problems faced by the Client in the construction of the Town House project, to evaluate the Nominated Sub-Contractor related problems that caused the time and budget overrun of the project, to investigate the variation orders related problems that caused the time and budget overrun of the project and to identify the material supplies related problems in the construction of the project. The methodology of this study includes literature reviews, data collection and data analysis. Data is collected from a case study and by questionnaire in Dubai, United Arab Emirates. The data is analyzed using the average index. From the study, the types of problems faced by the Client are project delay, variation orders and Nominated Sub-contractors' performance. The problems related to Nominated Sub-contractor are inadequate machinery to execute work and unable to follow planned schedule as set by the contractor. Whereas, the variation orders related problems are Client's changes in scope of work and unclear drawings detail. The problems related to material supplies are delay in approval of materials and by client's late supply of materials.

ABSTRAK

Suatu kontrak pembinaan biasanya mempunyai tempoh tarikh permulaan dan tarikh tamat projek yang diberikan oleh Pelanggan kepada Kontraktor bagi menyiapkan kerja. Jika kontraktor tidak dapat menyiapkan kerja dalam tempoh masa tarikh tamat yang dinyatakan, maka Pelanggan mempunyai hak di bawah kontrak pembinaan untuk mengenakan ganti rugi kepada Kontraktor yang melanggar disebabkan kelewatan. Sebaliknya, sekiranya kelewatan yang berlaku tidak berada dalam kawalan Kontraktor, Kontraktor adalah berhak untuk mendapatkan tempoh lanjutan masa (EOT) untuk mengelakkan pengenaan ganti rugi. Objektif utama kajian ini adalah untuk mengkaji jenis masalah yang dihadapi oleh Pelanggan dalam pembinaan projek perbandaran rumah, untuk menilai Sub-Kontraktor yang dinamakan berkaitan masalah yang menyebabkan masa dan peruntukan melebihi projek, untuk menyiasat perubahan arahan yang berkaitan dengan masalah-masalah yang menyebabkan masa dan peruntukan melebihi projek dan untuk mengenal pasti masalah berkaitan bekalan bahan dalam pembinaan projek tersebut. Metodologi bagi kajian ini termasuk kajian literatur, pengumpulan data dan analisis data. Data dikumpul daripada kajian kes dan soal selidik di Dubai, Emiriah Arab Bersatu. Data yang diperolehi dianalisis menggunakan indeks purata. Daripada kajian ini, jenis masalah yang dihadapi oleh Pelanggan adalah kelewatan projek, perubahan arahan dan prestasi Sub-kontraktor yang dinamakan. Masalah-masalah yang berkaitan dengan Sub-kontraktor yang dinamakan adalah disebabkan jentera tidak mencukupi untuk melaksanakan kerja dan tidak mengikut jadual yang dirancang seperti yang ditetapkan oleh kontraktor. Manakala, masalah berkaitan perubahan arahan adalah Pelanggan mengubah skop kerja dan lukisan terperinci yang tidak jelas. Masalah-masalah yang berkaitan dengan bekalan bahan adalah kelewatan dalam kelulusan bahan pembekal dan kelewatan bekalan bahan daripada Pelanggan.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Construction project is unique production due to its natural condition, which is produced by the contractor for the owner/client/employer within specified time duration, allocated budget and quality of works. In current decades, due to high demand of public and private sectors projects are accelerated and created innovation named fast track construction. Fast track construction reduces the project duration in design phase and construction phase simultaneously. To produce a project in a short period of time is the key of successor bid.(Williams, 2001)

However, construction contracts normally have the duration for projects start date and finish date provided by the employer to the contractor to finish the work. If the contractor is unable to finish the work within a specified finish date, then the employer has the right under a construction contract to impose liquidated damages (LDs) to the contractor in breach for delay.

On the other hand, the contractor has been right under a construction contract to entitle the extension of time (EOT) claims to avoid liquidating damages... If the contractor is succeeded to achieve the (EOT) claims than the contractor under construction contract is liable to apply for prolongation or loss and expense claims to the employer.

1.2 Background

The case study of this project is conducted at the construction project in Dubai, United Arab Emirates. The Conditions of Contract applicable between the employer and the contractor is the Conditions of Contract (International) for works of Civil Engineering Construction (Fourth Edition-1987) prepared by the Federation International des Ingenieurs –Conseils (FIDIC).

Under clause (FIDIC, 1987) 48.3 Substantial completion or practical completion of any part of the permanent works has been practical completed and passed all the related tests, the Engineer may issue a Taking over certificate to the contractor of that part of the permanent works. Now contractor after getting such a certificate of that date under clause (FIDIC, 1987) 49.1, the Defects Liability period will start.

If the contractor is unable to complete any part of the permanent works, then under clause (FIDIC, 1987) 47.1 Liquidated Damages (LDs) for Delay, An applicable sum on a daily basis contractor has to pay to the Employer or Employer may change the way of recovery of such an amount may deduct by interim valuation. Deduction of such an amount shall not allow the contractor from his obligation to finish the work.

Under clause (FIDIC, 1987) 44.1 Extension of time (EOT) for completion of works, the Contractor can submit the detailed particulars to the Employer to entitle the (EOT) for additional work, variations, extreme weather conditions; delay happens by the Employer or any circumstances beyond the control of Contractor under the condition of contracts

Under clause (FIDIC, 1987) 53.3 Additional payments or Prolongation claims, the Contractor can submit the complete particulars and the basis upon that the claim is based to the Employer to entitle the additional payments or prolongation claims.

1.3 Problem Statement

In any construction project the elements of time, cost and quality are important for the Client. The Client wants the project to be delivered on time, within the budget and within a reasonable quality. The parties involved in the construction of the projects are the Clients, Contractors, Domestic sub-contractors, Nominated sub-contractors, Nominated suppliers and Domestic suppliers etc. The selection of the sub contractors through tendering is important. However, some of the Clients favored the lowest tenderer. The main structural works are carried out by the main Contractor and the electrical and mechanical works are normally done by the Nominated sub-contractor. Some of the Clients want to get involved with the supplying of materials to the Contractors. The main Contractor will have to depend on the Client's Nominated suppliers to deliver the materials. Instead of reducing the cost of the project, the material suppliers pose problems to the successful completion of the project. Apart from the suppliers, the Nominated sub-contractor also at times contributes to the delay of the project.

Under the (FIDIC, 1987) conditions of contract, the Contractor is entitled to appoint his own sub-contractors are called domestic sub-contractors and the Employer or the Engineer is appointing his own sub-contractors are called Nominated sub-contractors. Under clause (FIDIC, 1987) 59, Nominated suppliers and Nominated sub-contractors are appointed by the Engineer or Employer.

Under clause (FIDIC, 1987) 58, Provisional Sum is defined as sum integrated in the bill of quantities of the contract for the carrying out of any part of the works or for the delivery of materials or for contingencies. In respect of each provisional sum, the Engineer shall have power to issue instructions for the carrying out of works or for delivery of material.

Nominated sub-contractors and Nominated suppliers are creating legally and practically difficulties in execution of works. The main issue is that imposing on the contractor the sub-contractor without his consent. Since a consequence under clause 58 and 59 the Employer may happen to be monetarily liable for losses resulting from the nominated sub-contractor's breach. (Vincent Powell - Smith, 1999)

Under clause (FIDIC, 1987) 52.1, Valuation of Variations, after receiving the variation order Contractor is submitting his variations or additional works quotations to the employer and also submitting the estimation of delays for approval. One of the issues occurs from the design and build contract to evaluate variations in the lack of bill of quantities. The agreement between the Employer and the Contractor has been bound for the value of the varied work and the time to complete the varied works. As a result delays are occurring due to variation.(Vincent Powell - Smith, 1999)

1.4 Aim and Objective of the Study

The aim of this study is to identify the issues that caused the time and budget overrun of the project. The objectives of the study are as follows:

- 1) To study the types of problems faced by the Client in the construction of the Town House project.
- 2) To evaluate the Nominated Sub-Contractor related problems that caused the time and budget overrun of the project.
- 3) To investigate the variation orders related problems that caused the time and budget overrun of the project
- 4) To identify the material supplies related problems in the construction of the project.

1.5 Research Scopes and Limitations

Basically, this study project focuses on explaining the clauses in (FIDIC, 1987)The “Conditions of Contract “ (International) for works of civil Engineering Construction (Fourth Edition-1987). Furthermore, several common delay issues regarding Nominated sub-contractors, Nominated suppliers and Variation Orders are used to support explanation and arguments. This study is limited to the case study of construction of townhouses in Dubai besides Questionnaires and interviews were

conducted to collect the primary data from different construction projects in United Arab Emirates

1.6 Significant of study

The study optimistically can help many parties, including Contractors, Consultants and Employers about the issues that caused the time and budget overrun of the project. The significant to this study is as below:

- 1) The research is very essential to recognize the problems faced by Contractor when Employer is appointing nominated sub-contractor and nominated suppliers.
- 2) The study will be promoted to the contractor to be familiar with the troubles due to variation and additional works.
- 3) The findings also very important to recognize the Problems in late supplying of materials.

1.7 Brief Methodology of Study

The main reason of the case study is to fulfill earlier stated objectives though the collection of data using survey questionnaire forms. The methodology is set in order to gather the data to achieve the outlined of objectives. The first step of study is to rationalize the issue to setup the topic of study. After that the statement of problems, aims and objectives were developed. This study required several methods of data collections for the purpose of objectives achievements. For the knowledge improvement phase, the literature review is carried out. The literature sources that connection with study including journal, books, conference papers, magazines and websites will be used in the literature review part. From that information a set of questionnaire form that related objectives will be developed. The question that develops in the questionnaire was in the form of multiple choice or open ended questions or likert Scale. The respondents are the planning engineer, quantity

surveyor, architect and engineer as a practitioner, who has minimum five years site experience. The result obtained from questionnaire will be represent in data table, bar and bar chart. The data will be analyzed using statistical method that is average index frequencies and percentage calculation. The final phase of this case study is to define the conclusion and recommendation with reference to the objective, subsequent to the analysis from the questionnaire. The overall Methodology Flow Chart is shown in Figure 1.1 as follows.

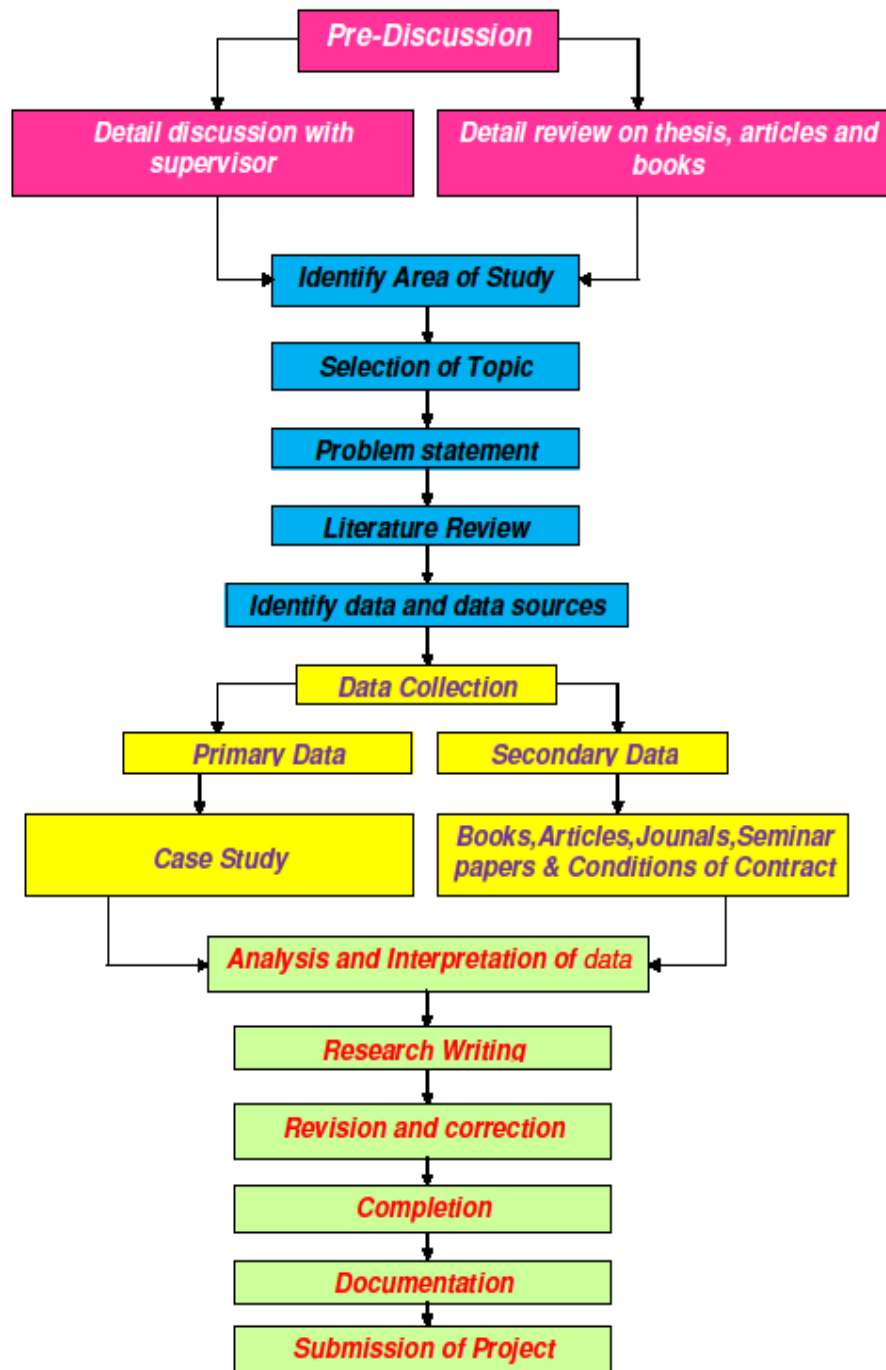


Figure 1.1: Research Methodology of Study Flow Chart

1.8 Arrangement of Report

The arrangement of the report is the prominent mechanism to ensure that the data obtained from the survey is represented in the systematic manner. Besides that, the arrangement of the report is very important to give more understanding to the reader about the aims and objective this research was conducted. The arrangement of the report will be discussed as below.

- 1) The first chapter in this study will include the Introduction, Problem Statement, The Aim and Objectives of Study, the Scope and Significant of the study, and the Research Methodology.
- 2) The second chapter is on Literature Review: focused on the issues that are creating the construction claims (Extension of time) .This literature review must relate to the objective in order to give more understanding to the issues and problem occurs.
- 3) The third chapter in the Research Chapter will be focused on Methodology of research whereby will discussed detailed about the method that will be used to conducted the research.
- 4) The fourth chapter will talk about the case study in construction of town houses in Dubai U.A.E.
- 5) The fifth chapter will discuss the Data Analysis and Result from the study.
- 6) The sixth chapter is about the conclusion and recommendation of the study.

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