EXTENDED OVERTIME AND THE EFFECT TO LABOUR PRODUCTIVITY IN CONSTRUCTION : WORKERS PERSPECTIVE

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This study is specially dedicated to my beloved parents, supervisor, classmates, colleagues and all my close friends for continuous support and care throughout my studies…..

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ABSTRACT

Extended Overtime is a very common scenario in the construction industry in many parts of the world to accelerate the project schedule. Many contractors have been adopting this method in order to make up for the late changes and project delays. But as a Client, we often look into the three most essential criteria which are cost, quality and time in any project undertaken. This study aims to looks into three related objectives which includes the need of extended overtime in the construction, the consequential impact of extended overtime and the overall impact of extended overtime in the construction industry. The study identifies that overtime is needed to accelerate the project and also as a result of change work and shortage of materials. The surveyed workers indicate their tiredness, laziness as they are required to work overtime but are motivated by extra earnings. The study shows three major overall impact of extended overtime on construction performance are premium wages, lower productivity and increase of accidents rates.

ABSTRAK

Kerja lebih masa dalam jangka masa yang panjang sudah menjadi scenario yang biasa di dalam industri pembinaan di mana-mana tempat bertujuan untuk mempercepatkan progres projek. Ramai kontraktor menggunakan cara ini untuk mempercepatkan kerja mereka. Tetapi, bagi seorang klien, mereka biasanya akan lihat kepada tiga criteria utama iaitu kos, kualiti and masa dalam mana-mana projek yang dikendalikan. Projek ini bertujuan untuk meneliti dan mengkaji tiga objektif yang berkaitan dengan pembinaan, iaitu keperluan untuk kerja lebih masa, impak kerja lebih masa yang berlanjutan terhadap pekerja dan impak keseluruhan kerja lebih masa di dalam industri pembinaan. Kajian menunjukkan bahawa kerja lebihan masa diperlukan untuk mempercepatkan perjalanan projek dan juga berikutan factor seperti kelewatan bahan dan perubahan. Keputusan soal selidik menunjukkan bahawa responden mengalami keletihan dan malas walau bagaimanapun tertarik dengan pendapatan lebih secara keseluruhan. Kajian menunjukkan bahawa impak keseluruhan ke atas pembinaan adalah premium gaji, produktiviti rendah dan meningkatnya kadar kemalangan.

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CHAPTER 1

INTRODUCTION

1.1 Background

The construction industry is dynamic in nature due to the increasing uncertainties in technology, budgets, and development process which resulted in building projects are becoming more and more complex and difficult. Despite this, one seem to remain is the three main criteria which are cost, quality and time have always been the priority in every project undertaken.

In order to make sure these three criteria can be achieved positively, a well planned project management skills which include adequate communication, control mechanisms, feedback capabilities, troubleshooting, coordination effectiveness, decision making effectiveness and monitoring must be implemented. Many times we heard that the typical project overruns especially in relation to time and cost (often overruns its cost estimate). Overruns are common on government and commercial projects, even when changes in the design are taken into account. One

reason this happens is because cost estimating traditionally fails to take into account the possibility risk that the work will actually cost more (or less) than budgeted by even prepared by the most competent estimate.

Besides cost, quality is also an important item to be taken care of. Delivering a completed project within cost and time may not be sufficient if quality did not take into consideration. House owners, for example, will be very disappointed with the developer as the owners have spent a sum of money which are not worth the quality of the completed home. To make matters worst, cost and quality actually comes parallel. To build a quality house may required quite a high cost of budget. Therefore, developer will try their very best to build a house which are of acceptable range of quality and is still within their budget. Apart from this, the developer will ensure the deliverance on time so as to avoid problems associated with delay such as LAD. Various measures and actions have been taken to ensure prompt delivery of construction output.

In today's construction industry, overtime has frequently become the planned schedule from the onset of a project. This is occurring for at least two reasons. First, with a shortage of skilled labours in many parts of the country, the premium pay associated with overtime has become a necessity to attract the required workforce. Second, it has become common for business-savvy owners to request an accelerated project schedule in order to move their product to market sooner. These owners recognise the financial benefit of an early project completion despite the increased cost associated with schedule acceleration.

1.2 Problem Statement

Overtime achieves schedule acceleration by increasing the amount of hours worked by labor beyond the typical 40 hours worked per week. Past research indicated that labor productivity can be negatively impacted by overtime, causing problems such as fatigue, reduced safety, increased absenteeism, and low morale (Horner and Talhouni 1995). Additionally, the extra work performed under the implementation of overtime comes at an increased cost, commonly time and a half.

As overtime is used more extensively for long durations it is important for contractors and owners to understand the associated impact to labor productivity. Understanding the effects of overtime is quite difficult because the factors affecting productivity in the overtime situation are numerous.

Normally extended overtime is frequently used to meet tight project targets from owners, and to make up for late changes and project delays. Extended overtime is defined as using more than 40 hours per week for more than two consecutive weeks. (Overtime Subcommittee 2004).

According to Bodek (1985), productivity, in general, represents the conscious growth of a society or an organization in its ability to improve the value, the quality of its products or its services. The success of a company can probably be more clearly measured by its productivity growth than by its growth in profits. However, productivity is theoretically defined as a ratio between output and input. In the context of construction industry, the output is the structure or facility that is built or some component thereof. The major inputs into the construction process include manpower, materials, equipment, management, energy and capital.

The above statement can be illustrated by an example, contractors in labor intensive fields such as the mechanical or electrical trades generally allocate 33–50% of a project's total budget to labor costs (Hanna 2001). Of the typical project cost components (material, equipment, and labor), labor is considered the project element containing the most risk. The other cost components (material and equipment) are predominately determined by market price and are consequently beyond the influence of the project management. As a result, the management of labor and its productivity becomes paramount in determining the success of a project.

Within narrow limits, labours expand energy at an accepted pace established by long periods of adaptation. When the hours of work per day or per week are changed, there is an adjustment period. Some studies have also revealed that extended overtime operations result in a sharp drop in productivity initially, followed by a fairly substantial recovery by the end of the first week. The recovery level of productivity may then hold fairly steady for a period of two to three weeks but show a steady decline for the following two to three weeks. After five to six weeks of operations, there is a further drop in productivity which levels out at a low point after nine to twelve weeks of sustained overtime operation. It should be understood that this condition results from normal reactions and does not reflect the effect of other adverse factors such as labor, climate, and poor management.

Is the similar situation occurred in Malaysia? Is extended overtime is a common practice in Malaysia and whether the extended affect construction productivity in selected construction firm? A study should be carried out to investigate the problems.

1.3 Aims and Objectives

Many a times, overtime has been frequently used in many part of the construction phases as an inducement to attract labor and to accelerate schedule performance. While there may be positive short-term benefits to working an overtime schedule, the long-term consequences are typically viewed as detrimental.

This study focuses on obtaining views from construction workers and to analyse the impact of extended overtime on workers in selected site in Klang Valley. The aim is supported by the following objectives:-

1. To study the need or drive of extended overtime in project undertakings.
2. To study the consequential impact of extended overtime to labour productivity in construction industry.
3. To analyse the overall impact of extended overtime in construction environment.

1.4 Scope of Study

Previous studies concentrated on the matters separately. For example work on productivity and productivity in construction. Overtime has been studied in other areas such as manufacturing. The work on overtime and extended overtime in construction and its impact on productivity almost non-exist. The study focuses on obtaining views from workers. The study identify factors overtime is required in

the construction phases and to study and analyse the consequential impact of extended overtime and the overall impact of extended overtime in the construction industry.

1.5 Research Methodology

This section discusses methodology of the research. This will help to realize the aim of the study in the light of the existing knowledge and investigation evidence. In achieving these aim and objectives, the essential stages of methodology are performed. The major processes involved in conducting this study are shown in Figure 1.1. These include subject of study, the literature review, data collection, data analysis and conclusion.

The preliminary insight of the subject data for this study will collect through a literature review and the use of a questionnaire survey targeted at contractors and subcontractors. The literature review was conducted through books, internet and leading construction management and engineering journals. In this stage, factors why extended overtime is required and the impact of extended overtime to labour productivity encountered in a construction industry were identified. Other related factors that overall affect the labour productivity will also be identified.

Data collection: Primary data collection via questionnaires. The data collected through questionnaire surveys will be analysed. Findings and conclusion will be derived based on the analysis.

Data analysis: The gathered data will be analysed to derived the answer for this study.

Conclusion : Recommendation will be suggested to further enhanced the objective of this study.

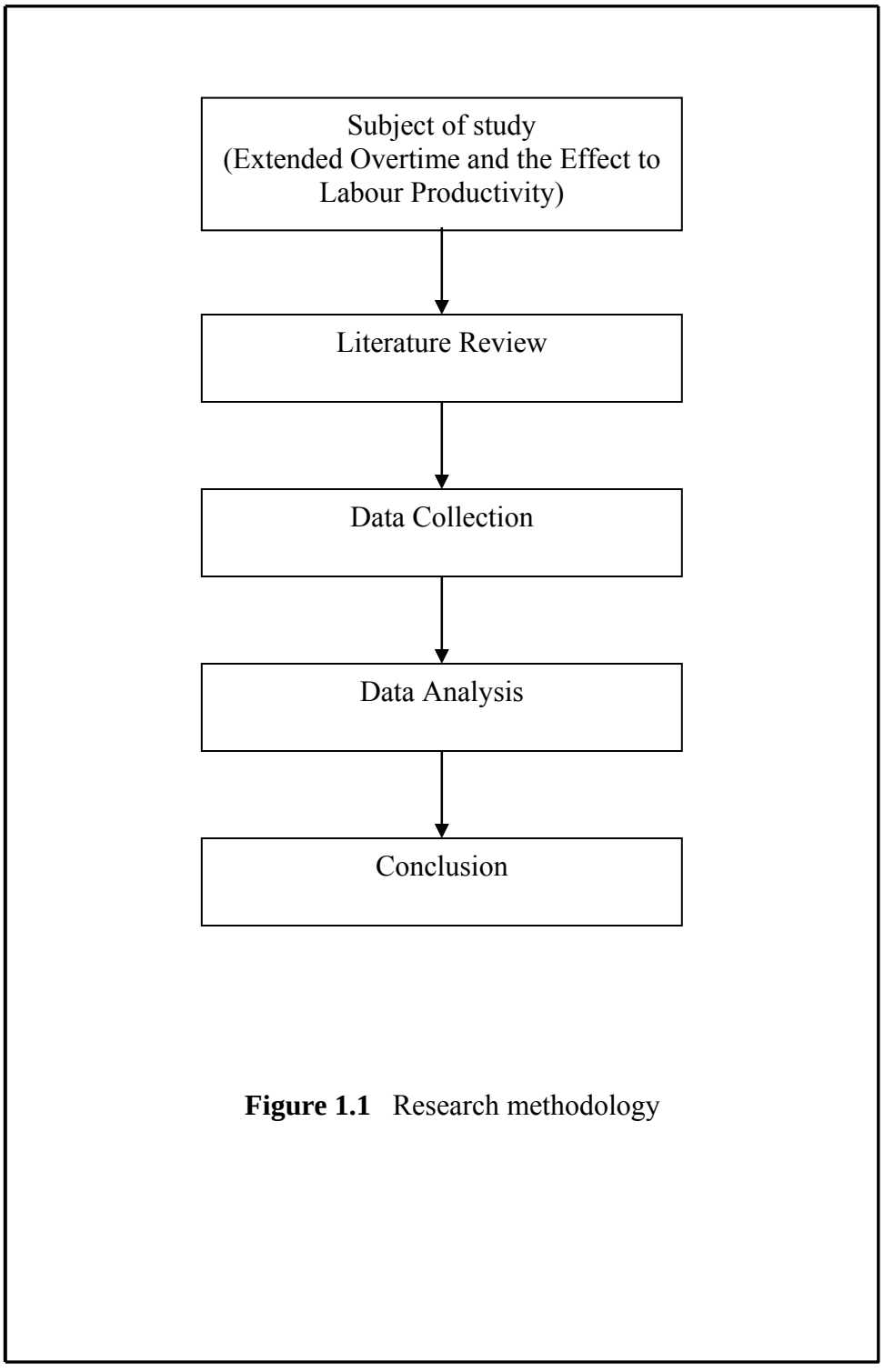

Figure 1.1 Research methodology

1.6 Organisation of the Research

This dissertation is structured into 5 chapters and briefly described as follows.

Chapter 1 presents an introduction to the subject, background and the specific problem associated with it. This chapter also specifies the aim and objectives, the methodology of conducting this study and a brief summary on the structure of the research.

Chapter 2 emphasizes on the related issues on overtime and extended overtime in construction industry from available literature review which included definition of overtime and extended overtime; productivity; factors affecting productivity; studies in other Asean countries related to labour productivity; labour productivity measurement in construction industry; and effect of extended overtime on productivity.

Chapter 3 looks into the details on data collection process that involved in the study which included introduction, methods of data collection, primary and secondary data collection, analysis method used and summary.

Chapter 4 discusses the process of the data analysis to achieve the aim and objectives of this study which included introduction, analysis of data, presentation of tables and bar charts and conclusion.

Chapter 5 summarises findings and presents overall conclusion for this study.

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