

AWARENESS OF CONTRACTORS ON OCCUPATIONAL SAFETY AND
HEALTH MANAGEMENT SYSTEM AT CONSTRUCTION SITE

MOHD BAKRI BIN ZALI @ AB RASHID

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DEDICATION

Especially for

My loving Mother and Father

Esah @ Faridah Jusoh and Zali @ Rashid Samat,

*My Wife **Ida** and our Childrens; Sofiyya, Fawwaz, Fayyadh, Fahim and Farhan*

“Thanks for always been there for me”.

My beloved sibling

“Thank you for everything”.

Supervisor and Friends,

“Thank you for your support and encouragement”.

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ABSTRACT

Occupational Safety and Health Management System (OSHMS) is part of the management system of the Occupational Safety and Health risks integrated with the organization at construction site. OSHMS includes six elements which are policy, organizing, planning and implementing, measuring performance, audit and initial and periodic status. The aim of this study is to evaluate awareness level of the contractors on Occupational Safety and Health Management System (OSHMS) implemented in construction industry specifically focusing on construction site. Out of 50 questionnaires distributed, a total of 34 questionnaires were returned successfully, collected from contractors in civil engineering projects in Perak. Data were collected through self-administered questionnaires. The research findings that most of the contractors in Perak are concerned to cooperated in the event of any accident occurred on site. They also agreed that the implementation of safety culture at construction site is the most effective solution to overcome the issues and challenges of awareness in safety and health for management and employees. Nonetheless, many issues have been found in safety practices, employees' ignorance of work procedures, lack of staff knowledge, and language barriers between supervisors and workers. Some approaches have been proposed to overcome the problems, such as delivering successful safety training, allocating security management budgets, full commitment from top management, and providing security booklets in different languages. Several strategies have been suggested to address issues such as providing effective safety training, allocating budgets for safety management, full commitment from top management, and providing security booklets in different language. The suggestions cover three aspects to implement safety practices, i.e. employee awareness, top management commitment and resource allocation. The results of this research will minimize the understanding gap on the dimension of security practices at the Malaysian construction site and can be used as a reference source in site security management.

ABSTRAK

Sistem Pengurusan Keselamatan dan Kesihatan Pekerjaan (OSHMS) adalah sebahagian daripada sistem pengurusan risiko Keselamatan dan Kesihatan Pekerjaan yang disatukan dengan organisasi di tapak pembinaan. OSHMS merangkumi enam unsur iaitu dasar, penganjur, perancangan dan pelaksanaan, mengukur prestasi, audit dan status awal dan berkala. Tujuan kajian ini adalah untuk menilai tahap kesedaran para kontraktor mengenai Sistem Pengurusan Keselamatan dan Kesihatan Pekerjaan (OSHMS) yang dilaksanakan dalam industri pembinaan yang khusus memberi tumpuan kepada tapak pembinaan. Daripada 50 soal selidik yang diedarkan, sejumlah 34 soal selidik telah berjaya dikembalikan, dikutip dari kontraktor dalam projek kejuruteraan awam di Perak. Data dikumpul melalui soal selidik sendiri. Penemuan penyelidikan yang kebanyakan kontraktor di Perak menitikberatkan faktor untuk bekerjasama sekiranya terjadi sebarang kemalangan di lokasi. Mereka juga bersetuju bahawa pelaksanaan budaya keselamatan di tapak pembinaan adalah penyelesaian yang paling berkesan untuk mengatasi isu-isu dan cabaran kesedaran dalam keselamatan dan kesihatan untuk pengurusan dan pekerja. Walau bagaimanapun, banyak isu telah ditemui dalam amalan keselamatan, ketidaktahuan pekerja prosedur kerja, kekurangan pengetahuan kakitangan, dan halangan bahasa antara penyelia dan pekerja. Sesetengah pendekatan telah dicadangkan untuk mengatasi masalah, seperti menyampaikan latihan keselamatan yang berjaya, memperuntukkan belanjawan pengurusan keselamatan, komitmen penuh dari pengurusan atasan, dan menyediakan buklet keselamatan dalam bahasa yang berbeza. Beberapa strategi telah dicadangkan untuk menangani isu-isu seperti menyediakan latihan keselamatan yang efektif, memperuntukkan belanjawan untuk pengurusan keselamatan, komitmen penuh dari pengurusan atasan, dan menyediakan buklet keselamatan dalam bahasa yang berbeza. Cadangan merangkumi tiga aspek untuk melaksanakan amalan keselamatan, iaitu kesedaran pekerja, komitmen pengurusan atasan dan peruntukan sumber. Hasil penyelidikan ini akan dapat mengurangkan jurang pemahaman tentang dimensi amalan keselamatan di tapak pembinaan khususnya Malaysia dan boleh digunakan sebagai sumber rujukan dalam pengurusan keselamatan tapak.

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LIST OF ABBREVIATIONS

CIDB	-	Construction Industry Development Board
DOSH	-	Department of Occupational Safety and Health
NIOSH	-	National Institute of Occupational Safety and Health
OSH	-	Occupational Safety and Health
OSHMP 2020	-	Occupational Safety and Health Master Plan 2020
OSHMS	-	Occupational Safety and Health Management System
OSHAS	-	Occupational Safety and Health Act
COHSMS	-	Construction Occupational Health and Safety Management System
JCOSHA	-	Japan Construction Occupational Safety and Health Association
ILO	-	International Labour Organization

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CHAPTER 1

INTRODUCTION

1.1 Background Study

Construction industry is one of industrial exposure towards hazard and accidents which keep occurring from time to time. While the construction site is one of the most dangerous workplace and extremely high risk of working environment and potential occupational hazards. Nature and characteristic of construction which involved complex and lengthy process, huge cost expenditure and very risky, thus construction site is always exposed to the accident. Caused of accident in construction site and workplace are influenced by various factors. Awareness rate on the application of safety and health management system and behaviour of construction workers are the key reasons for occurrence of accidents. Thus, to reduce the accidents rate, an exclusive analysis should be considered as a key factor of safety in construction. It is expected with the help of safety culture and awareness of the contractor pursuant to the safety and health (OSH) management system that the number of accidents cases in workplace could be diminish significantly. To focus on reducing the number of accidents, the causes of accidents needs to be thoroughly investigated and analysed.

(Abdul Rahim Abdul Hamid, 2008) observed that most of the causes of damages occurring in construction sites were caused by human factors, workers ' incompetence, workers ' lack of job practices, high-rise jobs, running machinery without safety equipment, poor site administration, hard work, inadequate knowledge and skills of employees, inability to use personal protective equipment and poor employee attitude.

Reference made to the latest Master Plan for Malaysia's Occupational Safety and Health in Construction Industry 2016-2020 that's now introducing strategies known as 'preventive culture'. Compared to previous master plan, main strategy setup

under OSHMP 2020 is the inculcation of a corporate protective philosophy. This definition is intended to put high emphasis on understanding, accountability and engagement among employers and employees in terms to workers ' rights with respect to OSH, promoting employee participation in OSH operations, improving OSH knowledge and skills, as well as competent OSH management focused on successful risk management. The desired result is that the workforce in this country is turned into a safe and healthy atmosphere.

Journal	Author	Year	Summary
Assessment of health and Safety Solutions at a Construction site	Dejus T.J 2013,	2013	Accident at construction could be quantified as defects of the health and safety management system, which occur due to technical aspects, technological, organization and other type factors.
Causes of Accident at Construction Site	Rahim <i>et al.</i> (2008)	2008	Most causes of accidents happened in construction site are caused by human element, workers' negligence, ignorance of the workers on the work procedures, working at high elevation, operating equipment without safety devices, poor site management, harsh work operation, low knowledge and skill level of workers, failure to use personal protective equipment and poor worker's attitude about safety, unsafe equipment and poor site management and their commitment itself.
Causes of Accident in Construction Industry	A.S Ali et.al 2010	2010	Holt (2001) secondary causes are the failures of the management system to anticipate and include lack training and not having safety system at work place.

Figure 1.1 – Causes of Accident at Construction Site - Summary

The total of deaths in the construction industry is quite troubling. Table 1.1 illustrated the number of fatalities cases that have been recorded by Malaysia Department of Safety and Health (DOSH). Statistic shown for past two years; highest number of fatalities recorded in 2018 at 118 cases. 38.5% percentage of overall fatalities cases is quite critical scenario and need to be managed immediately.

Table 1.1: Fatalities in Malaysia – Construction sector.

Year	Total of fatalities	Total of fatalities in Construction Sector	%
2010	185	66	
2011	176	51	
2012	191	67	
2013	185	69	
2014	204	72	
2015	214	88	
2016	223	91	
2017	267	111	
2018	260	118	
	1,905	733	38.5%

Nearly all workplace accidents can be avoided by interventions such as reinforced safety procedures, safety drill, increased monitoring in preparation and infrastructure, education, and coordination between industry stakeholders. For construction workers, these actions would focus on high-risk areas (Baxendale & Jones, 2000). However, efforts to raise consciousness among workers, staffs and public of the requirement for a healthy and health-free workplace need concerted measures and the participation of many parties (Ahmad, 2008). Good protection can only be accomplished if the relationship between technical devices and humans is properly managed. Workplace accidents happen because, according to their definition, the "people" components appear to indulge in safe and unsafe conduct. The primary enthusiasm of the safety culture is to understand that workers' attitudes and behaviors are essential to safe working conduct. (Başaga, Temel, Atasoy, & Yıldırım, 2018).

1.2 Problem Statement

The construction industry is an important sector of any national economy. Besides that, awareness of contractors on Occupational Safety and Health (OSH) management systems also one of important things to be consider to make sure all of

projects can be done successful without any problems such as accidents and injuries at construction site.

The lack of awareness of contractors on Occupational Safety and Health (OSH) management systems in construction may contribute to the accident at construction site. Many of the injuries at the workplace are a direct result of the attitude and actions of the individual themselves (Hassan A. *et. al.*, 2009). Besides that, the high rates of injury are primarily due to inadequate or non-existence of an OSH management systems. Many occupational accidents and injuries are due to a breakdown in the existing OSH management system (Ahmadon Bakri *et. al.*, 2006).

Awareness of contractors on OHS management systems in construction industry still in unsatisfactory record. It is because the OSH management system is a neglected area and a function that has not been pursued systematically in the construction industry (Ahmadon Bakri *et. al.*, 2006). Furthermore, the most critical hazards on construction sites are lack of safety-forward attitudes, a lack of awareness of safety regulations, poor safety awareness of projects managers and a lack of knowledge (Samaneh Zolfagharian *et. al.*, 2011).

(Innocent Musonda, 2008) Stated that awareness level of safety and health is low where legislation is not complied with the management of contractors is not committed to safety and health implementation. This is a lack of OSH management procedures and protocol, in addition the client and designers also not committed in these contexts.

Due to the above problems, this research will be done to study the level of awareness of contractors on Occupational Safety and Health (OSH) management systems in construction industry. Many occupational health and safety professionals believe that the application of effective occupational health and safety management systems will lead to a better OHS performance (John Lin *et. al.*, 2001).ccc

1.3 Aim and Objectives of Study

The study is aimed to examine the caused factors of accident at construction site which relevant to the awareness of the contractors in regard to the implementation of Occupational Safety and Health Management System.

The study strived in attaining the following objectives:

1. To identify caused factors of accident related to construction site.
2. To evaluate awareness level of the contractors on Occupational Safety and Health Management Systems implemented at construction sites.
3. To determine the critical success factors by implementing Occupational Safety and Health (OSH) management systems including possible strategies to tackle issues and challenges of awareness at construction sites.

1.4 Scope of the Study

The scope of study is focused on the contractors registered as Class A or G7 which involved in construction of civil engineering works operated in state of Perak only. The study is particularly focus on the level of awareness of the contractors on Occupational Safety and Health (OSH) Management Systems in construction site.

1.5 Significant of Study

This study will provide an overview to understand the concept of Occupational Safety and Health (OSH) management systems in construction site. Besides that, this research will also determine the level of awareness of contractors on Occupational Safety and Health (OSH) management systems. Overall, the safety and health awareness can be improved among the contractors which involved in civil engineering projects. The contractors are compulsory required to comply with contract specific

OSH requirements. OSH is likely to be improved if contractors are committed to ensuring that their workers use the safety equipment namely management commitment.

In relation to the problems that have been encountered in safety practices at construction site, at the end this study it is expected to summarized the most possible strategies that can be promote to tackle issues and challenges faced during implementation of OHSMS in construction sites. As a result, the implementation of safety practices should be treats as important issues in construction industry. So that the objective of the safety department to achieve zero death accident including eliminate accident can be achieved.

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