

THE ADOPTION CHALLENGES OF NEW INTERNATIONAL
ORGANIZATION FOR STANDARDIZATION IN OCCUPATIONAL HEALTH &
SAFETY MANAGEMENT SYSTEMS AMONG CONTRACTORS

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DEDICATION

I devote my dissertation work to my family and a lot of friends.

A special feeling of appreciation to Emily Markus, my loving wife, and to Derrick. H, my wonderful son, who during the length of my research have been considerate, helpful and cooperative.

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ABSTRACT

This study was carried out to explore the critical challenges encountered by the Malaysian contractors in adopting the new ISO 45001:2018 Occupational Health and Safety Management Systems (OHSMS). ISO 45001:2018 will replace OHSAS 18001:2007 and therefore the transition timeline given is three years with the transition process required by the construction industry is expected to be completed by March 2021. Designed to help organizations of all sizes and industries put in place a safe working environment for their employees, ISO 45001:2018 is expected to reduce workplace injuries and illnesses around the world. The aims of the study were to show contractors' awareness, contractors' readiness, the essential barriers, and to propose strategies toward enhancing the ISO 45001:2018 adoption level among contractors. The study administered (100) set of structures surveyed questionnaire for targeted respondents among Grade 1 to Grade 7 construction companies registered with CIDB which involved in the conventional civil construction. The collected data were analysed using frequency distribution and average index method and categorized according to the level of satisfaction or agreement and presented in the table and figures for straightforward interpretation. The results of the study show that, only 16.5% of the contractors already practice the new ISO and the following are still in progress to obtain their certification for ISO 45001:2018. The respondents with a mean score of 3.59 agree that high cost of OHSMS implementation in the company is identified as the main challenges for the adoption of the new ISO. Finally, all strategies proposed to increase the implementation of ISO 45001:2018 among contractors in the construction industry were agreed by the respondents. Among the top strategies are to provide tax reduction or exemption to those who implement ISO 45001:2018, strong commitment and enthusiasm from the top management and put ISO 45001:2018 as a requirement in the agreement between contractor and client.

ABSTRAK

Kajian ini dilakukan untuk mendalami cabaran kritikal yang telah atau akan dihadapi oleh para kontraktor di Malaysia di dalam proses menerapkan Sistem Pengurusan Kesihatan dan Keselamatan Pekerjaan (OHSMS) ISO 45001: 2018 yang baru. ISO yang baru ini akan menggantikan OHSAS 18001: 2007 dan oleh itu garis masa peralihan yang telah ditetapkan adalah selama tiga tahun. Proses peralihan yang diperlukan oleh industri pembinaan dijangka dipenuhi pada bulan Mac 2021. Direka untuk membantu organisasi daripada pelbagai saiz dan industri, ISO 45001: 2018 adalah diharapkan dapat mengurangkan kadar kemalangan dan kesihatan di tempat kerja di seluruh dunia. Oleh yang demikian, kajian ini dilaksanakan adalah bertujuan untuk menilai sejauh mana kesedaran para kontraktor, kesediaan para kontraktor, mengenal pasti halangan didalam pelaksanaan, dan untuk mencadangkan strategi untuk meningkatkan tahap penerapan ISO 45001: 2018 di kalangan kontraktor. Kajian ini telah mengagihkan (100) set struktur soal selidik untuk para responden yang disasarkan di antara syarikat pembinaan Gred 1 hingga Gred 7 yang mana telah berdaftar dengan CIDB. Mereka ini adalah terlibat di dalam sektor pembinaan yang konvensional. Data yang telah dikumpulkan dianalisis menggunakan taburan frekuensi dan kaedah indeks dan dikategorikan mengikut tahap kepuasan atau kesepakatan dan diletakan dalam jadual untuk interpretasi secara mudah dan langsung. Hasil kajian menunjukkan bahawa, hanya 16.5% kontraktor yang telah menggunakan ISO yang baru ini, manakala selebihnya masih di dalam proses untuk mendapatkan sijil ISO 45001: 2018. Responden dengan skor min 3.59 bersetuju bahawa kos pelaksanaan OHSMS yang tinggi dikenal pasti sebagai cabaran utama untuk penerapan ISO yang baru ini. Seterusnya antara strategi utama yang dipersetujui oleh para responden melalui kajian mendapati dengan memberikan pengurangan cukai atau dikecualikan cukai kepada mereka yang menerapkan ISO 45001: 2018, komitmen yang tinggi daripada pihak pengurusan dan meletakkan ISO 45001: 2018 sebagai syarat dalam perjanjian antara pemaju dan kontraktor adalah antara langkah – langkah utama untuk meningkatkan pelaksanaan ISO 45001:2018.

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LIST OF ABBREVIATIONS

ISO	-	International Organization for Standardization
OSHMS	-	Occupational Safety and Health Management Systems
OSH	-	Occupational Safety and Health
DOSH	-	Department of Safety and Health
OSHA	-	Occupational Safety and Health Act
GDP	-	Gross domestic product
H&S	-	Health and safety
HSE	-	Health and safety executives
HSW	-	Health, safety and welfare
CIDB	-	Construction Industry Development Authority
NIOSH	-	National Institute for Occupational Safety and Health
BS	-	British Standard
MS	-	Malaysian Standard
FMA	-	Factories and Machinery Act
ILO	-	International Labour Organization

LIST OF SYMBOLS

Σ	-	Summation
\times_i	-	Frequency of response
α_i	-	Index of a class
i	-	1,2,3,4,5 and clarified
n	-	Response frequency
N	-	Total number of respondents
\bar{c}	-	average covariance between item-pairs.
\bar{v}	-	average variance.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The construction industry is a very important sector in Malaysia. According to a statistic released by Statista (2020), 1.46 million workers were working in the construction sector in 2019 and it is expected that the industry will continue to grow the Gross Domestic Product (GDP) up to 5.5% by 2020. However, as we are aware, construction sites are often exposed to a variety of hazards and accidents and have higher mortality rates than other industries and therefore, the construction area has been classified as a high-risk area. In 2018, the reported accident rate was 7870 with the death rate recorded in the construction sector being 143 and this was the significant increase in mortality compared to 2017 (PERKESO, 2018). According to the study conducted by Lingard & Rowlinson (2005), the contractor was a party considered to be fully responsible to OSH in the construction industry. The Ministry of Works (JKR) through the Construction Industry Development Authority (CIDB) as an important organization in the construction industry in Malaysia has been working towards addressing the risk of accidents in the construction area in a variety of ways and initiatives. Among the current initiatives implemented is the Construction Industry Transformation Program (CITP) 2016 - 2020. Through this strategic plan, four-strategic plan were outlined, namely quality, safety and professionalism, environmental sustainability, productivity and internationalization (CIDB, 2019).

In the 2018, the chairman of the National Institute for Occupational Safety and Health (NIOSH) has made it clear that it is time for the construction industry in Malaysia to take drastic measures to ensure the safety and health of their workers at the construction site and to reduce accidents rate. Insufficient investment by contractors in the safety and health of their workers is one of the major factors that has

led to high accidents in the construction sector. The awareness of the harm caused by workplace accidents is still low and many people do not take the serious approach that the losses caused by the loss were higher than the investing for safety and health. All parties should be aware that there was a great suffering experienced by workers and their families who involved in the accident includes the impact on their family members who have lost their main source of income.

The Occupational Safety and Health Master Plan 2020 is a strategic step taken by the government to bring the higher levels of occupational safety and health in this country and enable it to become more compatible with other developed countries in the future. Within the plan, the Occupational Safety and Health Management System has been emphasized and should be considered as one of the most important business plans and strategy. Through this plan also, it is hoped that the accidents rate will be able to reduce and thus able for reducing the amount of accident insurance claims and the therefore reducing the entire project cost. The most significant positive effect is that, it will be able for improving business management sustainable and efficiency for the long-term goal.

According to a study conducted by Fernández, Montes & Vázquez (2009), the main goal of the implementation of the Occupational Safety and Health Management System (OSHMS) is to reduce workplace accidents or at construction sites. An efficient management system for Occupational Safety and Health will increase the productivity and bring a good reputation to a company rather than a burden to avoid. In addition, it can enhance the competitiveness of a company especially in the construction sector and in turn bring long term benefits to the company. The OSHMS is cover all aspects of administration such as organizational structure and clear set of objectives, systematic processes and procedures as well as efficient resources management (Awang, Baharudin & Saliluddin, 2019).

In Malaysia, there are two types of health and safety management systems commonly adopted by various sectors including the construction sector which were known as MS 1722: 2011 - Occupational Safety and Health Management System and OHSAS Occupational Health and Safety Management System 1800: 2007. However,

with referring to ISO (2018), a new and first The International Organization for Standardization has been released for the Occupational Safety and Health System known as ISO 45001: 2018 for the use in all industries and sectors worldwide. It is expected to go into effect on March 11, 2021 following its launch on March 12, 2018.

The study was carried out by Kleinová & Szaryszová (2014) and they have found that ISO 45001:2018 is the great way to supports management systems for ensuring the better system compatibility and governance which makes organization implementation more efficient. Therefore, as results all operations are in line with policies health and safety stated in accordance with internationally recognized standards. Apart from that, the new ISO is a standard that is in accordance with the same management system approach as the ISO 9001 Quality Management System and the ISO 14001 Environmental Management System, including the high-level structure and facilitates the integration of management systems.

1.2 Problem Statement

ISO 45001:2018 will replaces OHSAS 18001:2007, and therefore, the transition timeline for ISO 45001:2018 is three years. The world's first occupational health and safety management system by the International Organization for Standardization (ISO) was published on March 12th, 2018, and the transition will be completed by March 2021 (ISO, 2018). There is a necessity to analyse the contractors' awareness of migration from OHSAS 18001:2007 to ISO 45001:2018 in Malaysia since implementing safety and health requirement should be a part of the contractors responsible and all construction parties must comply with Occupational Safety and Health Act (OSHA) 1994 and Factories and Machinery Act (FMA) 1967 with implementing all the safety and health requirements for the construction site with intention to minimize the accident rate and fatalities.

Internationally, most companies from various sectors including the construction industry have begun to take steps to adapt to the latest ISO. According to a study conducted by Kleinová & Szaryszová (2014), the first draft analysis of ISO

45001: 2018 for Health and Safety Management shows that the latest ISO will be able to make significant changes to address the problems inherent in implementing an appropriate organizational integrated management system with the ISO 9001: 2015 and ISO 14001: 2015 standards as the HLS Structure and layout combined with the key elements of OH&S management have been structured into 10 chapters, which is similar to the Quality Management System, accordance with ISO 9001: 2015 and Environmental Management, ISO 14001: 2015. This should be able to establish all the prerequisites for the establishment of integrated systems management and management (IMS) standards in organizations of all types of sectors.

Additionally, many organizations will require their suppliers to have ISO 45001 registration for further business in the future. The Malaysian government has recommended the self-regulation of the Occupational Health and Safety Management System (OHSMS) for construction projects with the hope of improving the situation and therefore, the readiness of the local contractors to implement ISO 45001:2018 is questionable. Recertification requires a full audit of the system, and thus it's the best time to transition and minimizes the time required to review the new standard. This situation causes the necessity to assess the extent of contractors' readiness toward implementation and adoption of ISO 45001:2018 in Malaysia.

As the ISO 45001:2018 is upgrading from OHSAS 18001:2007 for OHSMS, there is a necessity to identify the essential barriers faced by the contractors within the process of adopting in the Malaysian construction industry. Based on the official statistic from Department of Standards Malaysia (2019), the current statistic of a construction company which has an accredited certification in OHSMS which were updated until the second quarter of 2019 shows that only 9 company subscribe to ISO 45001:2018 compare to 176 for OHSAS 18001:2007 and 66 company for MS 1722:2005.

To continue to be all construction companies that remain relevant and competitive whether nationally or internationally, OSHMS is something that cannot be taken lightly. The overall quality of safety and health within a company is fundamental to continue to focus on identifying, eliminating, reducing, and controlling

causes that interfere with and affect overall performance expectations. Companies that are consistent in their OHSMS implementation will have an added advantage over others who do not see OHSMS as value-added. At the same time, careless in safety and health will also have a negative impact on corporate sustainability. Therefore, there is a need to identify strategies to succeed in implementing ISO 45001: 2018 on behalf of contractors in Malaysia.

1.3 Aim and Objectives of the Study

This master project aims to explore the critical challenges encountered by the Malaysian contractors in adopting the new Occupational Health and Safety Management System (OHS MS) standard, namely ISO 45001:2018. To achieve the aim, the following objectives have been set:

1. To analyse the extent of contractors' awareness of the migration of OHSAS 18001:2007 to ISO 45001:2018.
2. To assess the level of contractors' readiness toward ISO 45001:2018 adoption.
3. To identify the essential barriers faced by the contractors in the process of adopting ISO 45001:2018.
4. To propose strategies toward enhancing the ISO 45001:2018 adoption level among contractors.

1.4 Scope of the Study

The research will be conducted around the Klang Valley, which is one of the most important industrial areas in Malaysia. Contributing respondents in collecting the primary data are from construction company which listed on Kuala Lumpur Stock Exchange (KLSE) and also categorized as G7 by CIDB. The main factor in this

selection is because these large companies usually already have their own OSHMS which is compatible with the nature of their business. Therefore, it is hoped that through a big company will be a benchmark for the other construction companies which are categorized other than G7.

This research was focusing on identifying the challenges of adoption ISO 45001:2018 among contractors in Malaysia for the conventional civil construction and the so-called conventional civil construction industry. It further focused on the assessment of awareness and readiness among the contractors in the selected area. Other than that, structured interviews were conducted with several professional trainers from NIOSH and safety-related regulatory bodies and authorities like DOSH, CIDB, and SOCSO in Klang Valley. Lastly, the research is intended to propose strategies toward enhancing the ISO 45001:2018 adoption level among contractors in Malaysia.

1.5 Significance of the Study

Adoption of ISO 45001:2018 Occupational Health and Safety Management System is still new in the Malaysian construction industry. The migration period for ISO 45001:2018 began on March 12, 2018 and will end on March 11, 2021, when OHSAS 18001:2007 are withdrawn. Referring to the problem issues, the performance of the OSH management system in the construction industry in Malaysia still has much room for improvement.

Thus, conducting an assessment on the current awareness, level of readiness, and essential barriers faced by Malaysian contractors are needed to study the level of OSH management being accepted and implemented. Therefore, findings from this study, which is emphasizing on the critical challenges encountered by the Malaysian contractors in adopting new ISO, could be valuable to improve the future efficiency of OSH management in the industry. Whereas from the result, proposed strategies could be recognized, and improvement can be made.

1.6 The Methodology of the Study

Deciding on a suitable research methodology be the procedure and management of data to answer and solve the question, including hypothesis testing, they will reach a beneficial conclusion. The research methodology function is a guideline to implement this research. This chapter will describe the research design and methodology used to achieve this research.

Structured questionnaires that have been implemented are intended to collect research data, and have implemented (100) sets of structured survey questionnaires from random construction sites conducted by various contractors in Malaysia. They were given a questionnaire to collect data with the aim of obtaining accurate facts. Questionnaires were chosen as the main tool for data collection because this is one of the effective mechanisms in collecting data for the success of this study. Apart from that, it is also due to its high level of reliability.

Next, this questionnaire was developed with research referring to journals, past research, and books related to this study. A comprehensive literature review was proposed to study the essential information from the study of integrating and adopting of every clause in ISO 45001:2018 into the crucial elements in the OSH management system. The collected data were then analysed using frequency distribution analysis and the Average Index method. The results are categorized according to satisfactory level or agreement and placed in tables and figures so that they are easy to interpret. The overall methodology of the study is mainly divided into four stages:

1. Stage One: Topic selection.
2. Stage Two: Study proposal.
3. Stage Three: Data gathering and processing.
4. Stage Four: Results, summary, and recommendations.

1.7 Arrangement of the Report

The dissertation report is arranged among five chapters. An outline of the different chapters has been briefly highlighted as given below:

In chapter number 1 presented the general introduction of the study and covers all OSH management system problems in the construction industry. It has clearly stated, the purpose and objectives, and the methodology of the study leading to the objectives of the study. The scope and limitations of the study are also clarified for the purpose of avoiding the emergence of confusion and misconceptions. Four (4) levels of study methodology from problem identification to conclusions of results and clear recommendations can be understood.

In chapter number 2 will comprised a relevant literature review studies on OSH Management System. It will discuss the barriers in the adoption of the new OSH management system, which is migration from OHSAS 18001:2007 to ISO 45001:2018. Finally, it also elaborates and discusses every element of the new International Organization for Standardization, ISO 45001:2018 into OSHMS.

In chapter number 3 reviews the research methods used in this study, and data analysis techniques that will be used generally presented and justified the research strategy and data collection techniques. This will clearly state the information and sample data collected such as through literature and structured questionnaires.

In chapter number 4 will explain the results and discussion on literature review and structured questionnaires from the four (4) objectives of the study as stated above and analyse the findings to the knowledge body with OSH Management System matters.

In chapter number 5 will be the last section in this project will provides conclusions and research recommendations based on literature review, findings, and analysis in line with the questions and objectives of the study. Summarize all findings that lead to the achievement of four (4) study objectives, as stated in Chapter 1. This also suggests some recommendations for future study improvement.

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