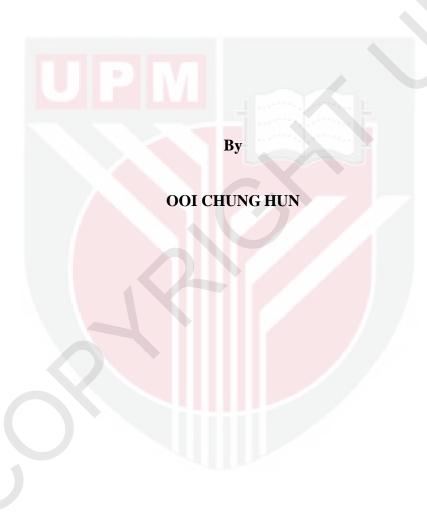


### UNIVERSITI PUTRA MALAYSIA SAFETY CLIMATE IN THE MALAYSIAN FURNITURE INDUSTRY

#### **OOI CHUNG HUN**

FH 2012 27

#### SAFETY CLIMATE IN THE MALAYSIAN FURNITURE INDUSTRY



Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Master of Science

## UPM

SPECIALLY DEDICATED

BELOVED PARENTS,

Ooi Yew Cheong & Loh Cha Boo

AND FRIENDS.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Master of Science

SAFETY CLIMATE
IN THE MALAYSIAN FURNITURE INDUSTRY

By

**OOI CHUNG HUN** 

February 2012

Chairman: Jegatheswaran Ratnasingam, PhD

**Faculty: Faculty of Forestry** 

The wood-based industry has long been an important segment of Malaysia's dynamic

manufacturing sector, which is the main driver of economic growth for the country.

The industry has also played a significant role as an export earner. The Malaysian

furniture industry is an important component of the country's wood-based

manufacturing sector. According to the Social Security of Malaysia (SOCSO), the

total registered local workforce was 11 million people in 2010, while the wood-based

industry employs 380,000 people. Therefore, in order to prevent and reduce the

number of industrial accidents and occupational diseases among the work force, the

Malaysian government has enforced two most important legislations: the Occupational

Safety and Health Act (OSHA) of 1994 and the Factories and Machinery Act (FMA)

of 1967. At the same time, the Employees' Social Security Act of 1969 is used to deal

with accidents and diseases which are not successfully avoided.

Although, the government has been effort to reduce the industrial accidents, but the

results are not significant. Actually, the key to the prevention of occupational accidents,

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and work-related diseases and the promotion of workers' health and well-being at work must include: (i) promotion and awareness raising and advocacy; (ii) legal instruments, laws, regulations and their national enforcement, that is labour inspection; (iii) knowledge development; management and dissemination; (iv) technical assistance and cooperation and (v) international collaboration.

This study defines the structure of the safety climate as perceived by the workers and correlations between the safety climate and safety practice of the company, the safety level of the working environment with particular emphasis on dust, safety in wood machining operations, noise level and waste disposal in the Malaysian furniture industry, using a structure questionnaire and data from the SOCSO.

The study found that there were four factors that represents the results, which are: 1) company responsibility; 2) workers' safety attitudes; 3) safety supervision; and 4) company safety precautions. The result shows that the safety climate factor of company responsibility and factor of company safety precautions had a significant correlation with the accident rate and the safety level in the work environment. This proves that, the company responsibility which consisted by top management and safety precautions have a strong influence on the safety climate among the workers in the work place. However, even though the actual rate of accidents in the working place was low and decreased over the past few years, but the compensation rate paid by the SOCSO, clearly showed an image that the safety climate with a small amount of local worker is unstable, with indirect losses due to occupational accidents being uncountable.

The research has revealed that, the best way to increase level of safety climate among the wood products industry should be implemented through a systematic management and operational approach, such as ISO 14000 Standard registration and occupational health and safety management system, to ensure a safe working environment can be created and maintained at anytime in the Malaysian furniture industry.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

PERSEKITARAN KESELAMATAN DALAM INDUSTRI PERABOT **MALAYSIA** 

Oleh

**OOI CHUNG HUN** 

Februari 2012

Pengerusi: Jegatheswaran Ratnasingam, PhD

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Industri berasaskan kayu merupakan salah satu segmen yang utama dalam industri

pembuatan Malaysia. Ia juga adalah sektor yang amat penting dalam menjana

pertumbuhan ekon<mark>omi negar</mark>a. Industri ini memainkan peranan sebagai pengeskport

utama negara Malaysia. Industri perabot yang berasaskan kayu ini adalah komponen

yang paling penting dalam industri pembuatan. Berdasarkan statistik daripada

Pertubuhan Keselamatan Sosial (PERKESO) Malaysia, seramai 11 juta pekerja yang

telah berdaftar dengan mereka, seramai 380,000 orang adalah pekerja dari sektor

industri berasaskan kayu.

Dalam mengurangkan dan mencegah bilangan kemalangan dan isu penyakit yang

disebabkan oleh pekerjaan, kerajaan telah menguatkuasakan dua akta yang paling

penting iaitu Akta Keselamatan dan Kesihatan Pekerjaan (OSHA) 1994 dan Akta

Kilang dan Mesin (FMA) 1967. Pada masa yang sama, kerajaan juga

menguatkuasakan Akta Keselamatan Sosial 1969 untuk menyelesaikan kemalangan

atau penyakit yang tidak berjaya dielakkan.

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Walaubagaimanapun, usaha kerajaan Malaysia untuk mengurangkan kadar kemalangan dan penyakit pekerjaan adalah tidak mencukupi dengan hanya menguatkuasakan ketiga-tiga akta tersebut. Kunci kepada kerajaan Malaysia untuk mengatasi dan mengurangkan kemalangan dan penyakit pekerjaan disamping meningkatkan tahap kesihatan dan kesejahteraan pekerja mesti merangkumi 5 aspek seperti yang berikut: Pertama, melalui promosi, peningkatan kesedaran dan pembelaan. Kedua, melalui penguatkuasaan akta, undang-undang dan pelaksanaan kebangsaan seperti melakukan pemeriksaan ke atas pekerja. Ketiga, melalui pembangunan pengetahuan, pengurusan dan penyebaran maklumat. Keempat, melalui bantuan teknikal dan kerjasama. Kelima, melalui kolaborasi antarabangsa.

Kajian ini adalah bertujuan untuk mengkaji dan menetapkan struktur keselamatan yang dirasakan oleh pekerja dan hubungan antara persekitaran yang selamat untuk pekerja dan amalan keselamatan yang diambil oleh pihak syarikat. Selain itu, kajian ini juga menitikberatkan tahap keselamatan dalam suasana pekerjaan yang melibatkan debu, keselamatan dalam operasi mesin kayu, tahap pencemaran bunyi, dan pembuangan sisa perkilangan dalam industri perabot Malaysia. Hasil kajian ini didapati dengan menggunakan soal selidik yang teratur dan data daripada Pertubuhan Keselamatan Sosial (PERKESO).

Berdasarkan kajian yang telah dilakukan, terdapat empat faktor yang menepati dan kebolehpercayaan yang berkait rapat dengan kajian yang sebelumnya. Antara faktor – faktor berikut ialah tanggungjawab pihak pengurusan, sikap pekerja terhadap keselamatan, pemerhatian keselamatan ditempat kerja dan langkah pencegahan daripada pihak pengurusan. Keputusan kajian menunjukkan bahawa faktor

tanggungjawab dan langkah pencegahan yang diambil oleh pihak pengurusan mempunyai korelasi yang signifikan dengan kadar kemalangan dan tahap keselamatan dalam persekitaran pekerjaan. Salah satu faktor tersebut adalah tanggungjawab dan langkah keselamatan yang diambil untuk mencegah kemalangan oleh pihak pengurusan memberikan pengaruh yang besar terhadap persekitaran kerja yang selamat. Akan tetapi, didapati pihak pengurusan masih tidak memainkan peranan mereka dan ini menyebabkan kadar kemalangan dan penyakit pekerjaan dalam industri perabot masih meningkat dengan merujuk kepada kadar pampasan yang tinggi oleh Pertubuhan Keselamatan Sosial.

Penyelidikan ini mendedahkan bahawa untuk menaikkan persekitaran kerja yang selamat dalam industri perabot, satu sistem harus dilaksanakan melalui pengurusan yang sistematik dan pendekatan operasi seperti mendaftar dengan ISO 14000 Standard dan sistem pengurusan keselamatan dan kesihatan pekerjaan. Maka, satu persekitaran kerja yang selamat boleh dicapai dan diteruskan setiap masa dalam industri perabot Malaysia.

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These words are not enough to describe my admiration and appreciation for everyone's help. Research indeed is a collaborative work. No one does it by oneself.

#### **APPROVAL SHEET NO. 1**

I certify that a Thesis Examination Committee has met on to conduct the final examination of Ooi Chung Hun on his Master thesis entitled "Safety climate in the Malaysian furniture industry." in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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#### **DECLARATION**

I declare that the thesis is my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously, and is not concurrently, submitted for any other degree at Universiti Putra Malaysia or at any other institution.

# OOI CHUNG HUN Date: 21 February 2012

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#### **CHAPTER 1**

#### INTRODUCTION

#### 1.1 Background

Malaysia is one of the developing countries, faced with worldwide liberalization of trade, economics and technological progress. As a result of its fast growing manufacturing sector, the problem of occupational accidents and diseases is becoming more important. Undeniably, rapid economic development in the Asian and Pacific region has led to significant improvements in incomes and the quality of life among the citizens of the countries in the region. On the other hand, rapid industrialization has also resulted in increasing number of workers killed and injured at the work place. Therefore, urgent action is required at all levels to protect workers from the increasing occupational hazards (Khairiah, 2007).

The working condition for the majority of the world's workers does not meet the minimum standards and guidelines set by international agencies. Occupational health and safety laws cover only about 10 percent of the population in developing countries, omitting many major hazardous industries and occupations (LaDou, 2003).

The 2009, Social Security of Malaysia reported that about total benefit expenditure increase of 153% from 2005 to 2009, or a staggering \$1354 million, due to work-related accidents and occupational diseases. In addition, it is estimated that an increase from 264640 to 324,798 people suffered from accidents and disease directly caused by or related to work in 2009.

The wood-based industry has long been an important segment of Malaysia's dynamic manufacturing sector, which is the main driver of economic growth for the country. The industry has also played a significant role as an export earner. The Malaysian furniture industry is an important component of the country's wood-based manufacturing sector. Although this industry accounts for less than 3 per cent of total manufactured goods exports, it has strong industrial linkages, integrating about 750 small and medium enterprises (SMEs), with another 1,500 smaller production units.

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According to the Social Security of Malaysia (SOCSO), the total registered local workforce is 11 million people, while the wood-based industry employs 380,000 people. However, the number of local workforce cannot fulfil the rapid growth of the local furniture industry, which require a larger workforce, thus, increasing the employment of foreign workforce from Indonesia, Thailand, Cambodia, Vietnam, Myanmar and Laos. Further, foreign workers are also paid lower wages than local citizens (CheMan, 2005).

To prevent and reduce the number of industrial accidents and occupational diseases among the work force, the Malaysian government has enforced two most important legislations: the Occupational Safety and Health Act (OSHA) of 1994 and the Factories and Machinery Act (FMA) of 1967. At the same time, the Employees' Social Security Act of 1969 is used to deal with accidents and diseases which are not successfully avoided. Other than that, the Workman's Compensation Act of 1952 provides protection of the foreign workers' welfare in Malaysia (Aminuddin, 2006). The government of Malaysia has formulated a Malaysian Standard (MS 1722:2003)

in 2003, based on the ILO Guidelines on Occupational Safety and Health Management System 2001, to serve as the reference standard for the management of Occupational Health and Safety at the workplaces, in compliance with the Occupational Health and Safety Act of 1994 (CheMan and Mohtar, 2005).

However, the government efforts to reduce the industrial accidents is not significant. Actually, the key to the prevention of occupational accidents and diseases, and the promotion of workers' health and well-being at work must include: (i) promotion and awareness raising and advocacy; (ii) legal instruments, laws, regulations and their national enforcement, that is labour inspection; (iii) knowledge development; management and dissemination; (iv) technical assistance and cooperation and (v) international collaboration.

These points were listed in the Global Strategy on Occupational Safety and Health, adopted by the International Labour Conference in 2003. The concept of a national preventive safety and health culture and safety climate was considered as a fundamental pillar along with a system's approach to occupational safety and health management at the enterprise, national and international levels.

#### 1.2 Problem Statement

The Malaysian wood products manufacturing industry is characterized by the high levels of manual handling of materials. Thus, occupational health and safety issues in sawmills and wood products manufacturing sectors are common to those of the large, as well as medium and small industrial facilities. Occupational health and safety issues related to furniture manufacturing can be catergozied into 4 main issues: (i) the exposure to wood dust among workers, (ii) safety in operation of wood machine, (iii) the exposure to noise in factory and (iv) disposal of waste and chemicals. When the management focuses on the company profits rather than the employees' health and safety, they often misidentify the health conditions that most impact the productivity of their employees.

Ashraf and Naseem (2003) noted a significant positive correlation between productivity indicators, health and organizational attributes. These were some of the factors contributing to the poor ergonomic conditions which leads to the consequent loss of worker productivity reduces health and safety in these industries. As a result of lack of skills in ergonomics and training, communication and resources.

Further, the foreign workers in Malaysia who are recruited for the services, construction, agricultural sectors and manufacturing sectors also contribute to the problems. There are almost 58 percent of furniture industry workers were foreign workers in 2007 because they are low cost willingness to work over long periods of time (Amnesty International, 2010). These unskilled and low wage foreign workers are a burden to the manufacturing sector to pursue a high labor productivity and efficient production processes (Ratnasingam, 2002).

When the Malaysian government implemented several key legislations on occupational health and safety, such as the Occupational Health and Safety of 1994 and Factories and Machinery Act of 1967, the relevant agencies to implement the

policies on Occupational Safety and Health were also established at the same time. Despite that, the issues on the health and safety among the workers in the furniture industry remain a growing concern. Studies on industrial accidents have shown that there is a close relationship with the prevailing safety climate at the work place (Clarke, 2006, and Das *et al.*, 2008). Therefore, the concept of a national preventive health and safety culture is considered a fundamental pillar along with a system of approach to occupational safety and health management at enterprises, national and international levels. Nevertheless, the current status of the health and safety among workers in the Malaysian furniture industry remains largely unknown (Ooi, 2008).

#### 1.3. Justification

This research aims to find out the main factors which most contributed the safety level and safety culture among the factory. To verify corresponding reality situation of the published report Social Security Organization with the wood industry player about the safety working condition and environment.

#### 1.4 Objective

Therefore, the general objective of this study was to determine the factors that contribute to the safety climate in the Malaysian furniture manufacturing industry. Further, this study also evaluates the role and contribution of the mill or factory management towards the health and safety aspects in the furniture industry.

The specific objectives of the study are to determine the safety climate related with the safety level among workers in the Malaysian furniture industry, with particular emphasis on dust, safety in wood machining operations, noise level and waste disposal.

#### 1.5 Limitation of the General Study

The published data on health and safety among low education workers in the furniture industry is limited, and does not differentiate between the various sectors. Firstly, results from the survey are managements' perceptions, on this subject may be biased. For instance, individual perceptions of the reality regarding safety commitment by supervisors or management may not match the reality.

Health and safety is a highly debatable issues, and in the manufacturing sector there is no records available to differentiate between local and foreign workers. It is believed that foreign worker is contracted type who has different health and safety attitude compares with local worker. This research is based on data collected through questionnaires. Since most of the employees in furniture manufacturing are low skilled type workers, thus the reading and writing level for each respondent was low. Thus, the results might be biased by the lack of understanding of the survey questions by some of the respondents. Other limitations may include the factor of internalized social pressures, such as social desirability responses, as some of the respondents may have been selective on what they reported.

The cross-sectional data have been used in the analysis indicates that the causality between safety climate and occupational accidents reported by the Social Security Organization (SOCSO) and actual incidents or safety-related events was unable to be

determined. Finally, the data from the Social Security Organization concentrated on local workers only, and covered the period from 1992 until 2006. As a result, the number of accidents involving foreign workers were estimated only, which introduces further bias to this study.

#### **1.6 Study Method Flowchart**

The flowchart describes the overall methodology used to fulfill the research objective (Figure 1.0). The general objective of the study was to evaluate the role and contribution of the factory management towards the health and safety aspects in the furniture industry. The questionnaires were designed with anticipation to deliberate the issues of health and safety from management's perspective. In order to determine the characteristics of accidents reported by the Social Security Organization, it was important to realize the real health and safety issues affecting the furniture industry.

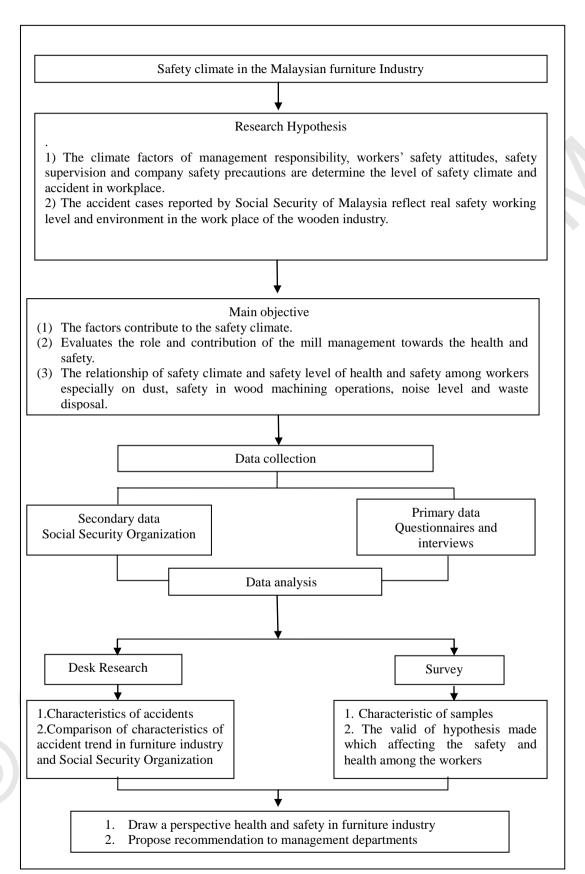


Figure 1.0: Methodology

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