THE INTEGRATION OF QUALITY MANAGEMENT SYSTEM IN CONSTRUCTION INDUSTRY

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ABSTRAK

Industri pembinaan mengalami masalah untuk mengawal kualiti produk pembinaan kerana permintaan untuk kualiti produk pembinaan yang semakin meningkat. Oleh demikian, industri pembinaan perlu meningkatkan kualiti produk supaya setanding dengan industri pembinaan dari dalam atau luar negara. Konsep sistem pengurusan kualiti telah diperkenalkan untuk mengawal kualiti produk pembinaan. Tunjang kepada konsep tersebut ialah dengan menggunakan proses yang efektif untuk memperolehi produk yang berkualiti. Namun, sistem ini mempunyai kekurangan dimana sistem ini diimplementasikan secara berasingan. Walaupun begitu, konsep integrasi sistem pengurusan kualiti telah diperkenalkan untuk mengatasi kekurangan tersebut. Konsep integrasi sistem pengurusan kualiti ialah gabungan kesemua sistem seperti sistem pengurusan alam sekitar dan sistem pengurusan keselamatan dan kesihatan pekerja yang diimplementasikan secara berasingan untuk menjadi satu sistem yang tunggak. Tujuan kajian ini adalah untuk mengkaji secara keseluruhan potensi untuk mengimplementasikan integrasi sistem pengurusan kualiti secara keseluruhan dalam bidang pembinaan. Kaedah yang digunakan untuk kajian ini adalah dengan membuat temubual bersama pakar, kajian kes dan soalan kajiselidik. Oleh itu, kajian ini adalah penting untuk industri pembinaan yang hendak meningkatkan kualiti produk dan prestasi kerja. Melalui kajian, didapati sistem integrasi tersebut mempunyai potensi untuk diimplementasikan dalam bidang pembinaan. Malah, terdapat beberapa syarikat pembinaan yang telah mengimplementasikan sistem tersebut. Kekangan utama yang dihadapi untuk mengimplmentasikan sistem tersebut adalah kos permulaan yang tinggi dan kurang pemahaman terhadap konsep sistem.

ABSTRACT

Malaysian construction industry is facing problems to assure the construction quality due to the increasing demand in quality of delivered product. Therefore, Malaysian construction industry must impose on higher quality product to compete aggressively both at regional or international industry. The concept of quality management system has been introduced to the construction industry to control the product quality and continually improve the effectiveness and efficiency of its performance. The main thrust of a quality management system is to define the processes that will lead to the quality of end result or product. However, the implementation of quality management system is often treated independently within an organization and this contributes to the limitation of the system. With regards to the current system that has been implemented independently, the concept of integrated quality management system is introduced. Integrated quality management system is a combination of various quality management systems such as Environmental Management System and Occupational Safety and Health Management System into one coherent management system. The main aim of this study is to review the potential of applying integrated management system to construction industry. The methodologies adopted for this study are interviews with expert panel, conducting case studies and questionnaire survey. Hence, the results of study are important for the construction industry that wishes to enhance their end product quality and performance. It is found that there is a strong potential in applying integrated quality management system. Indeed this study has found that there are few construction companies have implemented this integrated system. The main challenges for applying this system are higher initial cost and lack of understanding of the concept.

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LIST OF ABBREVIATIONS

EDMS	Electronic Document Management System
EMS	Environmental Management System
ISO	International Standard Organization
JKKP	Jabatan Keselamatan dan Kesihatan Pekerja
JKR	Jabatan Kerja Raya
OSHMS	Occupational Safety and Health Management System
QMS	Quality Management System

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Currently, the construction industry is being viewed as poor quality emphasis compared to other sectors (Kubal, 1994; Kanji and Wong, 1998; Wong and Fung, 1999). Therefore, many criticisms have been directed to construction industry for the poor workmanship of the end product and not worth the money value. Rowlinson and Walker (1995) stated that the construction industry is also characterized by its non-standardisation. Besides that, over the decades, the construction industry has had raised serious concerns about the construction activities contribution towards the environmental impacts. The concerns are raised due to the increasing in global environmental awareness among the community. It is estimated about 40% of the materials entering the world's economy each year and 25% of the world's usage of wood (Kein, 1999). Besides, site construction also produces atmospheric pollutants and negligence of construction sites may result in spillage of substances which are washed away into water sources.

Unfortunately, nowadays, there are many obstacles faced by construction projects. It is normal for construction projects to experience extensive delays,

exceeded initial or estimated cost and the most vital is the workmanship quality (Odeh, 2001). These days, clients are more knowledgeable and conscious on the quality of work and it is very challenging task to deliver the quality that would satisfy the client's standard (Torbica and Stroh, 2001). Construction industry also facing problems to assure the construction quality because of the nature of operation is complicated (Kanji and Wong, 1998). The construction industry consists of a multitude of occupations professions and organizations (Sommerville, 1994). They are involved in different phases of construction and each one play a different role in delivering a quality project. Failure of any of the parties will affect the quality of the final project (Kanji and Wong, 1998).

Construction industry also has gained the reputation of being a highly hazardous industry due to the high incidence of accidents and fatality rates (Ahmadon et al, 2006). Occupational Safety and Health (OSH) at work is an issue that affecting al business especially in construction industry where the major issue for the companies mainly due to the fear of prosecution. Consequently, the betterment of safety and health in construction industry goal and in the processes is vital to provide safer workplaces, improve productivity accompanied by reduced costs, better time performance and increase profitability (Ahmadon et al, 2006). As in construction management field, there are several standard of management systems such as ISO9001 for Quality System, ISO14001 for Environmental System and OHSAS18001 for Occupational Safety and Health Management System where the management systems are treated independent functions within organizations to ensure all the aspects and organization's purpose are met. However, many professionals believe that these systems should be harmonized ultimately in some manner. The integrated management system will integrates all components in construction into one coherent business to enable achievement of its purpose and mission focusing on quality, environment, safety and health.

1.2 Problem Statement

Apparently, the standard of Malaysian construction industry is still arguable and below the expectation compared to international construction industry. Although the construction industry has implemented a few types of management system such as quality management system, environmental management system, safety and health management system, total quality management system and others, still the end product delivered by the construction industry not up to client's expectation. Applying the current management systems independently only could improve a few construction impacts but by integrating the current management system, it will open wide all the vital construction components that needs to be taken into consideration and will gained a long term benefits. In order to ensure the construction activities always deliver a quality end product with less impact towards the community, quality, environment, safety and health management system must be implemented in an organization. These are the four cornerstones of a functional management system and the organization must equally focus on these systems. If the managers and employees are focus on only one of these systems, the performance of the management system may suffer (Holdsworth, 2003). Unfortunately, Malaysian construction industries are short of documented management systems which can interrelated the aspects of quality, environmental, safety and health. On the other hand, an organization also can no longer afford to have a staff that specialist to address everything on specific management system.

1.3 Aim and Objectives of Study

The main aim of this study is to review the potential of applying integrated quality management systems for construction. The objectives of the study are as follow:

(i) To investigate the quality management system practice in Malaysian construction industry.

(ii) To investigate the potential of applying the concept of integrated quality management system for construction project.

(iii) To determine the challenges in achieving the integrated quality management system for construction industry.

1.4 Scope and Limitation

The study is limited within the following scopes:

(i) The case study conducted for integrated management system is confined within design and build project in Putrajaya area only.

(ii) The questionnaire survey was distributed to the respondents involved in the construction project selected for the case study only.

1.5 Brief Research Methodology

The research methodologies done in this study are shown briefly in Figure 1.1.

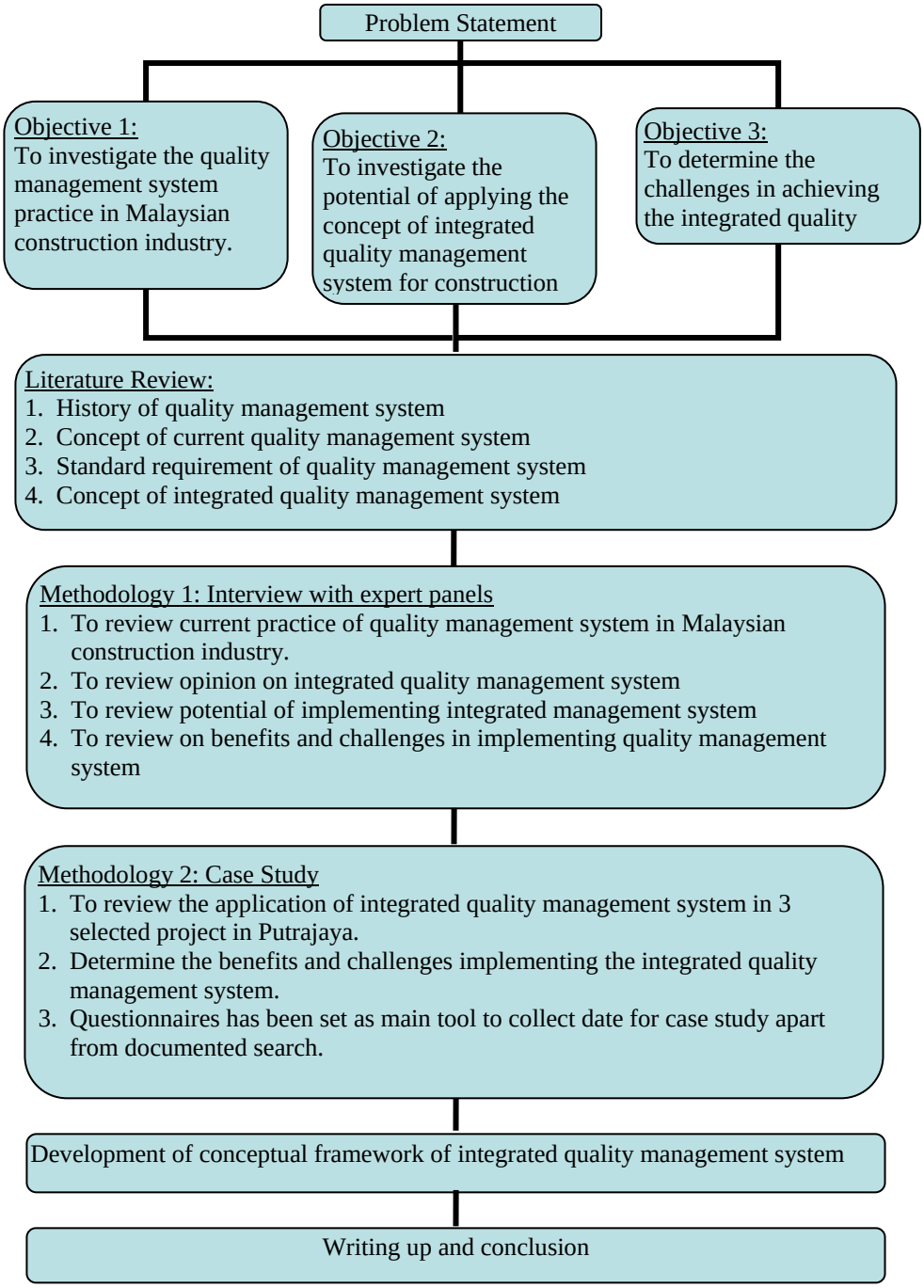

Figure 1.1: Brief Research Methodology

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