SAFETY MANAGEMENT PRACTICES, SAFETY CONSCIOUSNESS AND SAFETY BEHAVIOUR AMONG SME EMPLOYEES

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ABSTRACT

This research paper deliberates the relationship between safety management practices, safety consciousness and safety behaviour among Small and Medium Enterprises manufacturing employees. This study is measured on a 7-point Likert scale. This study also explores the variables relationship using descriptive methods and considering survey method research whereby the respondents who answered the questions were administered through questionnaires. Based on the research objectives, the Probability Sampling was chosen as the sampling method. The response rate, demographic profiles of respondents' frequency statistics, reliability analysis, descriptive analysis, Pearson correlation analysis and multiple regression analysis were performed. The Statistical Package for the Social Sciences (SPSS) version 23.0 was utilized to perform the statistical analysis. The reliability test indicated that all the items measuring both dimensions of independent variable as well as all the dependent variables are reliable. The Pearson correlation results indicated that out of seven variables only six variables (i.e. safety consciousness, safety training, safety rules and procedures, workers' involvement, management commitment and safety communication and feedback) have positive significant correlation with safety compliance. For safety participation, all seven independent variables were significantly related. The multiple regression analysis resulted out of fourteen hypotheses developed, twelve hypotheses were significant between safety management practices and safety consciousness with safety behaviour. However, two independent variables of safety management practices were not significant to safety compliance.

Keywords:

Safety management practices, safety consciousness, safety behavior, safety participation, safety compliance, SME manufacturing employees.

ABSTRAK

Kertas kajian ini membincangkan hubungan antara amalan pengurusan keselamatan, kesedaran keselamatan dan tingkah laku keselamatan di kalangan pekerja pembuatan Kecil dan Sederhana. Kajian ini diukur pada skala 7 mata Likert. Kajian ini juga meneroka hubungan pembolehubah dengan menggunakan kaedah deskriptif dan menggunakan soalan kaji selidik sebagai kaedah tinjauan di mana responden yang menjawab soalan telah ditadbir melalui soal selidik. Berdasarkan objektif penyelidikan, Sampling Probability dipilih sebagai kaedah persampelan. Kadar tindak balas, profil demografi frekuensi statistik responden, analisis kebolehpercayaan, analisis deskriptif, analisis hubungkait Pearson dan analisis regresi berganda telah dilakukan. Pakej Statistik untuk Sains Sosial (SPSS) versi 23.0 digunakan untuk melaksanakan analisis statistik. Ujian kebolehpercayaan menunjukkan bahawa semua item yang mengukur kedua-dua dimensi pembolehubah bebas serta semua pembolehubah bergantung adalah boleh dipercayai. Keputusan korelasi Pearson menunjukkan bahawa daripada tujuh pembolehubah hanya enam pembolehubah (iaitu kesedaran keselamatan, latihan keselamatan, peraturan keselamatan dan prosedur, penglibatan pekerja, komitmen pengurusan dan komunikasi keselamatan dan maklum balas) mempunyai korelasi yang positif dengan pematuhan keselamatan. Untuk penyertaan keselamatan, kesemua tujuh pemboleh ubah bebas adalah berkaitan. Analisis regresi berganda menunjukkan daripada empat belas hipotesis yang dibangunkan, hanya dua belas hipotesis antara amalan pengurusan keselamatan dan kesedaran keselamatan dengan tingkah laku keselamatan. Walau bagaimanapun, dua pembolehubah bebas amalan pengurusan keselamatan tidak berhubungkait kepada pematuhan keselamatan.

Kata kunci:

Amalan pengurusan keselamatan, kesedaran keselamatan, tingkah laku keselamatan, penyertaan keselamatan, pematuhan keselamatan, pekerja pembuatan PKS.

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LIST OF ABBREVIATIONS

SME	Small and Medium Enterprise
OSH	Occupational Safety and Health
GDP	Gross Domestic Product
ILO	International Labour Organization
DOSH	Department of Occupational Safety and Health
OSHMP	Occupational Safety and Health Master Plan
OSHA	Occupational Safety and Health Act
SOCSO	Social Security Organization
SMI	Small and Medium Industry
FMA	Factories and Machinery Act
MOHR	Ministry of Human Resource
NIOSH	National Institute of Occupational Safety and Health

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter presents the background of the study by exploring the rapid developments of Small and Medium Enterprises (SMEs) in Malaysia. This chapter also describes the relevant theories, empirical research findings and issues, that currently exists in SME manufacturing industries. In addressing the practical gap, Malaysian Government efforts to ensure Occupational Safety and Health (OSH) at the workplace are discussed in this chapter. Following the strategic plan by the government agencies, this study addresses series of research questions, followed by research objectives. Then, the significance of the study deliberates the relationship between safety management practices (i.e. management commitment, safety training, workers' involvement, safety communication and feedback, safety rules and procedures and safety promotion and policies), safety consciousness and safety behaviour (i.e. safety compliance and safety participation). Finally, the summary of this chapter is presented.

1.2 Background of the study

Small and Medium Enterprises (SME) are the key players in national economic, contributing to economic growth around the globe, generating employment, value added and contributing towards innovation of the industry (SME Annual Report 2016/17). Positive developments by SME in Malaysia each year are among the important drivers to the country's economy growth, including Gross Domestic Product (GDP) (Berita Harian, November 2017). SME GDP contribution has increased to

36.6% compared to 36.3% recorded in 2015 (Department of Statistics, 2017). Hence, small and medium businesses play an important role in Malaysia's economy. SME contributes about 97.3% of overall industry in this country (SME Corporation Outlook, 2010). The continuous growth of SME contribution to GDP shows the importance of this industry in generating the country's economy. The value added by SMEs industry displays an essential role to maintain the encouraging economy achievement.

The definition of SMEs has been revised in 2014 that the manufacturing sector existing criteria has been changed to profitability is up to RM50 million or full-time employment up to 200 employees. Detailed definition by category namely small and medium as follows in Table 1.1.

Table 1.1
SMEs definition by category

Size	Small		Medium	
	Sales turnover	Employees	Sales turnover	Employees
Manufacturing	RM300,000 to less than RM15 million	5 to less than 75 employees	RM15 million to not exceeding RM50 million	75 to not exceeding 200 employees
Services and other sectors	RM 300,000 to less than RM3 million	5 to less than 30 employees	RM3 million to not exceeding RM20 million	30 to not exceeding 75 employees

Source: SME Corporation

The highest number of establishments by state in Malaysia shows that Selangor state is the highest ranking, recorded 19.8% or 179,271 establishments among other states (Economic Census 2016, Profile of Small and Medium Enterprises, Department of Statistics Malaysia). Table 1.2 shows the establishments numbers by SMEs

manufacturing industry in Malaysia. Henceforward, this study is focusing to small scale of manufacturing enterprises due to its majority in the establishments in Malaysia.

Table 1.2
Number of establishments by SMEs manufacturing industry in Malaysia

Sector	Number of SME establishments	
	Small	Medium
Manufacturing	23,096	2,519
Construction	17,008	4,829
Agriculture	4,143	1,212
Mining and quarrying	458	190

Source: Economic Census 2016, Profile of Small and Medium Enterprises, Department of Statistics Malaysia

Production industries in the manufacturing sector were namely electrical and electronic products, textiles, apparel and footwear, construction related materials, transportation equipment, food and beverages products, and tobacco products (Lai Wan, 2016). This study is concentrating on electrical and electronic sub-sector of manufacturing industry, due to its number of employees engaged to manufacturing industry sub-sectors as shown in Table 1.3.

Table 1.3
Number of employees engaged in manufacturing sub-sector

Sub-sector	Number of employees engaged
Electrical and electronic products	508,542
Textiles, apparel and footwear	114,418
Construction related materials	300,143
Transportation equipment	193,392
Food products	265,641
Tobacco products	16,266

Source: Department of Statistics, 2014

Second Finance Minister Datuk Seri Johari Abdul Ghani highlighted that 98.5% of businesses in Malaysia are SMEs and he sees the importance of SMEs for the Malaysian economy which contribute above 36% to the country's GDP (The Star, October 2017). In 2016 among 907,065 SMEs in Malaysia establishments, Selangor is the leading state ranked the highest SMEs establishments at 19.8% followed by Wilayah Persekutuan Kuala Lumpur and Johor, by 14.7% and 10.8% (Economic Census 2016, Department of Statistics Malaysia). The employment of SMEs in 2016 has continued to expand with a growth of 2.1% to 6.7 million workers, resulting in the share of SME employment to total employment increased from 64.5% in 2015 to 65.3% in 2016.

In 2014, International Labour Organization (ILO) has reported that every day there are 6,300 people die across the world because of the occupational accidents or work-related diseases. The numbers are equal to 2.3 million deaths per year. 317 million accidents occur on the job annually, many of these resulting in extended absence from work (ILO, 2014).

The number of occupational accidents in the workplace in Malaysia reported to Department of Occupational Safety and Health (DOSH) is increasing since 2013. A total of 2,804 cases were reported to DOSH in 2014. While in 2015, the number has increased to 19.12% or 3,345 cases. For the subsequent year, the number of workplace accidents reported to DOSH has increased by 10.67% or 3,702 cases compared to 2015. Therefore, the number of accident cases contributed by the manufacturing industry showing gradual increment from 2012 to 2016 as shown in Table 1.4.

Table 1.4
Accidents contributed by manufacturing industry in Malaysia

Year	Total	Manufacturing
2012	2,777	1,722
2013	2,824	1,655
2014	2,804	1,667
2015	3,345	2,041
2016	3,702	2,333

Source: DOSH Report (2012-2016)

Through Occupational Safety and Health Master Plan 2020 (OSHMP 2020), among the objectives identified to immediate actions taken are the reduction of death rate to 4.36/100,00 workers, the reduction rate of accidents to 2.53/1,000, as well as the increasing report rate in disease and work poisoning which is 30% by the year 2020.

Employees may have channelled their knowledge, attitude and behaviour positively towards occupational safety and health, but the practices at the workplaces are not implemented significantly and applied widely to employers or employees. (DOSH Director General OSHMP 2020 Speech, 2016).

The introduction of Occupational Safety and Health Act (OSHA) 1994 shows the reductions in industrial accidents in the earlier phases (Jaafar, Choong, and Mohamed, 2016). In addition, the safety management practices are lagging in most SMEs. This is due to their market competitiveness, better efficiency, less risk, and stringent laws that were found to be the most significant drivers. Furthermore, the inadequate practices have also affecting their financial constraints, lack of awareness, resistance to change, and lack of training for employees. (Unnikrishnan, Iqbal, Singh, and Nimkar, 2015).

Workers safety behaviour is important in safety system in an organisation, whereby appropriate behaviours that not only complying workers with the procedures or rules, but also when the workers understand their critical role in safety promotion, when they participate and involve in drawing up instructions and rules for the job (Fernández-Muñiz, Montes-Peón, and Vázquez-Ordás, 2012). Neal, Griffin, and Hart (2000) The research has proved that it is possible to differentiate the two types of employees' safety behaviour; safety compliance and safety participation. Safety compliance refers to employees' behaviour that increases personal health and safety, while safety participation refers to the behaviour that increases health and safety of the co-workers and supports organisations' safety objectives and goals (Vinodkumar and Bhasi, 2010).

There is no rigid statistic of workplace accidents involving SMEs, but the rate of accidents at work in this sector can be measured by the statistics produced by Social Security Organization (SOCSO). According to the speech by DOSH Director General, about 80% to 90% of the accident reported to workmen compensation scheme (SOCSO) were from SMEs (Surienty, Hong, Kee, and Hung, 2011). Through the OSHMP 2020 Master Plan developed by Department of Occupational Safety and Health (DOSH), among the objectives identified and immediate actions taken are the reduction of death rate to 4.36/100,000 workers, the reduction rate of accidents to 2.53/100,000 workers, as well as the increasing report rate in disease and work poisoning which is 30% by the year 2020 (SME Corporation, 2010). OSHMP 2020 Master Plan provides a framework to increase safety, reduce workplace risks and enhance health and well-being at work and enabling SMEs organization to proactively improve its OSH performance.

The Occupational Safety and Health in Small and Medium Industry (SMI) Sector 2016-2020 Strategic Plan developed by DOSH focuses on the manufacturing sector of SME. This plan is specifically created for Small and Medium Industry (SMI) since there is a lack of compliance regarding occupational safety and health which has caused high increased of accidents. Insufficient financial provision has also become the main factor of SME lacking in commitment in occupational safety and health growth. In conjunction with awareness towards the importance of occupational safety and health, the need to implement the compliance support to assist SMI must be taken into consideration in any planned safety programmes.

The plan known as SMI Strategic Plan brings up mission of OSHMP 2020 to become a vision for this plan whereas the strategies of OSHMP 2020 is perfectly fit with SMI focus is brought up to become a mission for this SMI 2020. Through a cascading a mission, this will ensure the entire path of country's Occupational and Health policy is synchronized (OSHMP plan, 2016).

The identified programmes in reducing work accident and disease among SME manufacturing industry are by enhancing awareness, responsibility and commitment of employers as well as employees towards OSH, upgrading the comprehensiveness of OSH administration system and management and affording collaboration efforts with other related agencies.

As noted by the Malaysia's Human Resource Minister, with safer work practices, work-related accidents and diseases can be prevented (New Strait Times, September 2017). The decreased statistics of workplace accidents will lead to a positive impact, making

Malaysia a safer place to work and giving confidence to investors to continue investing in businesses in Malaysia. Relevant to awareness towards the importance of occupational safety and health, the needs to implement the compliance support to assist SME must be taken into consideration in any planned programmes (DOSH SMI 2020 plan, 2016).

Workplace accidents impacting a loss in business earnings due to less productivity and compensation for sick days. A safe work environment for employees give impacts including lost costs, insurance costs, and legal fees are minimized in a safe work environment (Mohamed Taufek, Zulkifle, and Abdul Kadir, 2016). Implementation of safe operation and health working conditions creates positive impacts on economic and positive social development (Unnikrishnan et al., 2015).

Employer and employees play important relationship in generating good safety management practices at work. According to OSHA 1994, employer is defined as the immediate employer or the principal employers with whom an employee has a contract of service or apprenticeship. Meanwhile, employee means a person who is employed for waged of an industry. There are limited literatures of employees' significant study on safety management practices and safety consciousness with safety behaviour compared to employer. Therefore, this study focusing employees' association to safety practices, safety consciousness and safety behaviour in SMEs manufacturing industry. The employees are characterized to managers, executive, non-executive (technical/operation) and non-executive (administration).

1.3 Problem statement

The earliest and most influential of accident causation theory discussed is Heinrich Domino Model. Heinrich concluded that the key domino was pertaining to unsafe act, accident is one factor in a sequence that may lead to injury and claimed over 88% of preventable accidents were caused by unsafe behaviours (Katsakiori, Sakellaropoulos, and Manatakis, 2009). Organisations spend a lot of time and efforts to minimize industrial accidents at the workplace. Active employee participation is essential to ensure all hazards are identified and assessed. Therefore, employees need to be trained on how the accident prevention program works and this program needs to be periodically evaluated to determine whether improvements need to be made.

The majority of industrial accidents at the workplace occurred due to human errors (Allahyari, Rangi, and Khalkhali, 2014). Efforts to prevent those injuries and fatalities are important not only in causing human loss, but also because the industrial accidents may threaten the survival of small businesses which are viewed as engines of job creation and economic growth (Sinclair and Cunningham, 2013).

The elements of management leadership, employee participation, hazards identification, prevention and control, education and training and program evaluation and improvement are common to occupational safety and health programs. Workers have the right to participate in safety and health programs and they must be able to give full cooperation to the employers (Mohamed Taufek et al., 2016). The organizations must provide training programs continuously not only at the initial stage of employment to increase awareness as well as to provide safe working environment. (Abdullah, Othman, Osman, and Salahudin, 2016). The safety training is dependent upon

employees' work factors, company resource to finance the training, and other organizational factors.

Safety behaviour describes the behaviour that support safety practices and activities such as providing safety training and safety compliance explains the core activities that need to be carried by employees according to occupational, safety and health requirements to prevent workplace accidents. The presence of good safety behaviour does reflect good safety compliance. Active involvement of behavioural safety compliance will result in greater influence among employees and improves safety behaviour (Mat Zin and Ismail, 2012). Lu and Yang (2009) suggests that safety motivation and safety concern positively affect self-reported safety behaviour, such as safety compliance and safety participation.

Morrow et al. (2010) study shows that work-safety tension is most strongly associated with unsafe behaviour when compared with management and co-worker facets of safety climate. It is proved that occurrence of work-related illness and accidents can prove quite costly in terms of the potential for loss equipment, man-hours and even human life. When individuals perceived that there is a safe working climate, the employees will reciprocate by allocating effort to discretionary safety activities. The results suggest that it takes time for a change in employee behaviour to result in a reduction in the accident rate (Andrew Neal and Griffin, 2006). Safety behaviour is important to reducing individual firefighter injury experience and were deemed protective and associated with reductions in injury among professional firefighters in United States of America (Smith and DeJoy, 2014).

The most significant antecedent explaining safety behaviour studied was the importance of safety behaviour among employees' in terminal container operation (Lu and Yang, 2010). Firstly, the higher frequency of safety training has higher levels of employees' safety behaviour than those who had low frequency of safety training. Secondly, management commitment plays an important factor influencing safety behaviour in the high risk of container terminal operation that need consideration by container terminal managers. Thirdly, the organization that put greater emphasis on management policies, goals and system has positive influence towards employees' safety behaviour, will lead to good safety behaviour and further reduce accident occurrences.

Knowing the importance of workplace accident prevention through the employees, this study is carried out to investigate relationship between safety management practices, safety consciousness, and safety behaviour. The finding of this study may help employers to get a better understanding on the importance of managing safety behaviours to prevent an accident and recurrence in the future. It enables employers to improve production quality, expand client loyalty and improve business growth towards developed country.

1.4 Research questions

(a) What is the level of safety behaviour among employees in the SME manufacturing industry?

(b) How would safety management practices and safety consciousness influence safety behaviour among employees in the SME manufacturing industry?

1.5 Research objective

This study is to determine the significant link of six dimensions in safety management practices (i.e. management commitment, safety training, workers' involvement, safety communication and feedback, safety rules and procedures, and safety promotion and policies) and safety consciousness on safety behaviour (i.e. safety compliance and safety participation) among employees in Small and Medium Enterprises (SME) manufacturing industry.

This study intends:

(a) To determine the level of safety behaviour (i.e. safety compliance and safety participation) among employees in Small and Medium Enterprises (SME) manufacturing industry.

(b) To examine the relationship between the safety management practices consisting management commitment, safety training, workers' involvement, safety communication and feedback, safety rules and procedures, safety promotion and policies and safety consciousness with safety behaviour dimension (i.e. safety compliance and safety participation) in Small and Medium Enterprises (SME) manufacturing industry.

1.6 Significance of the study

The significance of the study includes both to theoretical and practical aspects. Theoretically, most of the previous studies on safety management practices focused on most critical risk industries such as chemical, manufacturing and oil and gas industries (Jaafar et al., 2016; Mohamed Taufek et al., 2016; Nordlöf, Wiitavaara, Högberg, and Westerling, 2017). However, there are limited studies on employees' safety behaviour

in SMEs manufacturing industries. The studies in safety behaviour at SMEs manufacturing industries are essential due to lack of awareness have created a need for implementation of safety practices in SMEs.

To bridge the literature in terms of safety management practices, safety consciousness and safety behaviour, the research framework is developed to address antecedents, extend and implications in safety behaviour. By examining the antecedents and outcomes, this study helps to improve the understanding of the associations between safety practices, safety consciousness and safety behaviour.

Following the earlier effort in investigating the theoretical foundations of safety behaviour (Lu and Yang, 2010), this study contributes to theory development by linking safety practices and safety consciousness to employees' safety behaviour. With the development of these, the role of employer has shifted from one-way safety improvement responsibility to mutual accountability. The enhanced safety improvement at the workplace attributes the benefits of safe working environment to effective action plans to reduce unsafe behaviour or human errors.

Through the findings by Koo, Lilis, and Daisy (2011), and Unnikrishnan et al. (2015), the level of safety management practices in SMEs is negotiated. They found that employees can shares the OSH responsibilities and take proactive measures to ensure their own safety in workplace, instead of only the management bearing the safety tasks. Based on these, measures can be taken by employees in SMEs to improve safety practices at the workplace and reduce human errors.

With the massive economy development, the future growth of SMEs manufacturing industry provides enormous opportunities for the creation of jobs. Hence, it is increasingly recognized that employers play important role in establishing the environment which can encourage employees to be motivated to behave in safer way. Finally, the findings of the study are useful to safety and health practitioners to understand the prompting factors to safety behaviour (i.e. safety compliance and safety participation) among employees in SME manufacturing industry. The findings of this study could help the SME manufacturing industry to reduce accidents at the workplace, enhance work productivity and decrease business losses due to human errors.

1.7 Summary

This chapter explained the importance to study safety behaviour (i.e. safety compliance and safety participation) in SME manufacturing industry. This chapter also emphasized on six safety management practices which comprising management commitment, safety training, workers' involvement, safety communication and feedback, safety rules and procedures, and safety promotion policies. However, empirical study influence between these variables with safety behaviour on safety consciousness is limited. To fill in the gap, this study will observe the relationship between safety management practices and safety consciousness towards safety behaviour dimensions. The following chapter will enlighten the main variables review proposed in this study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The chapter presents the relevant literatures on OSH development, OSH related legislation and rules, as well as OSH emerging issues of SMEs in Malaysia. This chapter also discusses the challenges faced by SMEs in manufacturing industry. Further, this study expands the empirical studies explaining dimensions in the framework and conceptual background of each variables on safety behaviour, safety management practices and safety consciousness.

2.2 Occupational safety and health development in Malaysia

According to Leman and Nor Hidayah (2013), occupational safety and health was first implemented in Malaysia towards the end of the 19th century. Globalizations, new technologies and innovations in industrial processes have brought a bait greater occupational safety and health challenges. In realizing the standing of protecting employees from occupational accidents and injuries, Abas, Adman, and Deraman (2017) pointed out that the Government of Malaysia has introduced the necessary legislations relevant to the industry in which to be complied by the parties involved in the workplace. Masilamani (2010) indicated that the Factory and Machinery Act 1967 set the stage for addressing the preliminary issues that arose due to early industrialization in Malaysia in the 1970s.

Policy makers in Malaysia have in recent years been cognizant of the need for occupational safety and health. In relation to this, Rampal (2000) study emphasizes that the Government of Malaysia has introduced comprehensive legislation by enacting the Occupational Safety and Health Act 1994 and the regulations under the Act. Until now, the main legislations covering safety and health in the workplace are the Occupational Safety and Health Act (OSHA) 1994 and Factories and Machinery Act (FMA) 1967.

The Department of Occupational Safety and Health (DOSH) is an agency under the Ministry of Human Resources (MOHR) is the main player in providing information and knowledge concerning OSH in Malaysia. Among DOSH responsibilities are to enforce the OSHA 1994, FMA 1967 and Petroleum Act (Safety Measures) 1984. Other DOSH objective is promoting safe and health work places through inculcating a safety culture and self-regulation in Malaysia workplaces.

National Institute of Occupational Safety and Health (NIOSH) is an agency for Ministry of Human Resources (MOHR) the main role of this institute is to cultivates and nurture OSH atmosphere pertaining to research and development, information dissemination and services, training consultation, certification and awareness promotion. NIOSH is entrusted to promote a culture of safe and healthy workplace and workforce in Malaysia. This institute is also dedicated by MOHR to assist employers and employees to manage OSH in the organisation effectively, by providing quality solutions to OSH issues to a professional manner, with a pragmatic approach which are reasonable and practical methods.

NIOSH responsibilities are:

(a) To contribute towards efforts in upgrading OSH through developing curriculum and training programmes for employers and employees and those are responsible either directly or indirectly for OSH at the workplace.

(b) To assist industry, commerce and others in solving problems related to OSH.

(c) To assist those responsible for OSH with the latest information in the field of OSH in Malaysia and worldwide.

(d) To conduct short term and long-term research in OSH related areas that will benefit and brings advantages to Malaysia.

(e) To disseminate information on research findings and to become the centre of reference in OSH.

2.2.1 Occupational safety and health legislation in Malaysia

The objectives of Factory and Machinery Act 1967 (Act 139) are to provide for the control of factories with respect to matters relating to safety, health and welfare of persons therein, the registration and inspection of machinery and for matters connected therewith (FMA, 1967). In summary, Deros, Ismail, A.Ghani, and Yusof (2014) asserts that FMA 1967 focuses on technical issues and assists employer on how to identify, analyse and improve the ergonomics hazard.

Occupational Safety and Health Act 1994 (Act 514) is a legislative enforced by the Department of Occupational Safety and Health (DOSH) which is to ensure safety, health and welfare of persons who at work and to protect other person against safety risk or ill health relating to the activities of persons at work. The OSHA 1994 focuses on management issues to promote an occupational environment for persons at work

which is adapted to their physiological and psychological needs. Hui-Nee A. (2014) explained that the Act was formulated since FMA 1967 only covered occupational safety and health in manufacturing, mining, quarrying, and construction industries, whereas other industries were not covered. Ab Rahman (2015) further points out that OSHA 1994 was formulated to move from prescriptive FMA 1967 to self-regulatory commitment. The scope of OSHA 1994 covers all persons at work in both public services and private sectors except the armed forces of Malaysia and on-board ships in Malaysian waters.

2.3 Occupational Safety and Health in Small and Medium Enterprises (SMEs)

A study by Legg, Olsen, Laird, and Hasle (2015) emphasize that key factors affecting safety management in SMEs have been identified as low level of management and training skills, lack of resources, burden of compliance with regulations and codes, poor relationship with regulatory agencies, cost of using OSH consultants, dependency on large businesses and, difficulties in implementing and understanding good safety practices. Additionally, an observes by Nordlöf, Wiitavaara, Högberg, and Westerling (2017) points out that smaller companies generally find it harder to implement safety practices in place and should therefore ask for more help and support, for example by consulting occupational health services or benchmarking best practices with other companies within the same type of industry.

There is a strong relationship between the competency of top managers and conformity towards the OSH regulation in SMEs. However, Deros et al. (2014) concludes that the two main barriers are due to lack of staff with the required safety know-how and financial resources to implement OSH regulation. There is an increase in the risk due

to over production and crammed areas as the majority in SMEs are using old technologies (Unnikrishnan, Iqbal, Singh, and Nimkar, 2015). Minor injuries are quite common in various units and the employees do not consider it to be matter of serious concern.

A study by Koo, Lilis, and Daisy (2011) advocates that one of the challenges that SMEs facing is the high workplace accidents rate which may reflect badly to the way safety and workers' well-being are being. The most frequent barriers are three main issues, there are regulation, resources and information. The barriers as has been noted by Masi and Cagno (2015) are mainly concentrated in the design and implementation phases on OSH programmes and the frequency of barriers grows with the size from small enterprises and it decreases to medium enterprises. There is a lack of compliance regarding OSH which has caused high increased if accidents. The Government of Malaysia has taken measures to reduce accident statistics at the workplace. OSHA 1994 and FMA 1967 have taken place to provide legal framework for regulating OSH for organisations operating in Malaysia. Furthermore, through OSHMP 2020 developed by DOSH recently, the SMI Strategic Plan 2020 focuses on the manufacturing sector of SMI.

Although efforts have been made in the past improve the safety and health performance of SMEs, these initiatives were ineffective. However, Diugwu (2011) findings confirm that there is a reluctance by organizations particularly SMEs to approach OSH regulators for help and out of fear of being punished for poor OSH practices.

2.4 Empirical Studies on Safety Behaviour

Galloway (2012) illustrated that some behaviours in safety must be controlled and were part of leadership's responsibility to maintain safety compliance. He noted that safety behaviours fall into two different categories, namely injury prevention behaviours and desirable safety culture behaviours. Vinodkumar and Bhasi (2010) stated that safety related behaviours such as safety compliance and safety participation considered as components of safety performance. Measures developed by Neal, Griffin, and Hart (2000), safety behaviour consist of two dimensions; safety compliance and safety participation. Coupled with this statement, Khoo, Lilis, and Daisy (2011) identified that safety compliance describes activities that employees undertake to ensure their own safety and the safety of the workplace. Meanwhile safety participation is a host of activities that employees undertake that may not directly lead to workplace safety, but they contribute towards creating a safer workplace.

One of the study by Cox and Cox (1991) found that employees' attitude to safety in organisation is attributed to five factors, namely personal scepticism, individual responsibility, the safeness of the work environment, safety arrangement effectiveness, and personal immunity. Supported by Cox, Tomas, Cheyne, and Oliver (1998), the employees' attitude to safety does not influence their appraisal of the organizational commitment, and the locus of safety practices is influenced by management actions for safety. They also found that personal actions for safety did not relate to perceived organisational commitment.

To demonstrate safety behaviour at the workplace, Flin and Yule (2004) stated that the higher level management may have a greater degree of influence on workers' safety

behaviours than supervisors. For this reason, Mat Zin and Ismail (2012) established that the major employers' behavioural safety compliance factors derived from management commitment followed by organizational commitment, safety communication, safety leadership, effective safety training, safety motivation, safety management system, safety rules and regulation, safety and health officer and personal protective equipment were important. These are also the factors of employers' behaviour that contribute to encourage the employees' behaviour towards safety compliance to occupational safety and health at the workplace.

2.5 Empirical Studies on Safety Management Practices

Safety management practices studies showed that there is a significant relationship with safety behaviour. In SMEs, Teng Hong, Surienty, and Kee Mui Hung (2011) examined that the employees are more involved in the daily operations of their company and this enables them to know more about the organisation they worked in. The safety management practices proved by Vinodkumar and Bhasi (2010), are the essential elements permitting an effective management of safety in firms and are designed to comply with the existing legislations applicable to the organisation. Both scholars focused on the six elements of safety management practices which are management commitment, workers' involvement, safety training, safety communication and feedback, safety rules and procedures and safety promotion policies. These six elements are essential variables in this study to observe the relationship with safety consciousness and safety behaviour in SME manufacturing industry.

2.5.1 Management Commitment and Safety Behaviour

Commitment to safety has to be paid to management actions, however, the employers' attitudes to personal actions for safety do not seem to be influencing their appraisal of the organisational commitment (S. Cox et al., 1998). Top management's commitment is thus crucial to the success of any safety programme and the support is essential to bringing accident rates down (Tam and Fung, 1998). Furthermore, attitudes with regard to management actions for safety exhibited the strongest association to appraisals of commitment to safety (S. Cox and Flin, 1998).

Mohamed Taufek, Zulkifle, and Abdul Kadir (2016) present the argument to emphasize that top management plays an important role in reducing the injuries or accidents to their workers in the workplace while employees are crucial to give commitment to support the practices. In addition, Jaafar, Choong, and Mohamed (2017) further suggest the management concern on the employees' safety and welfare at the workplace plays important role in developing safety behaviour and performance at the workplace. According to S. Cox and Cox (1991) the organisation with better safety record and low injury frequency at the workplace had greater top management commitment.

A study by Vinodkumar and Bhasi (2010) shows that the influence of management commitment on safety compliance can be considered as a result of individual wisdom of the employees, earned from the overall interest shown by the managements towards the safety of their employees, to protect from accidents. Hansez and Chmiel (2010) suggested that job resources are important for perceptions of management commitment to safety. Drawing on this, it is hypothesized that:

H1: Management commitment is positively related to safety behaviour.

2.5.2 Safety Training and Safety Behaviour

The role of safety training has been proven to enhance good safety practices at the workplace. Supported by Cox and Flin (1998), safety behaviour showed in terms of three factors: management commitment, safety training and workers' involvement for safety.

Tam and Fung (1998) further pointed out that the provision of safety training in construction industry proved that it can really reduce site accidents and improve safety performance. The effectiveness of OSH training factor by Ricci, Chiesi, Bisio, Panari, and Pelosi (2016) study emphasizes the essential for organisational to an active leadership and foster a positive safety and health culture.

Supported by Teng Hong et al., (2011), employees need to be educated about the hazards that they are facing in their job for them to be aware and take the necessary precautions to avoid accidents. The positive effect of safety training programmes on safety performance was proved by Chung Shang and Shan Lu (2009), identified when good safety training programmes are implemented in the workplace, this can lead to better safety performance in terminal container operations. Jaafar et al. (2016) suggested the systematic training program should be designed for all levels of employees in the organisation. According to a research by United States "Best Practices in Contractor Safety Management," (2015) has identified one crucial step to create safer working environment is to require that contractors receive safety orientation and skills training before work begins. Altogether, Ioannou, Harris, and Dahlstrom (2017) in their

study examines a key element for the success of safety management system is an effective safety training.

Employees who had a higher educational level and high frequency of safety training had higher safety behaviour. The elements of safety management practices such as safety training have demonstrated a positive impact on safety behaviour. Safety training was discovered to reduce accident rates and increase safety performances (Jaafar et al., 2017; Lu and Yang, 2009). Furthermore, safety training and safe work practices influence on each other and derived from the safety policy, for instance, Cheng, Kelly, and Ryan (2015) found that which in turn affect safety performance. In other words, the organisations must provide training programs continuously not only at the initial stage of employment in order to increase awareness and provide safe working environment (Abdullah, Othman, Osman, and Salahudin, 2016). Drawing on this, it is hypothesized that:

H2: Safety training is positively related to safety behaviour.

2.5.3 Workers' Involvement and Safety Behaviour

Workers' involvement showed to a positive solution to improve workplace safety and preserving workers' right to involve in decisions that affect the quality of their lives, to a comprehensive safety effort (Ariss, 2003). In addition, Masi and Cagno (2015) remarks that participative involvement of workers in SME is essential to generate good behaviour change towards health and safety.

Participation from employees as noted by Galloway (2010), creates an environment behaviour that facilitates motivation to ensure sustainability of the ideal safety goal at the workplace. Participation of workers in the safety management activities at the workplace is one of the operative methods to avoid human errors and unsafe act. To be successful in ensuring engagement in safety, it is important to understand the social dynamics of involvement and the barriers to a participative safety culture.

Wachter and Yorio (2014) addressed that the system of worker engagement and involvement could be strongly embedded into the design and implementation of the safety management system and its individual components even if consensus standards currently do not emphasize this approach. The level of consultation and workers' involvement must matches and higher on safety and health matters (Mohamed Taufek et al., 2016).

According to European Agency for Safety and Health (2011), the main reasons why workers should actively influence management decision:

(a) Workers participation helps developing effective ways of protecting workers.

(b) By getting involved in an issue at the planning stage, workers are likely to identify the reasons for taking an action, help find practical solutions, and comply with the result.

(c) If workers are given opportunity to participate in shaping safe work systems, then they can advise, suggest, and request improvements – helping to develop measures to prevent occupational accidents and ill health in a timely and cost-effective manner.

Teng Hong et al. (2011) reports that the smaller number of employees is an advantage to SME in dealing through workers' involvement as the smaller workforce will not complicate the process of participation in safety practices. According Jaafar et al. (2017) workers' involvement shows in safety is a behaviour-oriented method where it involves the flow communication and decision making from bottom to top. Drawing on this, it is hypothesized that:

H3: Workers' involvement is positively related to safety behaviour.

2.5.4 Safety Communication and Feedback and Safety Behaviour

Marsh et al. (1995) observes that the safety communication and feedback demonstrate performance is enhanced when management provides clear feedback of performance-related information. According to Cox and Cheyne (2000), safety performance (i.e. safety compliance and safety participation) is influenced by the level of communication in an organisation. This finding is supported by Hofmann, Morgeson, and Gerras (2003) replication of the communication quality between management and employees were related to employees' safety commitment and lower accident rates.

The communication strategy showed the significant reduction in the number of reported accidents and cost savings in the construction industry (Siew, 2015). Communication and feedback on safety issue is important between management and employees to improve safety performance (Jaafar et al., 2017). Thus, creating and sustaining a culture of safety required a commitment that encourage appreciation for open communication and feedback (Rothenberg, 2017).

To maintain an organisation's focus and awareness on safety issues and sustain a high standard safety culture, the organisation must have an effective communication and feedback, frequent conversations with employees, openness and investment of management's time go a long way to developing a healthy relationship (Dutta, Gupta, and Maji, 2017; Rothenberg, 2017). The mutual trust and respect factor is the most dominant factor in encourages SME employees to participate more in skill development (Md. Noor et al., 2013).

Communication was a key element of sustainability at an individual and organisational level (Williams and Snow, 2012). The role of safety communication and feedback in safety management practices was stated by Keffane (2014) that it is found to predict safety knowledge safety motivation and safety behaviour. Meanwhile, Lai et al. (2013) stated that quantitative work overload, job insecurity and poor career progression, good work relationships and poor communication appear to have stronger impact on employees' experience of job stress in SME's. Drawing on this, it is hypothesized that:

H4: Safety communication and feedback is positively related to safety behaviour.

2.5.5 Safety Rules and Procedures and Safety Behaviour

In a study conducted by Siu, Phillips, and Leung (2004), among construction workers in Hong Kong, revealed that the main cause of accident or injuries was due to unwillingness of workers to comply with safety rules and regulations. However, a smaller workforce in SMEs give the management easily exert control using safety rules on their employees in order to make the workplace safer (Surienty et al., 2011).

Furthermore, employees should not limit their participation to just passive cooperation and following safety rules (European Agency for Safety and Health, 2011).

Fernández-Muñiz, Montes-Peón, and Vázquez-Ordás (2012) described when employees engage in safety behaviour through their compliance with safety rules and procedures and their personal involvement in activities improving conditions and implementing safety plan, the result is better safety performance. This would result in a reduction in the number of accidents and incidents. Similarly, study by Jaafar et al. (2016) stated that safety rules and procedures have demonstrated a positive impact on safety behaviour. The employees' priority of these elements influences their employers to promote and implement safety management practices in the organisation. Drawing on this, it is hypothesized that:

H5: Safety rules and procedures is positively related to safety behaviour.

2.5.6 Safety Promotion and Policies and Safety Behaviour

To promote and implement safety practices at the workplace, Jaafar et al. (2017) reported that safety promotion policies have demonstrated a positive impact on safety behaviour and influences both management and also employees. According to Mearns, Whitaker, and Flin (2003), safety promotion and policies fosters perceptions of company commitment and builds employees' loyalty such as safety behaviour. In SMEs', the support to develop healthcare related policies or further develop existing policies into safety practices were reported as a critical step towards building a comprehensive and sustainable approach (Williams and Snow, 2012).

A study conducted by Keffane (2014) in French's organisation with regards to road risk, it was found that safety management system comprise of safety promotion policies were positively impacting on the employees' attitudes and behaviours, thereby reducing their unsafe acts. However, following lack of interest from management side and financial constraints in contemporary SME's context, found that the promotion and policies of safety were expensive, infeasible and not cost-effective (Bianchini et al., 2017; Unnikrishnan et al., 2015).

Cheng et al. (2015) reported that safety policy shows supports from management to develop safety guidelines and manuals, safety programmes and training for employees'. According to Vinodkumar and Bhasi (2010), the direct influence of safety promotion policies on safety participation resulting in encouragement and rewards and also human desire to be accepted and valued in the group.

In a case study conducted by Mellor and Webster (2013), employers who adopt safety promotion and policies accompanied by providing working conditions compatible with promotion and systems and provision would enhance productivity. Furthermore, OSHA 1994 supports the philosophy of self-regulation for people at work and provides legislative framework for promotion, stimulation and encouraging high standards of safety and health at work (Leman and Nor Hidayah, 2013). Drawing on this, it is hypothesized that:

H6: Safety promotion and policies is positively related to safety behaviour.

2.6 Safety Consciousness

The analysis of the Marsh et al. (1995) reported that the widespread increase in safety consciousness have shown wide variations among employees to generate meaningful discussion of safety initiatives. The effectiveness of safety consciousness as a component of a selection process examined by Forcier, Walters, Brasher, and Jones (2002) shows safety consciousness can be realized through a consistent and sustained program. They concluded that employers with safety consciousness believe they can prevent accidents from happening, avoid engaging in unnecessary risky behaviours and are not in overly challenged stressful situation.

According to Rothenberg (2017), a high priority for a quality workplace operation is a commitment to safety, and the key in making such a commitment towards safety is support from management for a culture of safety consciousness. For this reason, Westaby and Lee (2003) defined safety consciousness as a positive attitude and awareness toward acting safely in general. Their study indicated that injuries were predicted whereby time spent working, participation in safety activities, self-esteem, and gender were most strongly related to safety consciousness and dangerous risk-taking mediators.

On the other hand, Barling, Loughlin, and Kelloway (2002) examined that occupational injuries were reduced in the first instance through a focus on safety-related events, which themselves are a function of perceived safety climate. In their study, individual safety consciousness exists at cognitive and behavioural levels. At cognitive level, safety consciousness consists of general awareness of safety issues as well as a more specific knowledge of the behaviours required to ensure safety. Behaviourally, safety

consciousness enacts the behaviours that foster operational safety (Unnikrishnan et al., 2015). Whereby, inspirational motivation communicates the importance of safety and motivates employees to care about safety. Drawing on this, it is hypothesized that:

H7: Safety consciousness is positively related to safety behaviour.

2.7 Summary

The literature indicates there are strong and significant relationship between safety management practices, safety consciousness and safety behaviour. The conceptual framework was designed based on the literature and will be discussed in the next chapter.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter explains the methodological aspects in collecting data and information needed to achieve the study objectives. This chapter also focuses on the theoretical framework, data collection, research instruments, population, sample and data analysis method.

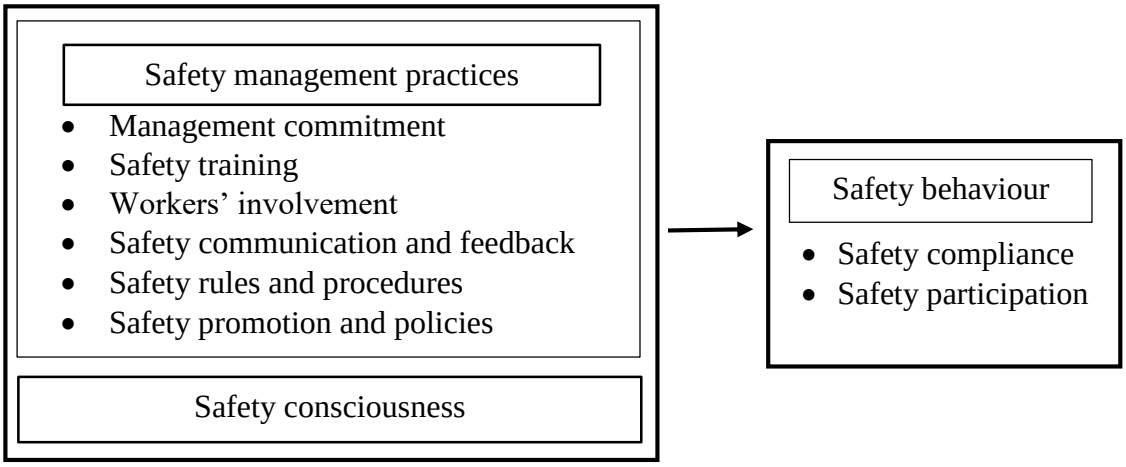
3.2 Research Framework

According to Sekaran and Bougie (2010) the theoretical framework is a conceptual model of how one theorizes the relationship among several factors that have been identified as important to the problem area in a research. This study investigates the relationship between six management practices (i.e. management commitment, safety training, workers' involvement, safety communication and feedback, safety rules and procedures, safety promotion and policies) and safety consciousness which serve as independent variable to safety behaviour (i.e. safety compliance and safety participation) as dependent variable.

The theoretical framework has been developed to identify the SME manufacturing industry safety management practices, as well as safety consciousness among employees and their influences on employees' safety behaviour. The framework of this study consists of seven independent variables and safety consciousness in which these independent variables relationship was tested on the dependent variable of safety

behaviour namely safety compliance and safety participation. The framework of the study is depicted in Figure 3.1.

Figure 3.1
Theoretical framework



3.3 Conceptual Definition

The presence of safety management practices system in the organisation is a necessary foundation for achieving a safe working environment (Wachter and Yorio, 2014). According to Jaafar, Choong, and Mohamed (2016) reported that the elements of safety management practices have demonstrated a positive impact on safety behaviour.

3.3.1 Management Commitment

The management's concern on the workers' safety and welfare plays a crucial role in developing safe behaviour and performance at the workplace. One of the earliest studies by Zohar (1980) found that management commitment to safety is a contribution factor to success of safety management programmes. The management direction on the implementation on safety management practices can be translated in the development of safety policy and safety organization chart (Jaafar et al., 2017).

3.3.2 Safety Training

The provision of training programs in OSH is important because safety training can help in building and increasing the capacity of the SME industry in implementing OSH at the workplace (Aziz, Baruji, Abdullah, Him, and Yusof, 2015). However, the lack of social support from supervisors to provide guidance, oversight and safety training can be the breeding ground for unsafe actions. Providing safety knowledge and skills, as well as lifting safety motivation by training, hazard information and toolbox meetings are often the perquisite for employees to make the right judgements and decisions (H. W. Guo, Wing Yiu, and González, 2016).

3.3.3 Workers' Involvement

Workers' involvement means the involvement in establishing, operating, evaluating, and improving the safety and health program. In the previous study by Fernández-Muñiz, Montes-Peón, and Vázquez-Ordás (2012), it is proven that workers involvement in activities improving the working conditions and implementing safety plan resulting the reduction in the number of accidents and incidents. Employees' involvement in the safety management activities is one of the most effective approaches in preventing accidents at workplace (Jaafar et al., 2017).

3.3.4 Safety Communication and Feedback

A study conducted in road safety proved that safety communication and feedback were found to predict safety knowledge, safety motivation, safety compliance and safety participation (Keffane, 2014). Communication is important in keeping people and the organization working together. The management, supervisors and workers need to

constantly communicate about safety issues in the workplace so that effective management procedures can be practiced (Jaafar et al., 2017).

3.3.5 Safety Rules and Procedures

Safety rules and procedures play an important part in identifying acceptable behaviours in the organization. To overcome the safety rules challenges is not to create them in the first place but to consider alternatives by redesign the engineering mechanism of the equipment and change the norms and values as a form of informal control (Weichbrodt, 2015). The perception of safety rules shows stronger relationship with behaviours including management commitment to safety (Morrow et al., 2010).

3.3.6 Safety Promotion and Policies

Safety promotion and policies is related to counting safe conduct as a positive factor for promotion, rewards and incentives for reporting hazards, creating awareness among workers by arranging programs or encouraging workers to report safety matters (Vinodkumar and Bhasi, 2010). It is important for continuous safety improvement achievement through cooperation between management and employees. The organization may use incentives to increase employees' general awareness about safety (Fernández-Muñiz et al., 2012), and organization with certified safety management systems i.e. OHSAS 18001 seems to be integrated into the rest of the organization's functions and the employees willingly to participate in safety rules and procedures.

3.3.7 Safety Consciousness

Safety consciousness refers to an individual own awareness of safety issues (Barling, Loughlin, and Kelloway, 2002). The awareness works on both a cognitive and a

behavioural level (De Koster, Stam, and Balk, 2011). Cognitively, it is means being mentally aware of safety during working and knowing what behaviours foster operational safety. Behaviourally, safety consciousness enacts the behaviours that foster operational safety.

3.3.8 Safety Compliance

Safety compliance represents the behaviour of the employees in ways that increase the individual safety and health (Vinodkumar and Bhasi, 2010). The Occupational Safety and Health Act (OSHA) 1994 identified as an approach providing legislative framework to enforce human behaviour towards safety compliance by enforcing higher safety standards to eliminate workplace accidents (Mat Zin and Ismail, 2012).

3.3.9 Safety Participation

Safety participation involves helping co-workers, promoting the safety program within the workplace, demonstrating initiatives, and putting effort into improving safety in the workplace (A Neal, Griffin, and Hart, 2000). Safety participation describes behaviours that do not directly contribute to an individual's personal safety but which help to develop an environment that supports safety (Andrew Neal and Griffin, 2006). A study found that by focusing on implementation of safety management practices, organizations are most certain to reap benefits in terms of safety compliance and safety participation (Vinodkumar and Bhasi, 2010).

3.4 Measurement of Variables or Instrumentation

This study has been designed based on the previous study of Barling, Loughlin, and Kelloway (2002), De Koster, Stam, and Balk (2011), Li, Jiang, Yao, and Li (2013),

Neal and Griffin (2006) and Vinodkumar and Bhasi (2010). The dual language (e.g. English and Bahasa Malaysia) questionnaire contained 35 questions to measure the influence of the employees about six safety management practices, 7 questions to measure the employees' level of safety consciousness, 6 questions to measure self-rated safety compliance and safety participation.

The six safety management practices contained questions covering areas of management commitment (9 items), safety training (6 items), workers' involvement (5 items), safety communication and feedback (5 items), safety rules and procedures (5 items), and safety promotion policies (5 items). The safety consciousness was tested to 7 items, 3 items for safety compliance and 3 items measured safety participation areas.

The reliability of the items was examined and items below 0.4 were dropped from the statistical analysis of this study. This resulted the questions of 3 items from management commitment, 1 item from safety training, 1 item from workers' involvement, 2 items from safety communication and feedback, and 1 item from safety rules and procedures.

All statements in this study were measured on a 7-point Likert scale (e.g. strongly disagree, disagree, somewhat disagree, neutral, somewhat agree, agree and strongly agree) to evaluate the respondents' level of agreement with each item. The eight-page questionnaire consists of two parts. The first part has addressed twelve demographic questions about age, gender, race, marital status, highest education level, work level, service length, service length in current organization, accident involvement, accident frequency, safety training participation and safety training frequency. The second part

of the survey formed the 42 statements of independent variables related to safety management practices and safety consciousness as shown in Table 3.1, and the 6 statements of dependent variables consist safety compliance and safety participation of the survey as shown in Table 3.2.

Table 3.1
Independent Variable Sources

Variables	Items	Source
Management commitment	1. Safety is given high priority by the department. 2. Safety rules and procedures are strictly followed by the management. 3. Corrective action is always taken when the management is told about unsafe practices. 4. In my workplace, managers / supervisors do not show interest in the safety of workers. 5. Management considers safety to be equally important as production. 6. Members of the management do not attend safety meetings. 7. I feel that management is willing to compromise on safety for increasing production. 8. When near-miss accidents are reported, my management acts quickly to solve the problems.	Vinodkumar and Bhasi (2010)

	9. My company provides sufficient personal protective equipment for the workers.	
Safety training	1. My company gives comprehensive training to the employees in the workplace health and safety issues. 2. Newly recruits are trained adequately to learn safety rules and procedures. 3. Safety issues are given high priority in training programmes. 4. I am not adequately trained to respond to emergency situations in my workplace. 5. Management encourages the workers to attend safety training programmes. 6. Safety training given to me is adequate to enable to assess hazards in workplace.	Vinodkumar and Bhasi (2010)
Workers' involvement	1. Management always welcomes opinion from employees before making final decisions on safety related matters. 2. My company has safety committees consisting of representatives of management and employees. 3. Management promotes employees' involvement in safety related matters.	Vinodkumar and Bhasi (2010)

	4. Management consults with employees regularly about workplace health and safety issues. 5. Employees do not sincerely participate in identifying safety problems.	
Safety communication and feedback	1. My company doesn't have a hazard reporting system where employees can communicate hazard information before incidents occur. 2. Management operates an open-door policy on safety issues. 3. There is sufficient opportunity to discuss and deal with safety issues in meetings. 4. The target and goals for safety performance in my organization are not clear to the workers. 5. There is open communication about safety issues in this workplace.	Vinodkumar and Bhasi (2010)
Safety rules and procedures	1. The safety rules and procedures followed in my company are sufficient to prevent incidents occurring. 2. The facilities in the safety department are not adequate to meet the needs of my organization. 3. My supervisors and managers always try to enforce safe working procedures. 4. Safety inspections are carried out regularly.	Vinodkumar and Bhasi (2010)

	5. The safety procedures and practices in this organization are useful and effective.	
Safety promotion policies	1. In my company, safe conduct is considered as a positive factor for job promotions. 2. In my company employees are rewarded for reporting safety hazards (thanked, cash or other rewards, recognition in newsletter, etc.). 3. In my company safety week celebration and other safety promotional activities arranged by the management are very effective in creating safety awareness among the workers. 4. There exists very healthy competition among employees to find out and report unsafe condition and acts. 5. Our supervisor becomes very unhappy and angry when employees find out and report unsafe conditions and acts in our section.	Vinodkumar and Bhasi (2010)
Safety consciousness	1. I know what protective equipment and / or clothing is required for my job. 2. I am aware of the safety risks involved in my job. 3. I know where the fire extinguishers are in my workplace. 4. I know what equipment is safe to use for my job(s).	Barling et al., (2002); De Koster et al. (2011)

	5. I know how to inform management about my potential hazards I notice on the job. 6. I know what procedures to follow if injured on my shift. 7. I would know what to do if an emergency occurred on my shift (e.g. fire).	

Table 3.2
Dependent Variable Source

Variables	Items	Source
Safety compliance	1. I use the correct safety procedures for carrying out my job. 2. I use all the necessary safety equipment to do my job. 3. I ensure the highest levels of the safety when I carry out my job.	Li et al. (2013) and Neal and Griffin (2006)
Safety participation	1. I promote the safety program within the organization. 2. I put in extra effort to improve the safety of the workplace. 3. I voluntarily carry out tasks or activities that help to improve workplace safety.	Neal and Griffin (2006)

3.5 List of Hypotheses

Referring to the previous literature, fourteen hypotheses were proposed to measure the influence between safety management practices, safety consciousness, safety compliance and safety participation among employees in SME manufacturing industry in Malaysia. The proposed hypotheses are as follows:

H1a: There is a significant relationship between management commitment and safety compliance.

H1b: There is a significant relationship between management commitment and safety participation.

H2a: There is a significant relationship between safety training and safety compliance.

H2b: There is a significant relationship between safety training and safety participation.

H3a: There is a significant relationship between workers' involvement and safety compliance.

H3b: There is a significant relationship between workers' involvement and safety participation.

H4a: There is a significant relationship between safety communication and feedback and safety compliance.

H4b: There is a significant relationship between safety communication and feedback and safety participation.

H5a: There is a significant relationship between safety rules and procedures and safety compliance.

H5b: There is a significant relationship between safety rules and procedures and safety participation.

H6a: There is a significant relationship between safety promotion and policies and safety compliance.

H6b: There is a significant relationship between safety promotion and policies and safety participation.

H7a: There is a significant relationship between safety consciousness and safety compliance.

H7b: There is a significant relationship between safety consciousness and safety participation.

3.6 Research Design

This study explores the variables relationship using descriptive methods and considering survey method research whereby the respondents who answered the questions were administered through questionnaires. The focus of this study is to explore the relationship of safety management practices and safety consciousness on safety behaviour among employees in SME manufacturing industry.

3.7 Population and Sampling

The Department of Statistics Malaysia (DOSM) has reported that Selangor is the largest contributing numbers of SMEs companies throughout Malaysia which is 19.8% for year 2016. Meanwhile, the Human Resource Development Fund (HRDF) has reported that there are 26,000 people who work in SME manufacturing throughout Shah Alam, Selangor in 2016. Out of this population, 377 sample sizes were chosen for this research based on Krejcie and Morgan (1970). Based on the research objectives, the Probability Sampling was chosen as the sampling method. Probability Sampling is a method that utilizes some form of random selection. To have random selection, a process was setup

to assures that different units in SMEs manufacturing employees population have equal probabilities of being chosen as sample. In this study, respondents among employees' in SMEs manufacturing in Shah Alam, Selangor were chosen using simple random sampling.

The questionnaire was administered to 33 manufacturing companies' employees throughout Shah Alam, Selangor and these companies were registered to Human Resource Development Fund (HRDF), a Ministry of Human Resources agency. From the selected 33 SME manufacturing companies, 15 employees of each company have been selected to response the survey questions. The selection was performed using random table based on (MacNealy, 1999).

3.8 Data Collection Procedure

The study was conducted in four steps. First, permission was obtained to conduct research from management of the SME manufacturing industry and the main purpose of the study was explained to earn their full cooperation. Secondly, the administration of the questionnaires was engaged to a suitable date. Then, the series of briefing session to head of departments and the union representative of the employees were conducted at the respective workstations and organizations. The questionnaires were then distributed to head of departments. Furthermore, the respondents responded to items of questionnaires and researcher collect the complete questionnaires within two weeks after distribution. This session takes four weeks of administration.

3.9 Data Analysis Technique

The response rate, demographic profiles of respondents' frequency statistics, reliability analysis, descriptive analysis, Pearson correlation analysis and multiple regression analysis were performed. The Statistical Package for the Social Sciences (SPSS) version 23.0 was utilized to perform the statistical analysis.

In the reliability analysis, the data were measured using Cronbach's Alpha. It determines how well the measured items are positively related to one another. Cronbach's Alpha is a test reliability technique that requires only a single test administration to provide a unique estimate of the reliability for a given test and an average value of the reliability coefficients one would obtained for all possible combinations of items when split into two-half tests. (Gliem and Gliem, 2003).

The reliability of the measure is established by using both consistency and stability test. Cortina (1993) proved the number of items has profound effect on alpha, especially at low levels of average item intercorrelation. In this study, a scale has more than 20 items then it can have alpha of greater 0.7. The closer Cronbach's Alpha to 1.0, the higher the reliability is. The Cronbach's Alpha measures are as Table 3.3 below.

Table 3.3
Cronbach's Alpha measures

Alpha	Reliability
0.8 to 1.0	Good
0.7	Acceptable
0.6 and below	Weak

The descriptive analysis was conducted in this study and the items used for the independent variables and dependent variables will be evaluate base on seven-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree). Descriptive analysis includes the mean and standard deviation values for both independent variables and dependent variables.

Correlation analysis conduct in this study was done to test the association between all elements in the safety management practices. Correlation is frequently used as a statistical technique for measuring the relationship between two variables. Pearson correlation coefficient (r) is a measure of the strength and direction of the linear relationship between two variables. If the coefficient is equal to 0, both variables are uncorrelated. The closer the value of the coefficient is to 1.0, the stronger the correlation between the two variables.

In this study, fourteen hypotheses were generated, and multiple regression analysis will use to analyse the hypotheses. To decide whether the hypotheses is rejected or not, the coefficient table at the column called Sig. will produce the p-value. If the p-value given is < 0.05 then hypotheses will be accepted.

The R^2 or coefficient of determination measures the amount of variance in the one variable explained by the combination of all other variables in the model. The R^2 obtained directly from the Model Summary in regression analysis using SPSS.

3.10 Summary

This chapter explained the process of data collection and analysis, to determine whether the hypotheses developed is supported or rejected. Statistical analysis in the next chapter will present the finding of data analysis from the relationship between six safety management practices, safety consciousness and safety behaviour.

CHAPTER 4

FINDINGS

4.1 Introduction

This chapter discusses the research findings from the survey performed to evaluate the relationship's existence between the safety management practices (i.e. management commitment, safety training, workers' involvement, safety communication and feedback, safety rules and procedures and safety promotion policies), safety consciousness and safety behaviour (i.e. safety compliance and safety participation). The data was analysed using Statistical Package for Social Science (SPSS) software version 23.0. Frequency analysis has been computed to identify respondents' demographic details such as gender, age, marital status, race, length of service and academic level. In answering for the research objectives, the attributes of the reliability analysis, descriptive analysis, statistical method of Pearson correlation, and multiple regression analysis were performed.

4.2 Response Rate

A total of 400 questionnaires were issued to the respondents who are the SME manufacturing employees in Selangor. Only 305 of them were returned and 95 were not returned. The 305 returned questionnaires were answered completely by the respondents. Thus, the response rate was 76.25 %. Table 4.1 presents the response rate of the survey.

Table 4.1
Response Rate

Items	Total	Percentage (%)
Distributed Questionnaires	400	100
Collected Questionnaires	305	76.25
Unreturned Questionnaires	95	23.75
Completed Questionnaires	305	76.25

4.3 Respondents' Demographic

Table 4.2 below described demographic profiles of respondents in SME manufacturing industry.

Table 4.2
Respondents' Demographic Background

Profile	Category	Frequency	Percentage
Age	20 to 29 years	84	27.5
	30 to 39 years	143	46.9
	40 to 49 years	64	21
	50 years and above	14	4.6
Gender	Male	148	48.5
	Female	157	51.5
Race	Malay	224	73.4
	Chinese	40	13.1
	Indian	41	13.4
Marital Status	Married	198	64.9
	Single	83	27.2
	Divorced	24	7.9

Position Level	Manager	15	4.9
	Executive	47	15.4
	Non-executive (Technical/Operation)	142	46.6
	Non-executive (Administrator)	101	33.1
Education Level	Certificate	94	30.8
	Diploma	136	44.6
	Degree	45	14.8
	Master	30	9.8
Employment Tenure	1 to 5 years	53	17.4
	6 to 10 years	126	41.3
	11 to 15 years	60	19.7
	16 to 20 years	36	11.8
	21 years and above	30	9.8
Current Service Length	1 to 5 years	193	63.3
	6 to 10 years	60	19.7
	11 to 15 years	12	3.9
	16 to 20 years	19	6.2
	21 years and above	21	6.9
Accident Involvement	Yes	118	38.7
	No	187	61.3
Accident Frequency	1 to 3 times	74	24.3
	4 to 6 times	13	4.3
	7 to 9 times	14	4.6
	10 or more times	16	5.2
Safety Training	Yes	240	78.7

	No	63	20.7
Safety Training Frequency	Every Month	39	12.8
	Once in 3 months	19	6.2
	Once in 6 months	59	19.3
	Once in a year	135	44.5
	Not at all	40	13.1
	Other	13	4.3

Table 4.2 shows that 46.9% of the respondents were in the group of 30 to 39 years old and 27.5% were in the age category of 20 to 29 years old. The data analysis of this study revealed that most of the respondents or 51.5% were female while 48.5% or 148 respondents were male.

In terms of race, 73.4% of the respondents were Malay, followed by Indian (13.4%), and Chinese (13.1%). The results show that most of the respondents provided feedback in this study were Malay employees in the SME manufacturing industry.

In terms of marital status, 198 or 64.9% are married, whereas 83 or 27.2% respondents are single and 24 respondents or 7.9% are divorced. The majority 46.6% or 142 respondents were in the non-executive who are working in the technical and operation areas. 4.9% or 15 respondents are managers in the position level group.

For education background, the employees with diploma represent the highest percentage of respondents which are 44.6%, followed by graduates with certificate (30.8%), bachelor's degree (14.8%) and master's degree (9.8%). This shows that the

respondents were mostly employees in the SME manufacturing industry from the polytechnic and vocational college graduates who were exposed to hands-on experience after secondary level of education.

The majority of 126 respondents or 41.3% have been working for 6 to 10 years, and the minority of 30 respondents or 9.8% have been working for 21 years and above. Most of the respondents have been working in the current company for 1 to 5 years (63.3%), and at least 3.9% respondents are working in the current company for 11 to 15 years.

Many of the respondents or 61.3% have not experienced any accident at their workplace throughout their tenure of employment while 38.7% of the respondents have experienced accidents at their workplace.

78.7% of the respondents have attended occupational safety training but 20.7% of the respondents have never attended any safety training. The clear majority of the 135 respondents or 44.5% have attended the safety training once a year and 13.1% respondents have never attended the safety training throughout their tenure of employment.

4.4 Reliability Analysis

To determine whether the questionnaire was reliable and admissible, reliability test was conducted. Kerlinger (1986) addressed that the reliability is a degree of consistency if a scale of a high reliability of the scale is homogeneous. The degree of an internal consistency between multivariate could be determined based on Cronbach's Alpha

(Hair, Black, Babin, & Anderson, 1998). Table 4.3 shows the result of reliability test in this study.

The closer reliability coefficient gets to 1.0, the better it is, and those values over 0.80 are considered as good. Those values in 0.70 are considered as acceptable and those reliability values less than 0.60 are poor. The study produced satisfactory reliability and all the independent dependent variables met the above range within 0.7 to 1.0.

Table 4.3
Reliability Coefficients Before and After Items Deleted

Variables	Number of initial items	Cronbach's Alpha	Number of final items	Cronbach's Alpha
Management commitment	9	0.399	6	0.737
Safety training	6	0.524	5	0.783
Workers' involvement	5	- 0.057	4	0.703
Safety communication and feedback	5	0.091	3	0.863
Safety rules and procedures	5	0.231	4	0.754
Safety promotion policies	5	0.722	5	0.722
Safety consciousness	7	0.926	7	0.926
Safety compliance	3	0.838	3	0.838
Safety participation	3	0.851	3	0.851
Total	48		40	

From the table 4.3 above, all six dimensions of safety management practices (i.e. management commitment, safety training, workers' involvement, safety communication and feedback, safety rules and procedures, and safety promotion policies) and safety consciousness as independent variables and dependent variable's

dimensions (i.e. safety compliance and safety participation) having the Cronbach's alpha coefficient of higher than 0.7; make all the items in the study are reliable. This is supported by Cortina (1993) indicated Cronbach's alpha coefficient of the scale should be above 0.7 as adequate is implied usually goes uninterpreted. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale (Gliem & Gliem, 2003).

In details, Cronbach's alpha on safety compliance is 0.838 and the safety participation is 0.851. It could be concluded that the items measuring the dependent variable in questionnaire, are reliable. Safety Consciousness are most reliable with Cronbach's alpha 0.926, followed by Safety Communication and Feedback (0.863), Safety Training (0.783), Safety Rules and Procedures (0.754), Management Commitment (0.737), Safety Promotion Policies (0.722) and Workers' Involvement (0.703). After eight items were deleted (management commitment 3 items, safety training 1 item, workers' involvement 1 item, safety communication and feedback 2 items, and safety rules and procedures 1 item), the reliability ranged from 0.7 to 1.0.

In summary, the reliability test indicated that all the items measuring both dimensions of independent variable as well as all the dependent variables are reliable.

4.5 Variables Descriptive Analysis

Descriptive analysis includes the mean and standard deviation values for both independent variables and dependent variables. The analysis was documented in table 4.4. The mean value is to calculate the central tendency aimed primarily to describe the data (Ho, 2006).

In this study, the items used for the independent variables and dependent variables are evaluated based on seven-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree). Safety promotion policies have recorded the least mean value of 4.17 *(SD=1.510)* compared with other variables. It means most respondents agreed that safety management practices and safety consciousness influenced the safety behaviour (i.e. safety compliance and safety participation) in the SME manufacturing industry.

Table 4.4
Descriptive Statistics for Main Variables

Variables	Mean	Std. Deviation
Management commitment	5.66	0.871
Safety training	5.77	0.840
Workers' involvement	5.64	0.948
Safety communication and feedback	5.49	0.813
Safety rules and procedures	5.56	0.918
Safety promotion policies	4.17	1.510
Safety consciousness	6.21	0.864
Safety compliance	6.29	0.775
Safety participation	5.96	0.877

4.6 Pearson Correlation Analysis

Correlation analysis was conducted to test the association between all elements in the safety management practices. Correlation is frequently used as a statistical technique for measuring the relationship between two variables. Pearson correlation coefficient (r) is a measure of the strength and direction of the linear relationship between two variables. If the coefficient is equal to 0, both variables are uncorrelated. The closer the value of the coefficient is to 1.0, the stronger the correlation between the two variables.

Table 4.5 shows a correlation analysis between six safety management practices (i.e. management commitment, safety training, workers' involvement, safety communication and feedback, safety rules and procedures and safety promotion policies), safety consciousness and safety behaviour (i.e. safety compliance and safety participation).

The Pearson correlation results indicated that out of seven variables only six variables (i.e. safety consciousness, safety training, safety rules and procedures, workers' involvement, management commitment and safety communication and feedback) have positive significant correlation with safety compliance. The safety consciousness score is 0.835 shows the strongest relationship with safety compliance. Safety training, safety rules and procedures, workers' involvement, management commitment and safety communication and feedback were indicating moderate positive significant relationship with safety compliance with scores 0.427, 0.347, 0.250, 0.242 and 0.143 respectively. Safety promotion and policies indicated no significant relationship with the score of 0.078 respectively with the safety compliance.

Meanwhile, for safety participation, all seven variables (six safety management practices and safety consciousness) were significantly related. Workers' involvement shows the strongest positive significant correlation with safety participation. Safety rules and procedures, safety training, safety consciousness, safety communication and feedback, and management commitment were indicating moderate positive significant relationship with safety participation with scores 0.567, 0.470, 0.375, 0.306, and 0.303 respectively. Safety promotion and policies indicated the least significant relationship score (0.127) with safety participation.

Table 4.5
Correlation Analysis

Variables	1	2	3	4	5	6	7	8
1. Management Commitment	1							
2. Safety Training	.516**	1						
3. Workers' Involvement	.506**	.549**	1					
4. Safety Communication and Feedback	.440**	.740**	.588**	1				
5. Safety Rules and Procedures	.527**	.544**	.601**	.615**	1			
6. Safety Promotion and Policies	.461**	.451**	.472**	.708**	.574**	1		
7. Safety Consciousness	.194**	.486**	.201**	.246**	.182**	.038	1	
8. Safety Compliance	.242**	.427**	.250**	.143*	.347**	.078	.835**	1
9. Safety Participation	.303**	.470**	.663**	.306**	.567**	.127*	.375**	.484**

4.7 Hypotheses Testing

In this study, fourteen hypotheses were generated, and multiple regression analysis was used to analyse the hypotheses. The results and interpretation are discussed as below.

4.7.1 Hypotheses Testing for Safety Compliance and Safety Participation

Table 4.6 and 4.7 below describes the relationship between six safety management practices (i.e. management commitment, safety training, workers' involvement, safety communication and feedback, safety rules and procedures and safety promotion policies) and safety consciousness variables with safety behaviour variables (i.e. safety compliance and safety participation) in the SME manufacturing industry.

Table 4.6
Multiple Regression Results on Safety Compliance

Independent Variables	Dependent Variable Safety Compliance
Management Commitment	- 0.030
Safety Training	0.114 *
Workers' Involvement	0.046
Safety Communication and Feedback	- 0.436 *
Safety Rules and Procedures	0.331 *
Safety Promotion and Policies	0.106 *
Safety Consciousness	0.819 *
F value	167.32
R^2	0 .798
Adjusted R^2	0.793

*coefficient value at $p < 0.05$

Table 4.7
Multiple Regression Results on Safety Participation

Independent Variables	Dependent Variable Safety Participation
Management Commitment	- 0.138 *
Safety Training	0.194 *
Workers' Involvement	0.596 *
Safety Communication and Feedback	- 0.275 *
Safety Rules and Procedures	0.456 *
Safety Promotion and Policies	- 0.252 *
Safety Consciousness	0.182 *
F value	80.94
R^2	0.656
Adjusted R^2	0.648

* coefficient value at $p < 0.05$

Hypotheses 1a stated that there is a significant relationship between management commitment and safety compliance. The results show that the relationship between management commitment and safety compliance was not significant ($\beta = - 0.030$ at $p > 0.05$). Thus, the hypotheses 1a was not supported.

The multiple regression results show the relationship between management commitment and safety participation was significant ($\beta = - 0.138$ at $p < 0.05$). It suggests that hypotheses 1b (there is a significant relationship between management commitment and safety participation) was supported.

The relationship between safety training and safety compliance was significant. The results show that the relationship between safety training and safety compliance was significant ($\beta = 0.114$ at $p < 0.05$). Thus, the hypotheses 2a was supported.

Hypotheses 2b proposes that there is a significant relationship between safety training and safety participation. The statistically coefficient results show a significant correlation with coefficient $\beta = 0.194$ at $p < 0.05$. It suggests that hypotheses 2b was supported.

Hypotheses 3a stated that there is significant relationship between workers' involvement and safety compliance. The results show that the relationship was not significant ($\beta = 0.046$ at $p > 0.05$). Thus, the hypotheses 3a was not supported.

Workers' involvement and safety participation relationship was significant at $\beta = 0.596$ at $p < 0.05$. It suggests that hypotheses 3b (there is a significant relationship between workers' involvement and safety participation) was supported.

Hypotheses 4a suggested that there is a significant relationship between safety communication and feedback and safety compliance. The results show that both variables were significantly related with coefficient of $\beta = -0.436$ at $p < 0.05$. Thus, the hypotheses 4a was supported.

Hypotheses 4b proposes that there is a significant relationship between safety communication and feedback and safety participation. The multiple regression results show the relationship was significant ($\beta = -0.275$ at $p < 0.05$). It suggests that hypotheses 4b was supported.

Hypotheses 5 specified that (a) there is a significant relationship between safety rules and procedures and safety compliance, and (b) there is a significant relationship between safety rules and procedures and safety participation. For hypotheses 5a and 5b, the multiple regression analysis results were statistically significant with coefficients $\beta = 0.331$ at $p < 0.05$ and $\beta = 0.456$ at $p < 0.05$ respectively. Thus, hypotheses 5a and 5b were supported.

Hypotheses 6a stated that there is a significant relationship between safety promotion and policies and safety compliance. The results show that the relationship between safety promotion and polices and safety compliance was significant at coefficient $\beta = 0.106$ at $p < 0.05$. Thus, the hypotheses 6a was supported.

Hypotheses 6b specified that there is a significant relationship between safety promotion and polices and safety participation. The multiple regression results show the relationship between both variables was significant ($\beta = - 0.252$ at $p < 0.05$). It suggests that hypotheses 6b was supported.

Finally, the relationship between safety consciousness and safety compliance shows the multiple regression analysis results shows the significant relationship at coefficient $\beta = 0.819$ at $p < 0.05$ and the hypotheses 7a was supported.

Hypotheses 7b stated that there is a significant relationship between safety consciousness and safety participation. The results show both variables were statistically significant ($\beta = 0.182$ at $p < 0.05$). It suggests that hypotheses 7b (there is a significant relationship between safety consciousness and safety participation) was supported.

Table 4.8 shows the hypotheses results of six safety management practices, safety consciousness and safety behaviour variables in the SME manufacturing industry.

Table 4.8
Hypotheses Results

Hypotheses	Result
Hypotheses 1a: There is a significant relationship between management commitment and safety compliance.	Not supported
Hypotheses 1b: There is a significant relationship between management commitment and safety participation.	Supported
Hypotheses 2a: There is a significant relationship between safety training and safety compliance.	Supported
Hypotheses 2b: There is a significant relationship between safety training and safety participation.	Supported
Hypotheses 3a: There is a significant relationship between workers' involvement and safety compliance.	Not supported
Hypotheses 3b: There is a significant relationship between workers' involvement and safety participation.	Supported
Hypotheses 4a: There is a significant relationship between safety communication and feedback and safety compliance.	Supported
Hypotheses 4b: There is a significant relationship between safety communication and feedback and safety participation.	Supported
Hypotheses 5a: There is a significant relationship between safety rules and procedures and safety compliance.	Supported
Hypotheses 5b: There is a significant relationship between safety rules and procedures and safety participation.	Supported
Hypotheses 6a: There is a significant relationship between safety promotion and policies and safety compliance.	Supported
Hypotheses 6b: There is a significant relationship between safety promotion and policies and safety participation.	Supported
Hypotheses 7a: There is a significant relationship between safety consciousness and safety compliance.	Supported
Hypotheses 7b: There is a significant relationship between safety consciousness and safety participation.	Supported

4.8 Summary

This chapter had presented the finding of the data analysis. The response rate, demographic profiles of respondents' frequency statistics, reliability analysis, descriptive analysis, Pearson correlation analysis and multiple regression analysis were performed. Twelve out of fourteen hypotheses were supported. The limitation of the present study and suggestion for future research will be discussed in the next chapter.

CHAPTER 5

DISCUSSION, IMPLICATION, SUGGESTION AND CONCLUSION

5.1 Introduction

The purpose of this chapter is to discuss the present study results, which examines the significant between safety management practices, safety consciousness and safety behaviour among SME manufacturing workers. This chapter also includes the theoretical and practical implications followed by limitation and suggestions for future research, in a way to improve the safety behaviour among SME manufacturing industry workers.

5.2 Discussion

Six elements of safety management practices and safety consciousness importance level are measured using descriptive statistics. Among the seven elements, safety consciousness has the highest mean, 6.21, and standard deviation of 0.864. Meanwhile, the safety promotion policies have obtained the lowest mean, which is 4.17, and standard deviation of 1.510. As indicated by the survey results, the average value of priority is between 6.21 to 4.17 and shows the agreement between “agree” and “neutral”. These results indicate that the respondents have strongly agreed on the relationship of safety management practices and safety consciousness towards the safety behaviour.

The regression analysis resulted out of fourteen hypotheses developed, twelve hypotheses were significant between safety management practices and safety

consciousness with safety behaviour. However, two variables of safety management practices; management commitment and workers' involvement were not significant to safety behaviour component; safety compliance.

5.2.1 Management Commitment to Safety Behaviour

The present study suggested that there is a significant relationship between management commitment and safety behaviour component in terms of safety compliance and safety participation. However, the findings of the study revealed that the management commitment was not significant to safety compliance among SME manufacturing industry workers at $\beta = -0.030$ at $p > 0.05$. Meanwhile, the regression analysis between management commitment and safety participation showed a significant relationship with $\beta = -0.138$ at $p < 0.05$.

The non-significant relationship between management commitment and safety compliance may have attributed to the fact that most respondents in the study or 78.7% have attended safety training and they have attended it at least once a year. Given sufficient knowledge that they have gained through attending safety training on a regular basis, they become aware of the consequences of not complying with the safety policies and procedures at work. They know the importance of complying with the safety practices in their organization. This may explain the non-significant relationship between management commitment and safety compliance.

The result was challenged to the previous study, Fernández-Muñiz, Montes-Peón, and Vázquez-Ordás (2012) found that high levels of management commitment are necessary for improvement of the organization's safety performance and also in that of

its competitiveness. The contrary to hypothesis, the study provides a unique contribution and demonstrate that management commitment strengthens the positive relationship between employer safety obligation and employee safety compliance. The result of the study also align with Mullen, Kelloway, and Teed (2016) study, proved that attitude are important for understanding how the mechanism of safety influence works.

Management commitment and leadership are the most important elements in the success of a safety program in any organization according to a study by Jaafar, Choong, and Mohamed (2016). It can be argued that workers' perception of management commitment gives an overall picture derived from the totality of the workers' assessment about the interest of the management in the safety and health of workers as manifested in various activities and initiatives of the management towards safety (Vinodkumar and Bhasi, 2010). When the management is committed towards safety, the management is likely to be proactive in identifying, managing and controlling the hazards that are likely resulting to accidents at the workplace (Subramaniam, Mohd. Shamsudin, Mohd. Zin, Sri Ramalu, and Hassan, 2016). Vinodkumar and Bhasi (2010) have further added that management commitment with regards to safety will strengthen the relationship of the safety behaviour of the workers and it will protect the workers from accidents.

Meanwhile, the present study found that the management commitment is significant in the relationship of the safety participation. This is in-line with the initial hypothesis which suggests that there is a significant relationship between management commitment and safety participation.

The empirical study proved that leaders have a stronger relationship on worker safety participation than safety compliance (Mullen et al., 2016). Previous research shows when the management place a strong emphasis on safety it leads to increased worker safety motivation, safety compliance, and safety participation (Neal and Griffin, 2006). Lu and Yang (2010) found that the greater management commitment will lead to good safety behaviour and further reduce the accident occurrences. Overall, hypothesis between management commitment and safety behaviour components receives only partial support.

5.2.2 Safety Training with Safety Behaviour

The hypothesis suggests that there is a significant link between safety training and safety behaviour. The analysis of this study shows that there is a significant relationship on both safety training with safety behaviour among workers in SME manufacturing industry.

Safety training and safety compliance were significant at $\beta = 0.114$ at $p < 0.05$, meanwhile, there is a significant relationship between safety training and safety participation at $\beta = 0.194$ at $p < 0.05$.

Respondents of this study proved that when the employers fulfil safety-related obligations and transactional responsibilities, such as providing safety training, it gives the signal to workers that their safety is valued within the organization (Mullen et al., 2016). Safety training also provides the means for making the accidents more predictable (Vinodkumar and Bhasi, 2010).

Employers who have higher frequency of training also would have higher levels of safety behaviours than those who have the low frequency of training (Lu and Yang, 2009). Relevant to positive significant between safety training and safety behaviour in the study, Vinodkumar and Bhasi (2010) suggested that safety training are designed to impart good knowledge about the various processes, associated hazards and the safety measures taken by the workers in case of emergencies.

5.2.3 Workers' Involvement with Safety Behaviour

The hypothesis in the present study suggested that there is a significant relationship on workers' involvement and safety behaviour components, i.e. safety compliance and safety participation. This is in-line with the previous study that in SMEs, workers' involvement can be used as an essential tool for promoting safety compliance among workers (Subramaniam et al., 2016).

However, the regression analysis shows that the relationship between workers' involvement and safety compliance was not significant ($\beta = 0.046$ at $p > 0.05$). Thus, there are factors contributing to non-significant link. The mean value of 5.64 showing that the workers' involvement in safety practices exists but it does not pose any impact on safety compliance among workers in SME manufacturing industry.

Mat Zin and Ismail (2012) proved that the workers who ignore the safety compliance to OSH are caused by the extensive and complex safety rules and regulations are difficult to follow, feeling discomfort when complying with safety practices and have "accident would not occur to me" syndrome. Another factor also includes the ignorant behaviour and attitude from employers and workers are contributing to the issue of

behavioural safety non-compliance (Jamal Khan, 2006) to OSH requirements such as OSHA 1994.

Workers' involvement and safety participation regression relationship analysis was significant at $\beta = 0.596$ at $p < 0.05$. The positive link supported by Tam and Fung, Ivan (1998) proved the provisions of more detailed and higher-level training generates better safety compliance and safety participation. Workers' involvement in the safety management activities is one of the most effective approaches to prevent accidents at the workplace. This promotes workers' awareness to cultivate the understanding of the comprehensiveness of safety management practices and allow workers to be part of the system (Jaafar et al., 2017).

The workers' attitude and behaviour are the driven factors to ensure the desired results are achieved in implementing safety practices at the workplace (Agumba and Haupt, 2014). When the workers demonstrate attitude and behaviours that are proactive towards safety, apply preventive measures correctly and participate actively in safety decision making and safety activity, the result is a better risk management and a reduction in injuries, illnesses, and material damage (Fernández-Muñiz et al., 2012).

An effective safety and health program designed to achieve the participation of both workers and management, whereby the successful safety and health program will gain benefits to the workers and the company. Meanwhile, work safety-tension were proven the strongest association with unsafe behaviour, dominating both management safety and co-worker safety (Morrow et al., 2010). In this study, the positive relationship between workers' involvement and safety participation suggested that the safety and

health programs received good support from management and workers, which reflected to good safety behaviours among workers in SME manufacturing industry.

5.2.4 Safety Communication and Feedback with Safety Behaviour

This study hypothesized that there is a significant relationship between safety communication and feedback and safety behaviour (i.e. safety compliance and safety participation). The result shows there is a significant relationship between safety communication and feedback towards safety compliance and safety participation (β = - 0.436 at $p < 0.05$). Vinodkumar and Bhasi (2010) reported that safety communication and feedback contribute positively in transferring information regarding the methods of carrying the job in the healthiest and safest way possible in order to improve the safety knowledge of the workers.

A good communication between employers and workers enhances a general need for bottom-up communication, whereas high levels of management prepare top-down communication about the importance of safety and perceptions that unsafe work activities will indicate the safety issues (Morrow et al., 2010). Workers should also be encouraged to give their feedback on safety-related matters to the management and suggest ways of improving the work processes and activities that work can be more safer (Subramaniam et al., 2016).

The relationship between safety communication and feedback and safety participation shows the relationship was significant (β = - 0.275 at $p < 0.05$). This suggests that open discussion among management and workers would increase the awareness of errors to identify unsafe act and unsafe condition at the workplace. This finding is also in line to

a study that found communication, attitude, and cost are the main issues in order to have an effective and better implementation of OSH management system (Aziz, Baruji, Abdullah, Him, and Yusof, 2015).

5.2.5 Safety Rules and Procedures for Safety Behaviour

The hypothesis of this study suggests that there is a significant relationship between safety rules and procedures and safety behaviour (i.e. safety compliance and safety participation). The results of this study show that there is a positive significant relationship between safety rules and procedures and safety behaviour.

There is a significant relationship between safety rules and procedures and safety compliance ($\beta = 0.331$ at $p < 0.05$) and safety participation ($\beta = 0.456$ at $p < 0.05$). The positive significant link suggests that safety rules were obeyed. In other words, well-documented safety rules and procedures and its enforcement by supervisors and managers can improve safety behaviour of workers (Vinodkumar and Bhasi, 2010).

Safety rules are hoped to reduce accident rates or errors and eliminate risks. One way of reducing human error is to exercise organizational control and also prescribe certain behaviour by means of safety rules (Weichbrodt, 2015). Vinodkumar and Bhasi (2010) asserted that to get positive results in terms of safety compliance and safety participation, safety management practices like safety training, safety communication and enforcement of safety rules and procedures must be designed to produce changes in safety knowledge and motivation of the workers.

5.2.6 Safety Promotion and Policies with Safety Behaviour

The statistical analysis of the present study shows the positive significant relationship between safety promotion and safety behaviour (i.e. safety compliance and safety participation). This is in-line with a hypothesis that there is a significant relationship between safety promotion and policies with safety behaviour components.

These hypotheses are supported that the relationship between safety promotion and policies and safety compliance was significant ($\beta = 0.106$ at $p < 0.05$). Meanwhile, the relationship between both variables of safety promotion and policies and safety participation was significant ($\beta = -0.252$ at $p < 0.05$).

The practice of safety promotion and policies were found to have an inverse relationship with safety participation. This result shows that as safety promotion and policies increase, the engagement in participation behaviour will decrease.

There were reliable factors which supported the above results. Several key factors identified by Williams and Snow (2012) that enables the participating organizations to introduce and progress with workplace promotion programs. They are less dependent on external facilitator and the appointment of safety coordinator to ensure safety promotion and policies in place, support and guidance were maintained.

In this study, the organizations put a lot of effort to cultivate safety in the workplace. Safety promotional activities such as accident investigation, safety briefing and induction, safety training and communications, first aid and medical team care, periodical inspection and incident record keeping. The safety promotion and policies

programs conducted resulting the workers to comply with safety compliance and safety participation at the workplace.

This finding is in line with the previous study by Fernández-Muñiz et al. (2012), whereby the workers complying with organization's safety procedures or rules and clearly understand their critical role in the promotion of safety, the workers will be more committed to occupational safety and health.

The relationship of safety promotion policies is found to have an inverse influence on safety participation. This relationship suggests that the employees may know that the rules and procedures are motivated by legislation and policy were made to protect from accidents at the workplace. However, the excessive rules and procedures provides low safety participation behaviour among employees. As a result, they may be unsatisfied with the practicalities because of complex and time-consuming rules and procedures.

5.2.7 Safety Consciousness with Safety Behaviour

This study revealed that safety consciousness has a significant relationship on two dimensions of safety behaviour namely safety compliance and safety participation in the SME manufacturing industry.

The significant link ($\beta = 0.819$ at $p < 0.05$) shows the positive relationship between safety consciousness and safety compliance. Similarly, the regression result of safety consciousness and safety participation show both variables were statistically significant ($\beta = 0.182$ at $p < 0.05$).

Safety consciousness refers to an individual's own awareness on safety issues (Mullen et al., 2016; Unnikrishnan, Iqbal, Singh, and Nimkar, 2015). High safety consciousness has been shown to foster safety-related behaviours (Hogan and Foster, 2013). Specifically a positive safety climate for safety motivates workers to engage in safety consciousness because workers perceive that the effort to behave safely is important (Morrow et al., 2010). Previous literature in healthcare management reported that an individual safety perceptions are related to supervisor safety support, and positively related to organizational support (McCaughney, DelloFraine, and Erwin, 2015).

5.3 Implications

This section explains the theoretical and practical implications of the study.

5.3.1 Theoretical Implications

This study was conducted to examine the relationship of six safety management practices and safety consciousness with safety behaviour variables (i.e. safety compliance and safety participation) among SME manufacturing workers. Similar studies have been conducted to prove that the safety management practices have relationship in safety behaviour dimensions (i.e. safety compliance and safety participation). However, this study was extended by examining the relationship of safety consciousness to SME manufacturing industry. The aim was to measure the impact of the six safety management practices and safety consciousness on safety behaviour dimensions namely safety compliance and safety participation. Furthermore, this study creates the new horizon for researchers to validate relationships of safety management practices and safety consciousness towards safety behaviour dimensions.

5.3.2 Practical Implications

In the context of SMEs, local authority enforcement department and industry supporting Occupational Safety and Health Master Plan 2020 (OSHMP 2020) whereby the Strategic Plan for Small and Medium Industry (SMI) has set up its vision, which is to applied preventive culture at workplace and its mission; OSH management enhancement at the workplace.

Safety behaviour plays an important role in an organization. Therefore, workers are encouraged to participate and comply with management efforts to apply safety management practices and safety consciousness elements at the workplace. This study proposes several suggestions based on the findings which highlight the importance of safety management practices and safety consciousness in encouraging safety behaviour dimensions (safety compliance and safety participation) among workers in the SME manufacturing industry.

The findings of this study show that the antecedents of safety behaviour (safety compliance and safety participation) are management commitment, safety training, workers' involvement, safety communication and feedback, safety rules and procedures, safety promotion and policies and safety consciousness. Therefore, an effort to grow safety compliance and safety participation among workers, management need to encourage six safety management practices and safety consciousness elements.

Some literature argued that an increasing formalization in management practices may not be appreciated by workers in small and medium enterprises (Lai, Saridakis, and Blackburn, 2013). Safety management practices cannot plan for, control and defend

against all potential error-prone situations because in doing so, work would need to be planned and controlled to such a high and constraining degree that it would be time-consuming, unworkable and uneconomical (Wachter and Yorio, 2014). Therefore, the safety management practices may reduce the number of lost time injury by workers' engagement and safety consciousness awareness programs at the workplace.

5.4 Limitations and Future Research Suggestion

There is a limitation that the researcher sprawled during data collection process. The limitation of this study is the time-consuming questionnaires. This is due to the respondents' job environment where time is the crucial factor in the daily work routine. Therefore, to overcome this limitation in future research, offering the respondents the alternative to answering a cross-sectional study would be a good strategy. Alternatively, the use of the telephone to the offering of respondents to answer the questionnaire would be a suitable strategy.

In addition to highlighting the limitations and providing suggestions, the findings of this study extend some horizon for future research. First, it would be to consider safety consciousness as mediator between safety management practices and safety behaviour. An extend to theory value moderates the relationship of the safety management practices and safety consciousness towards safety behaviour.

Finally, the level of safety management practices and safety consciousness towards safety behaviour may be varying according to different locations, either urban or rural. The present study focused on an urban location, there may be doubt in terms of between traditional-general safety practices and systematic practices. A wide-ranging study

must be done to study the exceptional needs of SMEs commerce with safety and health at the workplace. Other factors that impact the employees' safety behaviour are essential to further explored because factors as psychological, cognitive and environment can influence safety behaviour on top of safety management practices. There is need to improve management practices to enhance safety values, which will lead to a better productivity.

5.5 Conclusion

The present study provides partial support on the relationship between safety management practices, safety consciousness and safety behaviour. The results of this study demonstrated the validity, reliability, and correlation of six elements of safety management practices and safety consciousness with safety behaviour among workers in SME manufacturing industry. The study highlighted the important factors to workers to reduce accident rate at the workplace. It is believed that this study would be beneficial to relevant parties from educational sector, enforcement authority and occupational safety and health practitioners in safety behaviour management by identifying advance and improvement mechanism through means to improve safety cultures at the workplace.

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APPENDIX

Dear respected respondents,

Thank you for agreeing to participate in this research.

I am a Postgraduate student from Universiti Utara Malaysia. I currently conducting a study on safety practices in the small and medium enterprises (SMEs).

Attached is a questionnaire that addresses the safety practices in an organisation. Therefore, I would appreciate if you could answer **all the questions** in the survey as the information you provide will influence the accuracy and success of this research.

Please note there is no right or wrong answer to the statements listed in the questionnaire. Your sincerity and honesty is highly required in answering these statements. Please be rest assured that all your responses will be kept confidential and will be strictly used for the academic research purposes only.

With this, I highly appreciate your cooperation and participation in this study and wish to convey my thanks in advance.

If you are interested in the results of this study, please do not hesitate to contact me via email at noorhanatasia@gmail.com or call me at 019 667 5638.

Thank you for your time and cooperation.

Yours sincerely,

NOOR HANATASIA BINTI MOHD FOUDZY
Matric ID: 820306
Universiti Utara Malaysia

Tuan / Puan yang dihormati,

Terima kasih kerana bersetuju menyertai kajian ini.

Saya merupakan pelajar Sarjana dari Universiti Utara Malaysia yang sedang menjalankan kajian mengenai amalan keselamatan di Industri Kecil dan Sederhana (IKS).

Bersama-sama ini disertakan soal selidik yang berkaitan amalan keselamatan di organisasi ini. Namun begitu, saya hargai jika anda sudi menjawab ***kesemua soalan*** *kerana penglibatan anda dalam tinjauan ini akan mempengaruhi ketepatan dan menyumbang kepada kejayaan kajian ini.*

Semua maklumbalas anda akan dirahsiakan dan hanya digunakan bagi tujuan penyelidikan akademik sahaja.

Saya amat hargai kerjasama dan penglibatan anda dalam tinjauan ini dan saya ucapkan terima kasih.

Jika anda berminat dengan dapatan kajian ini, sila hubungi saya melalui e-mel di noorhanatasia@gmail.com atau menghubungi saya di talian 019 667 5638.

Terima kasih atas kerjasama dan perhatian anda.

Yang benar

NOOR HANATASIA BINTI MOHD FOUDZY
MATRIK NO. 820306
UNIVERSITI UTARA MALAYSIA

SECTION A : DEMOGRAPHIC INFORMATION
BAHAGIAN A : MAKLUMAT DEMOGRAFI

Please fill in blank or tick (√) in the appropriate boxes that corresponds to your answer to each of the following questions below.

Sila isikan tempat kosong atau tandakan (√) untuk mewakili jawapan anda pada semua soalan di bawah.

1. Age / *Umur*:
   - ☐ 20 – 29 years old / *tahun*
   - ☐ 30 - 39 years old / *tahun*
   - ☐ 40 - 49 years old / *tahun*
   - ☐ 50 years old and above / *tahun dan ke atas*

2. Gender / *Jantina*: ☐ Male / *Lelaki* ☐ Female / *Perempuan*

3. Race / *Bangsa*:
   - ☐ Malay / *Melayu* ☐ Indian / *India*
   - ☐ Chinese / *Cina* ☐ Others / *Lain-lain*

4. Marital status / *Status perkahwinan*:
   - ☐ Married / *Berkahwin* ☐ Single / *Bujang*
   - ☐ Divorced / *Bercerai*

5. Highest educational level / *Tahap pendidikan tertinggi*:
   - ☐ Secondary school / *Sekolah Menengah* ☐ Degree / *Ijazah*
   - ☐ Certificate / *Sijil* ☐ Master / *Master*
   - ☐ Diploma / *Diploma* ☐ Others, please specify *Lain-lain, sila nyatakan*

6. Work level / *Jawatan*:
   - ☐ Manager / *Pengurus*
   - ☐ Executive / *Eksekutif*
   - ☐ Non-Executive (Technical / Operation) / *Bukan Eksekutif (Teknikal / Operasi)*
   - ☐ Non-Executive (Administrative) / *Bukan Eksekutif (Pentadbiran)*

7. How long have you been working? / *Berapa lama anda telah bekerja?*

☐ 1 – 5 years / *tahun*

☐ 6 – 10 years / *tahun*

☐ 11 – 15 years / *tahun*

☐ 16 – 20 years / *tahun*

☐ 21 years and above / *tahun dan ke atas*

8. How long have you been working in the present organisation? / *Berapa lama anda sudah bekerja dengan organisasi sekarang?*

☐ 1 – 5 years / *tahun*

☐ 6 – 10 years / *tahun*

☐ 11 – 15 years / *tahun*

☐ 16 – 20 years / *tahun*

☐ 21 years and above / *tahun dan ke atas*

9. Have you ever had any occupational accident ever since you started working in this organisation? / *Adakah anda pernah mengalami kemalangan di tempat kerja sepanjang bekerja di organisasi ini?*

☐ Yes / *Ya* ☐ No / *Tidak*

10. If yes, how many accidents have you had while working in this organisation? / *Jika ya, berapakah bilangan kemalangan yang pernah dialami sepanjang bekerja di organisasi ini*?

☐ 1 - 3 ☐ 7 – 9

☐ 4 - 6 ☐ 10 or more / *10 atau lebih*

11. Have you attended any occupational safety training? *Pernahkah anda pernah menghadiri latihan keselamatan?*

☐ Yes / *Ya* ☐ No / *Tidak*

12. How often do you must attend safety training? *Berapa kekerapan latihan keselamatan yang anda perlu hadiri?*

☐ Every month / *Setiap bulan*

☐ Once in three months / *Sekali dalam tempoh tiga bulan*

☐ Once in six months / *Sekali dalam tempoh enam bulan*

☐ Once a year / *Sekali setahun*

☐ Not at all / *Tiada langsung*

☐ Other: (please specify)_____ / Lain-lain: (nyatakan)_____

SURVEY ON WORKPLACE SAFETY PRACTICES
(SOAL SELIDIK TENTANG AMALAN KESELAMATAN DI TEMPAT KERJA)

SECTION B : SAFETY PRACTICES
BAHAGIAN B: AMALAN KESELAMATAN

Based on your perception on the safety practices in the department that you are currently working, please circle the most appropriate answer based on the scale below:

Berdasarkan pandangan anda terhadap amalan keselamatan dalam jabatan anda sekarang, bulatkan jawapan yang paling tepat berdasarkan skala jawapan di bawah:

1	2	3	4	5	6	7
Strongly disagree *Sangat tidak setuju*	Disagree *Tidak setuju*	Somewhat disagree *Agak tidak bersetuju*	Neutral *Neutral*	Somewhat agree *Agak setuju*	Agree *Setuju*	Strongly agree *Sangat setuju*

MANAGEMENT COMMITMENT
KOMITMEN PENGURUSAN

1. Safety is given high priority by the department. 1 2 3 4 5 6 7
   Jabatan ini memberi keutamaan kepada keselamatan.

2. Safety rules and procedures are strictly followed by the management. 1 2 3 4 5 6 7
   Peraturan dan prosedur keselamatan dipatuhi dengan tegas oleh pihak pengurusan.

3. Corrective action is always taken when the management is told about unsafe practices. 1 2 3 4 5 6 7
   Tindakan pembetulan sering diambil oleh pihak pengurusan apabila dimaklumkan mengenai amalan yang tidak selamat.

4.	Management considers safety to be equally important as production. *Pihak pengurusan merasakan keselamatan dan pengeluaran adalah sama penting.*	1	2	3	4	5	6	7
5.	When near-miss accidents are reported, my management acts quickly to solve the problems. *Apabila kemalangan nyaris dilaporkan, pihak pengurusan bertindak segera untuk menyelesaikan masalah tersebut.*	1	2	3	4	5	6	7
6.	My company provides sufficient personal protective equipment for the workers. *Syarikat ini menyediakan peralatan perlindungan diri yang mencukupi kepada pekerja.*	1	2	3	4	5	6	7

SAFETY TRAINING
LATIHAN KESELAMATAN

10.	My company gives comprehensive training to the employees in the workplace health and safety issues. *Syarikat ini memberi latihan menyeluruh kepada pekerja mengenai isu keselamatan dan kesihatan di tempat kerja.*	1	2	3	4	5	6	7
11.	Newly recruits are trained adequately to learn safety rules and procedures. *Pekerja baharu dilatih secukupnya untuk mempelajari peraturan dan prosedur keselamatan.*	1	2	3	4	5	6	7
12.	Safety issues are given high priority in training programmes. *Isu keselamatan diberi keutamaan dalam program latihan.*	1	2	3	4	5	6	7
13.	I am not adequately trained to respond to emergency situations in my workplace. *Saya tidak dilatih secukupnya untuk bertindak dalam situasi kecemasan di tempat kerja.*	1	2	3	4	5	6	7
14.	Management encourages the workers to attend safety training programmes. *Pihak pengurusan menggalakkan pekerja menghadiri program latihan keselamatan.*	1	2	3	4	5	6	7
15.	Safety training given to me is adequate to enable to assess hazards in workplace.	1	2	3	4	5	6	7

Latihan keselamatan yang diberikan kepada saya mencukupi untuk saya menilai bahaya di tempat kerja.

WORKERS' INVOLVEMENT
PENGLIBATAN PEKERJA

16.	Management always welcomes opinion from employees before making final decisions on safety related matters. *Pihak pengurusan sentiasa mengalu-alukan pandangan daripada pekerja sebelum membuat keputusan akhir mengenai hal-hal keselamatan.*	1	2	3	4	5	6	7
17.	My company has safety committees consisting of representatives of management and employees. *Syarikat ini mempunyai jawatankuasa keselamatan yang terdiri daripada wakil pengurusan dan pekerja.*	1	2	3	4	5	6	7
18.	Management promotes employees' involvement in safety related matters. *Pihak pengurusan menggalakkan penglibatan pekerja dalam hal-hal berkaitan keselamatan.*	1	2	3	4	5	6	7
19.	Management consults with employees regularly about workplace health and safety issues. *Pihak pengurusan kerap berunding dengan pekerja mengenai isu keselamatan dan kesihatan di tempat kerja.*	1	2	3	4	5	6	7
20.	Employees do not sincerely participate in identifying safety problems. *Pekerja melibatkan diri secara tidak ikhlas dalam mengenalpasti masalah keselamatan.*	1	2	3	4	5	6	7

SAFETY COMMUNICATION AND FEEDBACK
MAKLUMBALAS DAN KOMUNIKASI KESELAMATAN

21.	My company doesn't have a hazard reporting system where employees can communicate hazard information before incidents occur. *Syarikat ini tidak mempunyai sistem pelaporan bahaya yang membolehkan pekerja menyampaikan maklumat bahaya sebelum insiden berlaku.*	1	2	3	4	5	6	7
22.	Management operates an open-door policy on safety issues. *Pihak pengurusan mengamalkan polisi keterbukaan berkenaan isu keselamatan.*	1	2	3	4	5	6	7

23.	There is sufficient opportunity to discuss and deal with safety issues in meetings. *Terdapat peluang yang cukup untuk berbincang dan menangani isu keselamatan dalam mesyuarat.*	1	2	3	4	5	6	7
24.	The target and goals for safety performance in my organization are not clear to the workers. *Halatuju dan matlamat keselamatan di syarikat ini adalah tidak jelas kepada pekerja.*	1	2	3	4	5	6	7
25.	There is open communication about safety issues in this workplace. *Terdapat komunikasi terbuka mengenai isu keselamatan di tempat kerja.*	1	2	3	4	5	6	7

SAFETY RULES AND PROCEDURES
PERATURAN DAN PROSEDUR KESELAMATAN

26.	The safety rules and procedures followed in my company are sufficient to prevent incidents occurring. *Peraturan dan prosedur keselamatan yang diikuti di syarikat ini mencukupi untuk mengelakkan dari insiden berlaku.*	1	2	3	4	5	6	7
27.	The facilities in the safety department are not adequate to meet the needs of this organization. *Fasiliti di jabatan keselamatan tidak mencukupi untuk memenuhi keperluan di syarikat ini.*	1	2	3	4	5	6	7
28.	My supervisors and managers always try to enforce safe working procedures. *Penyelia dan pengurus saya sentiasa cuba untuk menguatkuasakan prosedur kerja selamat.*	1	2	3	4	5	6	7
29.	Safety inspections are carried out regularly. *Pemeriksaan keselamatan kerap dijalankan.*	1	2	3	4	5	6	7
30.	The safety procedures and practices in this organization are useful and effective. *Prosedur dan amalan keselamatan di syarikat ini berguna dan berkesan.*	1	2	3	4	5	6	7

SAFETY PROMOTION POLICIES
DASAR PROMOSI KESELAMATAN

31.	In my company, safe conduct is considered as a positive factor for job promotions. *Di syarikat ini, amalan kerja selamat dianggap sebagai faktor positif untuk kenaikan pangkat.*	1	2	3	4	5	6	7
32.	In my company, employees are rewarded for reporting safety hazards (thanked, cash or other rewards, recognition in newsletter, etc.). *Di syarikat ini pekerja akan diberi imbuhan untuk melaporkan bahaya keselamatan (ucapan terima kasih, wang tunai atau imbuhan, pengiktirafan dalam makalah dan lain-lain).*	1	2	3	4	5	6	7
33.	In my company, safety week celebration and other safety promotional activities arranged by the management are very effective in creating safety awareness among the workers. *Di syarikat ini sambutan minggu keselamatan dan lain-lain aktiviti promosi keselamatan yang dianjurkan oleh pengurusan sangat berkesan dalam mewujudkan kesedaran keselamatan dalam kalangan pekerja.*	1	2	3	4	5	6	7
34.	There exists very healthy competition among employees to find out and report unsafe condition and acts. *Wujud persaingan yang sangat sihat dalam kalangan pekerja untuk mengenalpasti dan melaporkan keadaan dan tindakan tidak selamat.*	1	2	3	4	5	6	7
35.	Our supervisor becomes very unhappy and angry when employees find out and report unsafe conditions and acts in our section. *Penyelia kami menjadi sangat tidak gembira dan marah apabila mendapati pekerja mengenalpasti dan melaporkan keadaan dan tindakan tidak selamat di seksyen kami.*	1	2	3	4	5	6	7

SAFETY CONSCIOUSNESS
KESEDARAN KESELAMATAN

36.	I know what protective equipment and / or clothing is required for my job. *Saya tahu peralatan dan / atau pakaian perlindungan diri yang diperlukan untuk kerja saya.*	1	2	3	4	5	6	7
37.	I am aware of the safety risks involved in my job.	1	2	3	4	5	6	7

Saya menyedari risiko keselamatan yang terlibat dalam pekerjaan saya.

38. I know where the fire extinguishers are in my workplace. 1 2 3 4 5 6 7

    Saya tahu di mana lokasi alat pemadam api di tempat kerja saya.

39. I know what equipment is safe to use for my job(s). 1 2 3 4 5 6 7

    Saya tahu peralatan yang selamat untuk digunakan dalam pekerjaan saya.

40. I know how to inform management about my potential hazards I notice on the job. 1 2 3 4 5 6 7

    Saya tahu bagaimana untuk memberitahu pengurusan mengenai potensi bahaya yang saya sedari terdapat pada pekerjaan saya.

41. I know what procedures to follow if injured on my shift. 1 2 3 4 5 6 7

    Saya tahu prosedur yang harus diikuti jika berlaku kecederaan semasa shif bekerja saya.

42. I would know what to do if an emergency occurred on my shift (e.g. fire). 1 2 3 4 5 6 7

    Saya tahu apa yang perlu dilakukan jika kecemasan berlaku semasa shif bekerja saya (contohnya: kebakaran).

SAFETY COMPLIANCE
PEMATUHAN KESELAMATAN

43. I use the correct safety procedures for carrying out my job. 1 2 3 4 5 6 7

    Saya menggunakan prosedur keselamatan yang betul dalam melaksanakan kerja.

44. I use all the necessary safety equipment to do my job. 1 2 3 4 5 6 7

    Saya menggunakan semua peralatan keselamatan yang diperlukan untuk menjalankan kerja saya.

45. I ensure the highest levels of the safety when I carry out my job. 1 2 3 4 5 6 7

    Saya memastikan tahap keselamatan paling tinggi semasa melakukan kerja saya.

SAFETY PARTICIPATION
PENGLIBATAN KESELAMATAN

46.	I promote the safety program within the organization. *Saya mempromosikan program keselamatan dalam syarikat ini.*	1	2	3	4	5	6	7
47.	I put in extra effort to improve the safety of the workplace. *Saya memberikan usaha yang lebih untuk meningkatkan tahap keselamatan di tempat kerja saya.*	1	2	3	4	5	6	7
48.	I voluntarily carry out tasks or activities that help to improve workplace safety. *Saya secara sukarela melakukan tugas atau aktiviti untuk membantu meningkatkan keselamatan di tempat kerja.*	1	2	3	4	5	6	7

- THANK YOU / *TERIMA KASIH* -