

**RECOVERY PLAN STRATEGY ON THE DELAY  
CONSTRUCTION PROJECT**

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## ABSTRACT

Delay is one of the most common problems in the construction industry. Generally, delays can be classified into three types which are compensable delays or excusable delays with compensation, non-excusable delays or excusable delays without compensation. In order to control and avoid any further delays, immediate action on recovery plan strategy must be taken from all parties involved in construction project. As people say preventive is better than cure, identification of root cause of delay is very important to contractor as a preventive action to prevent the delays. While recovery plans strategy can be used as a management tool to minimize the delays. This study mainly discussed the causes of delay and appropriate recovery plan strategy to overcome the delay in construction project. A survey of randomly selected sample of 48 respondents consist 28 contractors (58.3%), 18 consultant engineers/architects (37.5%) and 2 represent client/owner (4.2%). This study also involve a study case on the delay and recovery plan strategy taken by Lankhorst Pancabumi Contractors Sdn. Bhd. (LPCSB) as a main contractor at TUDM Subang, Selangor. The survey showed that financial delay factor was ranked the highest and communication factor was ranked the lowest. The most important delays in category of compensable delays (cause by client) were delay in contractor progress payment, late in possession of site, delays in producing design/drawing/detailing, inadequate information from consultant and waiting for material approval. The most important delays in category of non-excusable delays (cause by contractor) were financial problem, shortage of skill workers, shortage of plan/equipment, shortage of material, and slow mobilisation. The most important delays in category of excusable delays (cause by third party) were act of God such as inclement weather and natural disaster, While on the recovery plan strategy, the most important step to overcome the delays is providing the fund according to cash flow required, Application of extra working hour, Additional of resources (manpower, material and machinery) and Introduction of new construction method.

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

Delays in construction project are known to cause negative impacts for both contractor and owner such as contract dispute, increases in construction cost, low productivity and etc. There are several discussions in the literature that define various types of delays. M.Z Abd. Majid and Ronald Mc Caffer (1998) classify delays into three categories. Delay may caused by the client (excusable delays with compensation), the contractors (non-excusable delays) or acts of God or a third party (excusable delays without compensation). It is assumed that the owner has more control on excusable delays with compensation, contractor has more control on non-excusable delays and none can control on excusable delays without compensation.

The challenge of construction project is to complete the project within the time frame or on the other word is to avoid the delays. "Kraiem (1987), an important measure of success in the management of construction projects is the achievement of the completed within the prescribed time scale. The time allowed for the performance of a project is usually an important consideration for both the project owner and contractors. The contractor must study carefully during tender stage on the time frame given to complete the project. This is very important because if delay cause by

contractors, it will produced financial penalties or Liquidated and Ascertained Damages (LAD) to the contractor.

The significance of establishing the issues related to the critical factors of delay in this study was to provide better understanding of the factor of delays and a strategy to overcome the delays in construction project. As a result, effective monitoring and controlling of the factors or causes of delays during the construction process in very important. Delays, which are due to various factors and causes, will affect contractors schedule and cost performance significantly. Morris et. al. (1989) evaluated several records of project delays and concluded that the success rate of projects is generally poor. He further emphasised that there are hardly any records showing under runs. Tah et. al. (1993) stated that poor performance of project in term of time and cost overruns is commonplace in the construction industry. Hence, there is a need to establish a best indicator to measure contractors' performance on site. Assaf et. al. (1995) studies the causes of delays on large building project concluded that materials and labour related factors were amongst the main factors which led to the poor performance of contractors. Based on the above arguments or evidence, it was considered worthwhile to conduct a study on the factors of delays and recovery plan strategy to overcome the delays which could provide a greater insight and understanding and subsequently can avoid any delays in construction project.

This study discussed about causes of delays and recovery plan strategy to overcome the delays in construction project. A survey was conducted to assess the relative important of causes of delays and appropriate recovery plan strategy to overcome the delays. A survey of randomly selected sample of 48 respondent consist 28 contractors (58.3%), 18 consultant engineers/architects (37.5%) and 2 represent client/owner (4.2%). This study also involve a case study on the delay and recovery plan strategy taken by Lankhorst Pancabumi Contractors Sdn. Bhd. (LPCSB) as a main contractors at Proposed 6 Blocks 8 Storey Apartment and other facilities located at TUDM Subang, Selangor.



## 1.2 Background and Justification of the Study

A delay in construction project is because of the complexibility of this industry. According to Hira N.Ahuja (1984), “construction is a complex industry due to the involvement of multiple interdependent parties with different capabilities, skills and knowledge. Each of these parties plays his particular role towards fulfilling the objectives of a project, while achieving his targets and expectations. Each of these parties has his owns objectives and interests during the course of completing a construction project. Client wants the project to be accomplished to the required quality, within the allocated time frame and budget cost. The consultants need to ensure that the project is constructed in compliance to their professional code of standards, while the contractor and subcontractor tend to maximise their profits as much as possible. As for governmental departments, they want their rules and regulations to be followed. So, the way of control delays in construction projects will be more difficult.”

Every parties involved in construction industry must have a same goal and objective. In order to achieve that, every parties should be able to manage and control any delay occurred during the construction period. The approach to solve the delay problem maybe difference depend of the root cause of the delay and the parties involved, but managing the delays should be a main role of every parties involved in the construction project. The parties involve must understand the nature and root cause of delays before any corrective action can be taken.

Anyway, the main problem related to delays is a dispute or disagreement between the client and contractor. Contractors are always intending to claim that the delays are cause by the client (excusable delays with compensation) or caused by acts of God or third party (excusable delays without compensation). Binding contract document and approved work programme in very important as a reference if any dispute or disagreement rise between contractors and client.

Normally delays damages can be on the schedule performance, time performance and/or quality performance depending on types of delays. However the

financial implications may be much greater and depending on who is seem to be responsible for such delays damages. The consequences can range from an agreed extension of time with payment of the contractors overheads, costs to the deduction of liquidation damages from contractors. The delay have a knock-on effect on the project time performance as a whole, they may give rise to extra costs resulting from the contractors prolonged presence on site, where by client incurs an additional overhead costs for the extended period. Generally delays in construction project will cause negative impact for both contractor and owner. Based on the above reason, this study was conducted which could provide a greater insight and understanding on the causes of delays and appropriate recovery plan strategy to overcome the delays.

Besides the questionnaire survey, a case study was carried out on LPCSB as a main contractor at Proposed 6 Blocks 8 Storeys Apartment and other facilities located at TUDM Subang, Selangor. Contract amount for this project is RM 51,380,000.00 and original contract duration is 75 weeks (18 months). Date of commencement for this project is 18<sup>th</sup> January 2002 and date of completion is 31<sup>st</sup> December 2003. Further detail of this project is tabulated in Chapter III.

This study identified the cause of delays, determined the factors of delays and investigated the frequency of these various factors causing delays in construction project. Subsequently, this study also identify what is recovery plan strategy taken by LPCSB as main contractor to overcome the delays. Form the background study, it shows that there are several issues that have to be considered when implementing the recovery process to overcome delays. Hopefully this research can be useful as guidance for the construction industry in the future.

The authors choose this project as a case study because he is the project manager for this project. Besides this, the project was behind schedule prior to the commencement of his appointment from LPCSB. They are several corrective action has been recommended and introduced to meet the progress. The author fined this task is a challenging and interesting task. Detail of causes of delay and recovery plan strategy taken by LPCSB was discussed in Chapter V.

### 1.3 Objective of the Study

The objectives of the study are as follow:

- (a) To identify the factors or causes contributing to delays, which lead to time delays in completion the construction project.
- (b) To classifies type of delay either caused by the client (excusable delays with compensation), the contractors (non-excusable delays) or acts of God or a third party (excusable delays without compensation).
- (c) To identify appropriate strategies used in the recovery plan to overcome the delays.

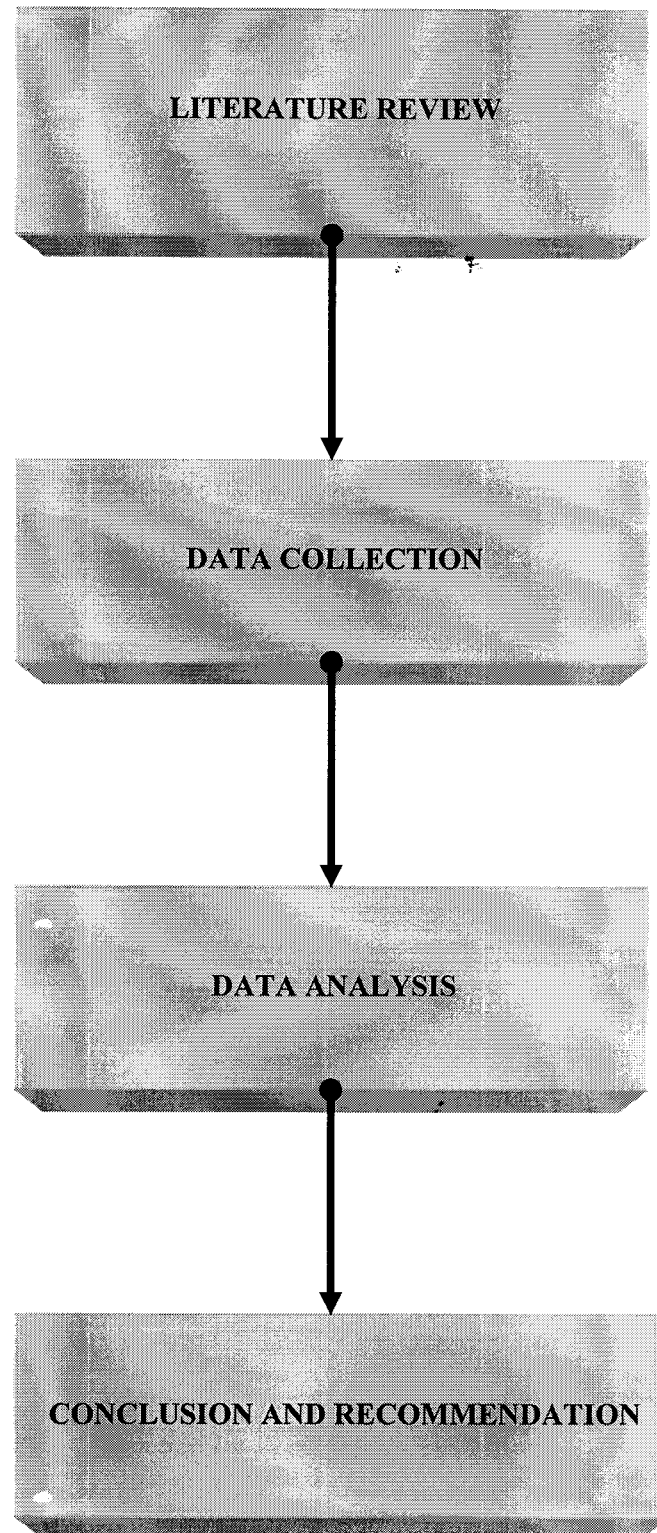
### 1.4 Scope of Study

To achieved the objectives for this study. A questionnaire was developed on the three types of causes of delay (compensable delay, non-excusable delay and excusable delay) and appropriate recovery plan strategy to overcome the delays. A survey was conducted to assess the relative importance of causes of delays and appropriate recovery plan strategy to overcome the delays. The questionnaire was filled out by a randomly selected sample of 48 respondent consist 28 contractors (58.3%), 18 consultant engineers/architects (37.5%) and 2 represent client/owner (4.2%). This survey includes a case study at LPCSB project site at Proposed 6 Blocks 8 Storey Apartment at TUDM Subang, Selangor.

## **1.5 Research Methodology**

The method used in conducting this research can be divided into four staged which is Literature Review, Data Collection, Data Analysis and Conclusion and Recommendation. The major processes involved in conducting this study are shown in Figure 1.1. The methods of studying are different in every stage and will be discussed further in chapter III.

To achieve the objectives of this study, the information was gathered from questionnaire survey and a case study at LPCSB as a main contractor for proposed 6 Block 8 Storey Apartment and other facilities at TUDM Subang. This case study involve in the delays and recovery plan strategy taken by LPCSB on the above said project. In the questionnaire survey, the data was gathered from 48 respondent who is consist 28 contractors, 12 consultant engineers, 6 architects and 2 represent client/owner.



**Figure 1.1: Research Steps**

## 1.6 Organisation of the Thesis

Basically, this study divided into six chapters that cover introductions, literature review, research methodology, data collection, data analysis and conclusions and recommendations. The six chapters are briefly described as follows:

**Chapter I:** This section outlines the introduction for this study which will discuss the background and justification of study, objective of study, scope of study, research methodology and organisation of the thesis.

**Chapter II:** This section will discuss the literature review related to delays which include the following:

- Definition of Delays
- Type of Delay
- Impact of Delays
- Research Related to Delays
- Method of Quantifying Delays
- Method of Recovery of Delays

**Chapter III:** This section highlights the research methodology of the study in an attempt to realize the aim and objective of this research, which includes data collection and analysis of the data.

**Chapter IV:** This section discussed on the process of collecting data from questionnaire survey and case study.

**Chapter V:** This section discussed on the data analysis aspect to achieve the first aim and objectives of this study, which is to identified and classified caused of delay and appropriate recovery plan strategy to overcome the delay in construction project.

**Chapter VI:** This section summaries the conclusion from the research findings of the study and the recommendations for future research.

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