THE INTEGRATION OF QUALITY MANAGEMENT SYSTEM
IN CONSTRUCTION INDUSTRY

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ABSTRAK

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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<td>ISO</td>
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<td>JKKP</td>
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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 all 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.
Problem Statement

**Objective 1:** To investigate the quality management system practice in Malaysian construction industry.

**Objective 2:** To investigate the potential of applying the concept of integrated quality management system for construction.

**Objective 3:** To determine the challenges in achieving the integrated quality management system.

**Literature Review:**
1. History of quality management system
2. Concept of current quality management system
3. Standard requirement of quality management system
4. Concept of integrated quality management system

**Methodology 1: Interview with expert panels**
1. To review current practice of quality management system in Malaysian construction industry.
2. To review opinion on integrated quality management system
3. To review potential of implementing integrated management system
4. To review on benefits and challenges in implementing quality management system

**Methodology 2: Case Study**
1. To review the application of integrated quality management system in 3 selected project in Putrajaya.
2. Determine the benefits and challenges implementing the integrated quality management system.
3. Questionnaires has been set as main tool to collect date for case study apart from documented search.

**Development of conceptual framework of integrated quality management system**

**Writing up and conclusion**

**Figure 1.1:** Brief Research Methodology
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