

**VARIATION CONTROL AFFECTING CONSTRUCTION WORKS FOR LEMBAGA
KEMAJUAN TANAH PERSEKUTUAN(FELDA)**

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Specially Dedicated To

My Parents

My Beloved Mother

“You have done all the best for my live”

Beloved Husband

Ahmad Fairuz B. Dato’ Ahmad Shamli

“Thank you for your love and support”

My Children

“You’re the heart of my life’

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ABSTRACT

Variation means alteration, change or modification of design, quality or quantity of work omission, addition or substitution of the work including the alteration of the kind or standard of any of the materials or goods to be used in the work, and the removal from site of any work, materials or goods which are not in accordance in the contract. The aim is of this study research is to covering the initial planning, while works is in progress and until the completion of works to minimize the need for variation works right from the start . The method of this study involved literature review, interview and based on the case study and the analysis by qualitative method. The process of data collection involved obtaining primary data from the literature review and the secondary data was generated from the case study. From the analysis of this study type and factors influence to variation; problem that influence and the implication to variation; and the strategy action can be taken to minimize the variation were identified. In conclusion, the strategy action that can be taken were identified to minimize or control the variation works during planning stage until construction stage.

ABSTRAK

Perubahan kerja didefinisikan sebagai ubahsuai, perubahan rekabentuk, pembatalan dari kuantiti atau kualiti kerja, penambahan kerja termasuk perubahan terhadap spesifikasi bahan yang digunakan di dalam sesuatu kerja dan juga pembatalan kerja ditapak termasuk bahan yang tidak mengikut di dalam kontrak. Ianya terdapat di dalam kebanyakan di dalam kerja-kerja bangunan. Tujuan kajian ini adalah merangkumi peringkat awal semasa kerja di dalam kemajuan sehingga siap kerja untuk mengurangkan perubahan kerja bermula peringkat awal kerja lagi. Kaedah yang terlibat di dalam kajian ini adalah merangkumi kajian litaratur, temuduga dan juga kajian kes dan dinalisa melalui kaedah kualitatif. Proses mengumpulkan data diperolehi dari kajian litaratur dan dari kajian kes. Hasil daripada analisis yang dijalankan jenis-jenis perubahan kerja dan faktor-faktor yang mempengaruhi perubahan kerja telah dikenalpasti; masalah-masalah yang mempengaruhi perubahan kerja dan kesannya; dan akhir sekali tindakan yang boleh diambil bagi mengurangkan perubahan kerja juga telah dikenalpasti. Oleh yang demikian, kesimpulan dari kajian ini terdapat strategi tindakan boleh dilakukan bagi mengurangkan perubahan kerja bermula dari peringkat awal perancangan hingga ke peringkat pembinaan.

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LIST OF ABBREVIATIONS

S.O	-	Superintending Officer
PWD 203 (10/83)	-	Standard Form of Contract to be used where Bills of Quantities Form Part of the Contract (Revised 10/83)
IEM.CE 1/89	-	Standard Form of Contract to be used where Bills of Quantities Form Part of the Contract of Civil Engineering Construction
V.O	-	Variation Order
BQ	-	Bills of Quantities
M & E-		Mechanical and Electrical
TNB	-	Tenaga Nasional Berhad
JBA	-	Jabatan Bekalan Air
JKR	-	Jabatan Kerja Raya

CHAPTER 1

INTRODUCTION

1.1 Introduction

Today, small projects can be just as important if not more important than the larger projects. When unforeseen situations occur on site, it is important to first understand the situation and come up with suitable solutions and forecasts the probable consequences. One of the occurrences that make projects less profitable is the variation in the original works, leading to re-planning of the ongoing work. As clients are always known for their tall demands, they sometimes change their minds by varying the works while in progress. Changes are usually the major factors causing the delay on projects. The impact due to changes has been described as the adverse effect upon the unchanged work due to changes in the contract.

Even though there are provisions on variation orders in a building contract, the variations works sometimes did not satisfy both of parties who felt disappointed to carry on the works. It will give impact on the cost of the project extend the completion period and it will bring inconveniences to all the parties involved in construction industry, which are client, consultants and also contractor. Besides that it also brings inconvenience for the end user. No matter how much effort to reduce the

variation order in construction industry, it still happens and the final accounts remained unresolved after the building was occupied.

These variations are directly attributable to matters not being as stated or as required in the contract documents. This is because circumstances actually change or because of misinterpreted in the contract documents. Other than that, it also occurs because of client's choice thus will result creating a variation.

For this, some strategies are needed to anticipate starting from the planning stage, so that as the project commences and programmed on site, they will be no variations or at least they can be minimized. Therefore, all parties involved should cooperate to assure that the efficiency of construction and thus will minimize the variation orders in construction industry.

1.2 Problem Statement

Many program for development are being carried out rapidly for Lembaga Kemajuan Tanah(FELDA) to develop FELDA land. Therefore 5 years back many of building and infrastructure works been carried out which awarding the project to the experience and class A contractor but the problem of variation work is still occurring while construction in progress. Varies order from client and authority requirement makes the variations increased easily. Changes in the contract and misinterpreted in document contract will caused of additional cost and the impact of this variation and will impact on the completion of project.

Most of the variation occurs when major changesT in the contract during construction and additional works. Variation can also occur when unexpected

condition such as climate changes which can causes damages project site as example flooded during construction in progress. While unforeseen condition and due to lack of supervision and poor in managing and planning the project can also causes of variation.

1.3 Aim and The Objective of Study

. To achieve the aim, several objectives are defined, they are as follows:-

- 1) To identify the types of variation works commonly occur in construction projects and the factor influencing these.
- 2) To identify the problem that influence to variation and the implication of variation to the construction..
- 3) To identify the strategy action that can be taken to minimize variations starting from planning stage until the construction are being carried out.

1.4 The Scope and Limitation of Study

The scope of this study is focused Research starts from Pre-Contract practice on managing the design development process in construction. Study on the strategy action to be taken starting from planning stage until the Post Contract stage and its effectiveness in minimize the variations. The area of work of the study focused on the building construction works of Lembaga Kemajuan Tanah Persekutuan (FELDA) project and also interviews from professionals who are relevant to the topics.

1.5 Research Methodology

The methodology is essential to enable the compilation of data and information from various sources. Thus, it involved three main stages starting from collection of data, analysis of data, conclusion and recommendation related to the topic. The study can be broadly divided into three stages.

- (i) The first stage include literature review which based on the primary data collected through reading and searching from related books, magazines, articles, web site and others.
- (ii) The second stage is including interview with relevant professional by face to face interview. Analysis of data by using qualitative methods is done through the collected reading materials and secondary data generated from the case study of FELDA's projects.
- (iii) The final stage of this study is to define the conclusion and recommendation with reference to the objective, subsequent to the analysis from the case study and interviews.

The process of research methodology can be summarized as Figure 1.1 below. This Figure 1.1 shows the process of research methodology starts from the literature review until to the conclusion and recommendation.

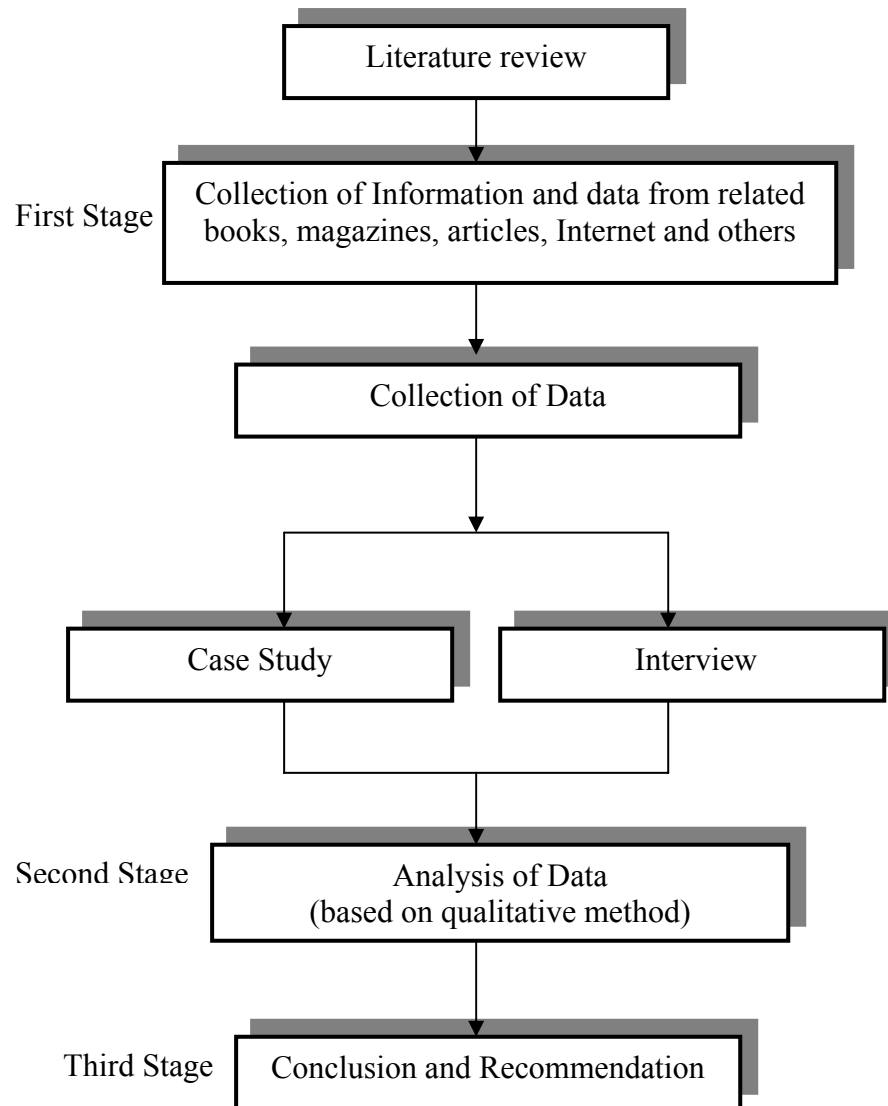


Figure 1.1: The Methodology Flow Chart

1.6 Summary

This study provides some valuable insights in to the relative importance of to minimize or control the variation starts from the planning stage until the construction stage. The study consists of seven chapters. The first chapter is to introduction of the research, which includes the statement problem, the aim and objective of the study, the scope and limitation of the study, and research methodology. The second chapter is on literature review, focus on the identification the types of variation and the factor influence this.; Third chapter continue with the literature review on the problem in variation and its implication to the construction; Fourth chapter focus on the strategy action that can be taken to minimize or to control variation work in the construction. The fifth chapter is the research chapter that discusses the method of research. The data and analysis is discussed in chapter six and lastly the conclusion and recommendation is highlight in chapter seven.