RELATIONSHIP BETWEEN SAFETY MANAGEMENT PRACTICES AND SAFETY BEHAVIOUR AMONG PRODUCTION WORKERS IN STEEL DRUM COMPANY

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MASTER OF SCIENCE

UNIVERSITI UTARA MALAYSIA

DECEMBER 2017

RELATIONSHIP BETWEEN SAFETY MANAGEMENT PRACTICES AND SAFETY BEHAVIOUR AMONG PRODUCTION WORKERS IN STEEL DRUM COMPANY

By

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Thesis Submitted to

Othman Yeop Abdullah Graduate School of Business,

Universiti Utara Malaysia,

in Partial Fulfillment of the Requirement for the Degree of Master of Science

Pusat Pengajian Pengurusan Perniagaan
SCHOOL OF BUSINESS MANAGEMENT

Universiti Utara Malaysia

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ABSTRACT

Safety management practices are the essential elements to ensure effectiveness in safety management in a company. This study is to determine the level of safety behaviour among production workers and identify the relationship between safety management practices and safety behaviour in company among production workers. The study was conducted by survey. A total of 117 respondents that returned the questionnaire. The result of this study implies that the level of safety behaviour among production workers was high (mean value is 3.72 for safety compliance and 4.08 for safety participation). The findings of the study also revealed that management commitment, safety training and safety communication and feedback have significantly influence safety compliance, while safety rules and procedures have significantly influence safety participation. The findings of the study will provide a good reference to the company to further improve their safety management practices in order to increase the level of safety behaviour among workers.

ABSTRAK

Amalan pengurusan keselamatan adalah elemen penting untuk memastikan keberkesanan pengurusan keselamatan dalam syarikat. Kajian ini bertujuan untuk menentukan tahap tingkah laku keselamatan di kalangan pekerja pengeluaran dan mengenalpasti hubungan antara amalan pengurusan keselamatan dengan tingkah laku keselamatan dalam syarikat di kalangan pekerja pengeluaran. Kajian ini dijalankan dengan menggunakan cara soal selidik di kalangan 117 responden yang mengembalikan soal selidik. Hasil kajian menunjukkan tahap tingkah laku keselamatan di kalangan pekerja pengeluaran berada pada tahap yang tinggi (nilai min adalah 3.72 untuk kepatuhan keselamatan adalah 4.08 untuk penglibatan keselamatan). Kajian ini juga menunjukkan bahawa komitmen pengurusan, latihan keselamatan dan komunikasi dan maklum balas keselamatan mempunyai pengaruh yang signifikan terhadap kepatuhan keselamatan, manakala peraturan keselamatan dan prosedur mempunyai pengaruh yang signifikan terhadap penglibatan keselamatan. Hasil daripada kajian ini boleh menjadiakn rujukan yang baik kepada syarikat kerana ia boleh menolong syarikat untuk meningkatkan taphap amalan pengurusan keselamatan mereka maka meningkatkan tahap tingkah laku keselamatan di kalangan pekerja mereka.

ACKNOWLEDGEMENT

First of all, I would like to express my sincere appreciation to my supervisor, Dr. Zuraida Binti Hassan for constant guiding me by giving me advice and support throughout the conduct and writing for this research paper.

I would also like to thanks to the company for giving me permission and cooperation in conducting the research among the production workers. I would like to forward my gratitude to all the respondents who willing to answer my questionnaire and return to me in order to accomplish this research. Without them, I will not able to conduct this research.

Furthermore, I would like to express my sincere thanks to all my friends who had kept encouraging, support and always be there when I am in need throughout my study.

The last but not least, I would like to express my special and outermost thanks to my beloved family for never failed for giving me their never ending love, patience, support and encouragement.

Thank you.

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LIST OF ABBREVIATION

DOSH	Department of Occupational Safety and Health Malaysia
ILO	International Labour Organization
HSE	Health, Safety and Environment
NADOPOOD	Notification of Accident, Dangerous Occurrence and Occupational Disease
OSHA	Occupational Safety and Health Act 1994
SOCSO	Social Security Organisation
SMI	Small Medium Industries
SPSS	Statistical Package for the Social Sciences

CHAPTER 1

INTRODUCTION

1.1 Introduction

The chapter describes the background of the study, problem statement, research questions, research objectives, scope of the study, significance of study, definitions of key term, organization of the thesis, and conclusion.

1.2 Background of Study

According to Occupational Safety and Health (Notification of Accident, Dangerous Occurrence, Occupational Poisoning and Occupational Disease) Regulation 2000 (NADOOPOD), the term "accident" is defined as an occurrence happened in contact with work-related which results in fatal injury or non-fatal injury. In other word, accident here refers to occupational accident.

From the International Labour Organization (ILO) report, it show that a worker death because of work related incident or occupational health disease in every 15 seconds, and 153 workers facing work-related incident in every 15 seconds. From this statistic data, it also implies that 5,760 workers injure because of work in a day. Occupational accident will cause loss to workforce in industries and thus employers and employees have the responsibility to prevent and reduce accident in workplace.

Based on the data shown in the Social Security Organization (SOCSO), the average number for industrial accidents in Malaysia for the period between 2011 and 2015 were reported at 35,167 cases per year. In other words, it is equivalent to 96 cases per day. The Number of Industrial Accident from 2011 to 2015 are shown in Table 1.1.

Table 1.1
Industrial accident from 2011 to 2015

Year	**Number of Industrial Accident Case**
2011	35,088
2012	35,296
2013	35,898
2014	35,294
2015	34,258

Source: Social Security Organisation (SOCSO) Annual Report, 2015

Referring to Table 1.1, the number of industrial accidents from 2011 to 2014 was neither increase nor in decrease trend, but it shown that the data were quite consistent which in the range of 35,000 cases to 36,000 cases. However, in 2015, the data shown that industrial accident had decrease to 34,258 cases, which equivalent to 2.94%.

Department of Occupational Safety and Health Malaysia (DOSH) reported that manufacturing sector has the highest occupational accidents amount all sectors in 2015, either in term of permanent disability, or in term of non-permanent disability cases, which 89 cases, which equivalent to 73% was classified as permanent disability, and 1,906 cases, which equivalent to 63.3% was classified as non-permanent disability cases. The occupational accident statistic by sector in 2015 was shown in Table 1.2.

Table 1.2
Occupational accident statistic by sector in 2015

Sectors	**Death**	**Non-Disability**	**Permanent Disability**
Construction	88	138	11
Mining and Quarrying	4	32	3
Manufacturing	46	1,906	89
Agriculture, Forestry, Fishery and Logging	31	440	9
Wholesale and Retails Trade	3	102	3
Transport, Storage and Communication	22	107	2
Utility	6	86	4
Hotel and Restaurant	0	62	0
Statutory Bodies and Public Services	0	31	1
Financial, Insurance, Real Estate and Business Services	14	105	0
Total	**214**	**3,009**	**122**

Source: Department of Occupational Safety and Health Malaysia, 2015.

The statistic provided by DOSH not as details as SOSCO, however by referring to Table 1.2, it clearly shows that manufacturing sector is the most accident cases reported compare to other sectors in industrial accident. From Table 1.1, shows that 2.94% decreased in total industrial accident cases reported in 2015, however the total number of accident cases reported under the category of manufacture of fabricated metal products except machinery equipment was increased in 2015 if compared to previous 4 years (2011 to 2014). Table 1.3 shows the number of accident reported under this category.

Table 1.3
The number of accident reported under category of manufacture of fabricated metal products except machinery equipment.

Year	**Number of case reported**
2011	369
2012	342
2013	315
2014	306
2015	318

Source: Social Security Organisation (SOCSO) Annual Report, 2015

Referring to Table 1.2, the number of cases reported was reduced from 2011 to 2014, however it was increased from 306 cases to 318 cases, which was equivalent to 3.92% in 2015.

1.3 Problem Statement

Success in a company not only depends on sales, and effective management of productivity and quality, it also depends on the good management in term of safety, health and environment. Employer's commitment toward employees in safety and health aspect is well demonstrated by companies' safety performance.

As the statistics shown in SOSCO 2015 Annual report, accidents happened in manufacture of fabricated metal products except machinery equipment increased 12 cases in 2015, while the total industrial accident decreased 1,036 cases in 2015.

According to Occupational Safety and Health Administration, United State Department of Labor, fabricated metal products included establishment engaged in fabricating ferrous and nonferrous metal products, such as metal cans, tin ware, hand tools, cutlery, general hardware, non-electric heating apparatus, fabricated structural metal products, metal forgings, metal stampings and a variety of metal and wire products, not elsewhere classified. Steel drum is considered one of the product of metal fabrication product in manufacturing industries. Steel drum is considered one of the product of metal fabrication product in manufacturing industries. There are limited studied of safety management practices and safety behaviour in steel drum industries. Therefore, this study was focused on the relationship between safety management practices and safety behaviour in steel drum manufacture in Malaysia.

Safety performance can be proactive or reactive measurement. In past, some industrials relied on accident or injury data to measure the safety performance. Occupational Safety and Health Act 1994, a self-regulation concept, which is promote proactive measurement. Therefore, safety related behaviours can be one of the components of safety performance.

Measurement of safety related behaviour comprises of two aspects, safety compliance and safety participation. Safety compliance and safety participation was proven by Oh-Jun and Yong Sun (2013) in their study as they are significantly influence work safety environment in Korean manufacturing industries. The method of improving workers' personal safety and health was defined as safety compliance.

There are six components in safety management practices applied in the Vinodkumar and Bhasi (2010) study which could influence the safety related behaviour in an organization. The six components are safety training, management commitment, safety communication and feedback, workers' involvement in safety, safety promotion policies, and safety rules and procedures.

1.4 Research Questions

The study of this research is intending to address the following research questions:

i) What is the level of safety behaviour among production workers in steel drum company?

ii) What is the relationship between safety management practices and safety compliance among production workers in steel drum company?

iii) What is the relationship between safety management practices and safety participation among production workers in steel drum company?

1.5 Research Objectives

The study intends:

i) To determine the level of safety behaviour among production workers.

ii) To identify the relationship between safety management practices and safety compliance in company among production workers

iii) To identify the relationship between safety management practices and safety participation among company production workers

1.6 Significance of Study

A safe workplace is important to the employees in all industries. Every employer has their responsibilities to ensure workers' safety. Hence, this study is to assist the steel drum company to know their company employees' safety behaviour level and how could they improve in safety management practices from six perspectives, which included safety training, management commitment, safety communication and feedback, workers' involvement in safety, safety promotion policies, and safety rules and procedures.

The finding or result from this research can provide the feedback to manufacturing company as to further improved their current safety management practices in order to increase the safety behaviour level among their employees.

Besides, the research finding can also be referred to future research on safety management practices and safety behaviour and to further assist the Malaysia government in promoting safe management practices in all industries in Malaysia.

1.7 Scope of Study

This research is focus on the study of the relationship safety management practices and safety behaviour level among production workers in steel drum company in Malaysia. The targeted respondent of this research are all the workers who working at the production floor as they are majority in the company. The research data are based on the survey in questionnaire from respondents.

1.7.1 An Overview of the Company

The company manufactures steel drum. The total workforce in the company is about 220 employees, including office staff, head of department, maintenance technicians, QAQC inspectors, supervisors, line leader, key operators, production operators, warehouse drum loaders and janitors.

The company consists of three production lines to produce the steel drums. The majority of the workers in the company are foreign workers. Therefore, language could be a barrier for communication between local employee and foreign workers. To overcome this issue, the company had translator to translate from Malay to their foreign language during training or company event.

The company had safety and health policies, manual, procedures in place. HSE (Health, Safety and Environmental) committee meeting will be held by the company in quarter basic, and the committee will involve two main parties, which are management representatives and workers representative. Hence, workers representative can give suggestion or highlighted if they have any safety and health related issues in the workplace.

The company also organizes various safety programmes every year, such as first aid training, fire fighting training, safety week, safety month and etc. The purpose is to increase employees' safety and health awareness in the company.

Overall, the company's safety management system is in place, however continual improvement is needed to sustain and maintain a safe and healthy working environment.

1.8 Definition of Key Terms

1.8.1 Safety Management Practices

Safety management is defined as procedures, policies and practices that are related to safety; visible safety practices, responsibility and performance; overall management function; management systems which designed for controlling the hazards; integrated mechanisms in order to control risk; and a series of activities to avoid unsafe act or condition or hazards (Saharani et al, 2017).

1.8.2 Management Commitment

Management commitment is the commitment from the management towards their employees pertaining to all safety related issues, which can include safety programmes and activities in the company (Hanim, Mohamed, Zulkifle, Binti, & Kadir, 2016).

1.8.3 Safety Training

Safety training is knowledge and awareness that shall be delivered by the company in order to ensure their employees are working safely and without exposing to danger during their work (Mazlina & Hadikusumo, 2017).

1.8.4 Workers' Involvement in Safety

Workers' involvement in safety is considered as a behaviour adapted where it involves the flow of communication and decision making from bottom, such as worker level to the top, such as manager level. (Saharani et al, 2017).

1.8.5 Safety Communication and Feedback

Safety communication and feedback is communication and feedback regarding all the safety and health matters between two parties in the company, such as between top managements and supervisors, and supervisors with their direct workers. It can be measured through open door policy for safety and health related issues, or safety and health hazard reporting system, communication regarding to safety key performance to all workers, and opportunity for employees to discuss any safety issues in safety meeting (Vinodkumar and Bhasi, 2010).

1.8.6 Safety Rules and Procedures

Those documented rules and procedures by safety and health department of the company and enforcement by safety officer, managers, head of department, and also supervisors in order to improve safety behaviour of workers are considered as safety rules and procedures (Vinodkumar and Bhasi, 2010).

1.8.7 Safety Promotion Policies

Safety promotion policies are the policies that can benefit to company's hazard control programme, offering rewards and recognition, which can help change behaviour (Vinodkumar and Bhasi, 2010).

1.8.8 Safety Behaviour

Safety behaviour is consists of safety compliance and safety participation (Neal & Griffin, 2006).

1.8.9 Safety Compliance

Safety compliance is about the behaviour of the workers in ways to increase their personal safety and health (Vinodkumar & Bhasi, 2010).

1.8.10 Safety Participation

Safety participation represents workers' behaviour in ways that improve the health and safety of co-workers and eventually support the company's stated safety objectives and goal. (Vinodkumar & Bhasi, 2010).

1.9 Organization of the Thesis

This research consists of five chapters. Chapter one is the Introduction of the research. Chapter one include background of study, problem statement, research questions, research objectives, significance of study, scope of study, definition of key terms and organization of thesis. Chapter two reviews the relevant literature on both variables in this study, safety management practices and safety behaviour, and also the relationship between these two variables. Chapter three is about research methodology. Chapter three, it will includes introduction of chapter three, conceptual framework, operationalization of variables, measurement of variables, hypothesis development, research design, instrument and measurement, pilot study and summary. Chapter four is about results and discussion of the study. This chapter describes the findings and analysis of the research data. Chapter five is about conclusion and recommendation for this study. The key findings of the study will be summarized accordingly in order to meet the research objectives. The significance of the findings and the theoretical or practical implications are highlighted in chapter five as well. Beside this, this chapter includes the recommendation for future research.

1.10 Conclusion

This chapter has an overall view of the current accident data in Malaysia. The chapter discussed the necessity of further study on safety management practices and safety behaviour in the steel drum manufacture in Malaysia.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter is about the literature review of the study. A literature review is a search and evaluation of the available literature of existing information or knowledge. The information of literature review can include substantive findings, as well as methodological and theoretical inputs to a specific study.

The literature review in this chapter will include safety management practices and each variables of safety management practices, namely as safety training, management commitment, safety communication and feedback, workers' involvement in safety, safety promotion policies, and safety rules and procedures; and safety behavior and each variables of safety behaviour, namely as safety compliance and safety participation.

2.2 Safety Management Practices

Generally, safety management is defined as procedures, policies and practices that related to safety; visible safety practices, responsibility and performance; overall management function; management systems which designed for controlling the hazards; integrated mechanisms in order to control risk; and a series of activities to avoid unsafe act or condition or hazards (Saharani et al, 2017).

Safety management practices refer to safety policies, safety manual, safety strategies, safety procedures, safety instruction, and safety activities carried out or obeyed by the management of a company for targeting safety performance of their employees. (Vinodkumar & Bhasi, 2010). Vinodkumar and Bhasi (2010) stated that safety management practices are the essential elements to ensure effectiveness in safety management since the purpose of these practices is to comply with the current legislations and regulations that are applicable to the organization.

Occupational Safety and Health Act 1994 is related to safety management practices be liaise the content of the regulation is more toward self regulation and hence it can be used by managements in planning and executing safety management practices in their company.

2.2.1 Management Commitment

Management commitment is the commitment from the management toward their employees pertaining to all safety related issues, which can include safety programmes and activities in the company.

Top management plays a major role in reducing the occupational accident or injuries or occupational health disease to their workers in the workplace while employees play an important role to give their safety commitment to support the practices (Hanim, Mohamed, Zulkifle, Binti, & Kadir, 2016).

Leadership and management commitment are the most important principles to a successful implementation of a safety program in any organization (Koivupalo, Sulasalmi, Rodrigo, & Vayrynen, 2015). None of the component of safety management can be implemented if there is no commitment, leadership and support from managers or employer. Therefore, management's demonstration of commitment becomes the main factor of any safety management practice.

2.2.2 Safety Training

Safety training is knowledge and awareness that shall be delivered by the company in order to ensure their employees are working safely and without exposing the workers to danger during their work (Mazlina & Hadikusumo, 2017)

The intent of safety training is to increase workers' ability to act safely during their work in order to prevent accident. Safety training can be in the form of awareness towards safety issues in the workplace, knowledge about safety and improve risk perception. Ultimately, employees' safety behaviour can be cultivated and contribute towards the safety of the workplace (Hong, Surienty, and Hung, 2011).

2.2.3 Worker Involvement in Safety

Workers' involvement in safety is a behaviour-oriented method where it involves the flow of communication and decision making from bottom to top (Saharani et al, 2017).

When it comes to increase safety performance, worker involvement in safety is the key to success. The worker involvement elements consist of continuing participation of workers and also workers' personal motivation and attitude (Aksorn & Hadikusumo, 2008). Aksorn and Hadikusumo (2008) stated in their research that the degree of worker participation in safety-related programmes or activities such as participating or taking part in workplace safety activities, reporting and eliminating hazard under their operation and analyzing regular hazard within each step of a task or process can increase the level of workers' motivation towards safety.

2.2.4 Safety Communication and Feedback

Safety communication and feedback is communication and feedback regarding all the safety and health matters between two parties in the company, such as between top managements and supervisors, and supervisors with their direct workers (Vinodkumar and Bhasi, 2010). It can be measured through hazard reporting system, open door policy for safety related issues, communication about safety key performance to all workers, and opportunity of employees to discuss any safety issues in safety meeting (Vinodkumar and Bhasi, 2010).

Mullen, Kelloway and Teed's (2017) studying the influences of production supervisor on their subordinates' safety outcomes by investigating the safety communication from the leader-member exchange perspective. The six items from the safety communication scale that originated from Hofmann and Stetzer can be used to measure safety communication. The scale did not only measure one-way communication from supervisor level to their subordinate, but it also reflects what might be considered as the "communication atmosphere" related to safety (Mullen, Kelloway, & Teed, 2017).

The result suggests that supervisors from low level can complement the role of a company's managers in influencing company safety performance, and therefore the top management of a company shall fully consider how to involve supervisors into the company's overall safety program (Mullen, Kelloway, & Teed, 2017).

2.2.5 Safety Rules and Procedures

Those documented rules and procedures by safety and health department of the company and enforcement by safety officer, managers, head of department, and also supervisors in order to improve safety behaviour of workers are considered as safety rules and procedures.

The safety rules can be company's employee safety rules, visitor safety rules, and contractor safety rules as the employer has the responsibilities to ensure each of everyone in the company. Safety procedures are those procedure are those procedure specific safety aspect to be aware in each of the existing job procedure in production, such as safe operating procedure for maintenance work, safe operating procedure for seam welding process and etc.

2.2.6 Safety Promotion Policies

Offering recognition is a type of safety promotion policies that can add benefit to the organization hazard control program. Recognition could change the employees' behaviour toward hazard control. For example, it can be assessed using items related to counting safety attitude as a positive factor for recognition, promotion, and provide rewards for employee that report any hazards, create awareness programmes through safety activities or safety week celebration, healthy competition among workers to spot the hazard and report any unsafe acts or condition, and supervisors welcome and encourage workers to report safety matter (Vinodkumar and Bhasi, 2010).

2.3 Safety Behaviour

Behaviour is the way an individual act or behave. It describes how people react to something under a specific circumstance (Hong, Surienty, and Hung, 2011). Safety behaviour is consists of safety compliance and safety participation (Neal & Griffin, 2006). Unsafe behaviour and lack of safety initiative underscores the importance of broadening the conceptualization of safety behaviours (Aryee & Hsiung, 2016).

2.3.1 Safety Compliance

Safety compliance implies the safety behaviour of the employees in ways that improve their personal safety and health (Vinodkumar & Bhasi, 2010). The role of employee thinking of workplace safety, as measured by five safety angles, namely safety training, supervisor safety, co-worker safety, management safety, and job safety were examined in previous research however, not all workplace safety facets significantly predicted safety compliance. Only three aspects were found to be significant in determining safety compliance, which are management safety practices, job safety, and co-worker safety (Subramaniam, Said, & Alshuaibi, 2017). Out of these three predictors, management safety practices played the major role, followed by co-worker safety and job safety (Subramaniam et al., 2017).

2.3.2 Safety Participation

Safety participation implies workers' behaviour in ways that enhance the health and safety awareness of co-workers and eventually support the company's stated safety objectives and goal. (Vinodkumar & Bhasi, 2010).

Safety participation refers behaviour that indirectly contributes to the establishment of a safe environment for workers. This includes the express of employees' concern about their safety, employee voluntarily and proactively participate in safety programmes and activities, helping co-workers with safety issues, promoting the safety programmes such as safety month, promoting safety policies and attending safety committee meetings (Mullen, Kelloway, & Teed, 2017).

When we compare safety participation and safety compliance, safety participation is more effective in the long-term at decreasing workplace accidents and injuries through the making of a better condition to support work safety (Curcuruto, Conchie, Mariani, & Violante, 2015).

CHAPTER 3

METHODOLOGY

3.1 Introduction

Research methodology is the theoretical and systematic analysis methods applied to a specific field of study. Hence, the purpose of chapter three is explaining the methodology in collecting the data in order to meet the study objectives. This chapter will describe the conceptual framework, hypothesis development, research design, instrumentation and measurement, sampling procedure, data collection procedure, data analysis procedure, pilot studies and summary.

3.2 Conceptual Framework

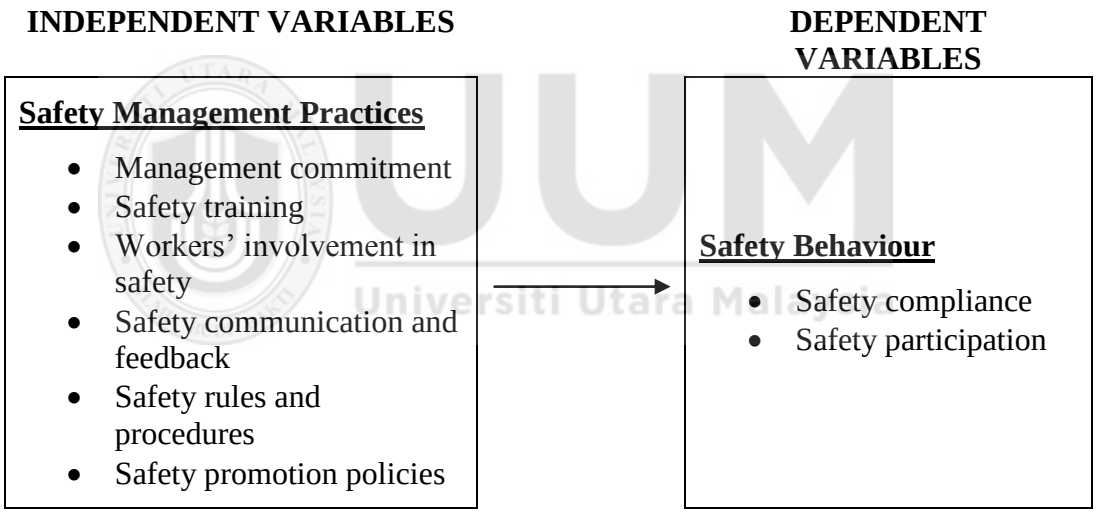
A conceptual framework is to develop the practical and useful theory by an analytical tool with several different types of variations and contexts. This study will focused to study the relationship between the safety management practices and safety behaviour among the production workers in one of the steel drum company.

The conceptual framework conducted in Vinodkumar and Bhasi (2010) study was used as reference for this study. The conceptual framework of this study consists of independent variables and dependent variable.

3.3 Operationalization of Variables

For this study, six independent variables were chosen under category of safety management practices, namely safety training, management commitment, safety communication and feedback, workers' involvement in safety, safety promotion policies, and safety rules and procedures. The dependent variable for this study is safety behaviour, which consists of two variables, namely safety compliance and safety participation. Figure 3.1 show the conceptual framework of the study.

Figure 3.1 Theoretical framework of the study



3.4 Measurement of Variables

In this study, a total of 34 items were used to measure the six components of safety management practices and 12 items were used to measure the two components of safety behaviour. All items were adapted from previous research (Reefer Appendix A: Questionnaire for Survey on Workplace Safety Management Practices and Safety Behaviour).

3.5 Hypotheses Development

Based on the previous literature, hypotheses have been developed in this study of the relationship between safety management practices and safety behaviours among production workers in steel drum company.

The hypotheses of this study are as follow:

H1: Management commitment has significant relationship with safety compliance among production workers in steel drum company.

H2: Safety training has significant relationship with safety compliance among production workers in steel drum company.

H3: Worker involvement has significant relationship with safety compliance among production workers in steel drum company.

H4: Safety communication and feedback has significant relationship with safety compliance among production workers in steel drum company.

H5: Safety rules and procedures have significant relationship with safety compliance among production workers in steel drum company.

H6: Safety promotion policies have significant relationship with safety compliance among production workers in steel drum company.

H7: Management commitment has significant relationship with safety participation among production workers in steel drum Company.

H8: Safety training has significant relationship with safety participation among production workers in steel drum company.

H9: Worker involvement has significant relationship with safety participation among production workers in steel drum company.

H10: Safety communication and feedback has significant relationship with safety participation among production workers in steel drum company.

H11: Safety rules and procedures have significant relationship with safety participation among production workers in steel drum company.

H12: Safety promotion policies have significant relationship with safety participation among production workers in steel drum company.

3.6 Research Design

Purposive sampling method was used for this study. Purposive sampling is a non probability sampling method. The purpose of using purposive sampling in this study is to generate result that can be logically assumed to be representative for the selected population. The population that selected for this study is production workers in Steel Drum Company as they are the majority employees in the company. This research is quantitative study. Questionnaires will be used to evaluate the workers' perception on safety management practices and safety behaviour. Each questionnaires survey is based on individual self-perception.

3.7 Instrument and Measurement

A survey was conducted in this study to collect the data on workers' perception on safety management practices and safety behaviour. The items were translated into Malay and Burmese languages for better understanding among workers as most of the workers in production are from Myanmar. The questionnaires used for this study is attached in Appendix A.

There are two sections in the questionnaires. Section A contains the demographic information of the respondents, such as age, gender, race, marital status, education level, work level, working experience, accident history experienced, and training attendance record.

Section B contains questions on the perception of worker on safety management practices and safety behaviours. The safety management practices questionnaire was divided into six sub-categories, namely management commitment, safety communication and feedback, workers' involvement, safety training, safety promotion policies, and safety rules and procedures. Questionnaires for safety behaviour are divided into two categories, namely safety compliance and safety participations.

Five point likert like scale was used in this questionnaire survey. Table 3.1 show the five-point likert scale.

Table 3.1
Five point likert scale

Judgment	**Scale**
Disagree	1
Somewhat disagree	2
Neutral	3
Somewhat agree	4
Agree	5

3.8 Sampling Procedure

The sampling method used in this research study is purposive sampling method. Purposive sampling here is confined to specific group of workers who can provide the desired information for this research study.

The sample of research in this study are workers who worked in the production. The total population in production is 164 peoples. These is included all department under production, which are Body Sheet and End Cover Preparation Line, Drum Assembly Line 1, Drum Assembly Line 2, Drum Assembly Line 3, Maintenance Department, and QAQC Department. Table 3.2 show the population size of each department in production.

Table 3.2
Population size of each department in production

Department	Population size (Number of workers)
Body Sheet and End Cover Preparation Line	43
Drum Assembly Line 1	37
Drum Assembly Line 2	39
Drum Assembly Line 3	28
Maintenance Department	6
QAQC Department	11
Total Population	**164**

The target sample size is at least 113 set of questionnaire returned for analysis, as refer to Krejcie and Morgan (1970) determination chart, as shown in Table 3.3.

Table 3.3
Krejcie and Morgan determination chart

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size.
S is sample size.
Soruce: Krejcie and Morgan (1970)

3.9 Data Collection Procedure

The questionnaires were distributed on different day by the department. The workers from the same department will be gathered during morning talk. An introduction and explanation on the purpose of this survey were briefed to the workers. All workers were requested to fill out the Questionnaires and submit to HSE Department once completed within the same week. Finally, a total of 164 set of questionnaires were distributed to all workers in the production.

The questionnaire not returned on the same week will consider as no return questionnaire. Only the returned questionnaires will use for analysis for this study.

3.10 Data Analysis Procedure

All the data from the returned questionnaires will analyzed by using the Statistical Package for Social Science (SPSS) software. By using SPSS software, it can help the researcher to sort the data and interpret the data, in order to analyze the data. The purpose of using SPSS to analyze the data is to test the hypothesis whether is accepted or rejected.

The types of analysis for the study data were included reliability analysis, descriptive analysis, correlation analysis and regression analysis. All the findings were then interpreted in chapter 4, Result and Discussion.

3.11 Pilot Study

The purpose of the pilot study is to ensure the target respondents understand the question in the questionnaires survey form, so that the data are reliable for analysis.

A total of 18 samples were distributed to the employees in the same company, before the questionnaire been finalized and distributed to workers in production. Cronbach alpha reliability test is a common measure for reliability test when we having multiple Likert questions in questionnaire. The closer the reading of Cronbach Alpha gets nearer to 1.0, the better. In general, if the reliabilities value is lesser than 0.60 is considered to be poor, and those reliabilities value in the 0.70 range, acceptable, and those reliability value over 0.80 are good (Sekaran & Bougie, 2010). The result of pilot study is shown in Table 3.4 below.

Table 3.4
Reliability analysis result from pilot test

Items	Pilot Test		Finalize Item	
	No. of Questions	**Cronbach Alpha**	**No. of Questions**	**Cronbach Alpha**
Management commitment	8	0.850	8	0.850
Safety training	6	0.923	6	0.923
Workers' involvement	5	0.642	5	0.642
Safety communication and feedback	5	0.658	5	0.658
Safety rules and procedures	5	0.863	5	0.863
Safety promotion and policies	5	0.797	5	0.797
Safety compliance	7	0.770	7	0.770
Safety participation	5	0.816	5	0.816

Based on the reliability test, the pilot study, each variable are above 0.6, which is acceptable and so no question deleted for finalize item in questionnaire survey form.

3.12 Summary

In this chapter, the methodology for the study was explained. The chapter had clearly explained on the sampling procedure, which includes the population, sample size, and sampling technique; data collection procedure, data analysis procedure and how the pilot study been conducted before finalize the questionnaire. All the data and findings will be further analyzed in Chapter 4.

CHAPTER 4

RESULT AND DISCUSSION

4.1 Introduction

This chapter revealed the result and findings of the study on the relationship between safety management practices and safety behaviour from the questionnaire distributed and collected from the steel drum company. The data were analyzed by using the Statistical Package for Social Science (SPSS) version 21. The data were analyzed in terms of reliability, descriptive analysis, correlation and regression. Besides, the frequency analysis for the respondents' demographic details were also been analyzed.

4.2 Response Rate

A total of 164 sets of questionnaire were distributed to the respondents in the company. When doing the final collection, 117 sets, which equivalent to 71.3% response rate returned questionnaires were collected back and this yielded a 117 sets were used as respondents' data and analyzed for this study. Table 4.1 summarized the response rate of the survey.

Table 4.1
Response rate

Items	Total	Percentage (%)
Distributed Questionnaires	164	100
Collected Questionnaires	117	71.3
Unreturned Questionnaires	47	28.7
Completed Questionnaires	117	71.3

4.3 Frequency Analysis for Respondents' Demographic Information

The frequency analysis for the respondents' demographic information are shown in Table 4.2

Table 4.2
Frequency analysis for respondents' demographic information

Demographic	Frequency	Percentage (%)
Age		
Below 25 years old	42	35.9
25 to 34 years old	52	44.4
35 to 44 years old	17	14.5
45 to 54 years old	5	4.3
55 years old and above	1	0.9
Gender		
Male	102	87.2
Female	15	12.8
Race		
Malay	27	23.1
Chinese	12	10.3
Indian	6	5.1
Myanmar	72	61.5

Demographic	Frequency	Percentage (%)
Marital status		
Married	40	34.2
Single	75	64.1
Divorced	2	1.7
Highest educational level		
No education	7	6.0
Secondary school	77	65.8
Certificate	5	4.3
Diploma	12	10.2
Degree	13	11.1
Others	3	2.6
Work level		
Supervisor	6	5.1
Line Leader	8	6.9
Key Operator	18	15.4
Operator	61	52.1
Others	24	20.5
Total working experience		
Less than 1 year	14	12.0
1 to 5 years	66	56.4
6 to 10 years	22	18.8
11 to 15 years	8	6.8
16 to 20 years	3	2.6
21 years and above	4	3.4
Total working experience in current company		
Less than 1 year	21	17.9
1 to 5 years	64	54.7
6 to10 years	22	18.8
11 to 15 years	7	6.0
16 to 20 years	3	2.6
21 years and above	0	0

Demographic	Frequency	Percentage (%)
Occupational accident in current company		
Yes	19	16.2
No	98	83.8
Frequency of accident (if yes) in current company		
1 to 3 times	16	84.2
4 to 6 times	1	5.3
7 to 9 times	0	0
10 or more	2	10.5
Safety training in current company		
Yes	113	96.6
No	4	3.4
Frequency of safety training (if yes) in current company		
Every month	9	7.7
Once in three months	18	15.4
Once in six months	27	23.1
Once a year	54	46.1
Not at all	5	4.3
Others	4	3.4

From the frequency analysis, it shown that majority of the respondents are below 24 years old (80.3%). The respondents at 45 years old and above are minority for this survey (5.2%). The largest respondents in this survey mainly are male, consisted of 102 respondents out of 117 respondents (87.2%) and mainly are foreign worker, which consisted of 72 respondents out of 117 respondents (61.5%). This is because the majority of the workers in production are from Myanmar.

Most of the respondents are single (64.1%). From the survey, majority respondents are low in education, as the frequency analysis show that total 77 respondents (65.8%) are secondary school level and 7 respondents (6.0%) are no education at all.

The majority respondents from this survey are direct workers. Direct workers are those who are in the production and operate for the machine to run the production. These included Line Leader, Key Operator, and Operator level. From the frequency analysis, we can seen there are 87 respondents (74.4%), as 8 respondents are line leader (6.9%), 18 respondents (15.4%) are key operator and 61 respondents (52.1%). Others respondents are from supervisors, technicians, forklift drivers, head of departments, and QAQC inspectors.

Majority respondents (72.6%) are working less than 5 years in this company, which 21 respondents (17.9%) are working less than a year and 64 respondents (54.7%) are working within 1 to 5 years. There are only minority of the respondent having occupational accident in this company, which are 19 respondents (16.2%). And from these 19 respondents, 13 respondents (81.2%) had within 1 to 3 times of occupational accidents, 1 respondent (6.3%) had within 4 to 6 times of occupational accidents and 2 respondents (12.5%) had 10 and more times of occupational accidents in this company.

Majority of the respondents (96.6%) had attended safety training in this company, and mostly attended in a yearly basic (46.1%), follow by 27 respondents (23.1%) attended once in every six months. There were only 4 respondents (3.4%) who didn't attend safety training in the company.

4.4 Reliability Analysis

Although reliability analysis was carried out during the pilot test before finalized the question, the reliability analysis were carried out again for the data collected from all 117 respondents. The purpose is to ensure the real data set are reliable for the analysis and study. Table 4.3 shows the reliability analysis for the data.

Table 4.3
Reliability analysis result from the data

Items	No. of Questions	Cronbach Alpha
Management commitment	8	0.720
Safety training	6	0.761
Workers' involvement	5	0.635
Safety communication and feedback	5	0.350
Safety rules and procedures	5	0.541
Safety promotion and policies	5	0.499
Safety compliance	7	0.682
Safety participation	5	0.807
Total Questions	46	

From the reliability test, it is shown that the three independent variable, namely as safety communication and feedback, safety rules and procedure, and safety promotion and policies are less than 0.6. Question 20, 26 and 34 will be deleted, as after these three questions been deleted, the Cronbach Alpha reading for safety communication and feedback is 0.654, safety rules and procedures is 0.811, and safety promotion and policies is 0.657, which are reliable for the study. Table 4.4 show the finalize reliability analysis result after item deleted.

Table 4.4
Finalize reliability analysis result after item deleted

Items	No. of Questions	Cronbach Alpha
Management commitment	8	0.720
Safety training	6	0.761
Workers' involvement	5	0.635
Safety communication and feedback	4	0.654
Safety rules and procedures	4	0.811
Safety promotion and policies	4	0.657
Safety compliance	7	0.682
Safety participation	5	0.807
Total Questions	43	

4.5 Descriptive Analysis

The means and standard deviation for each independents variables of safety management practices and each dependents variable of safety behaviour was calculated by using descriptive analysis in SPSS. Table 4.5 show the mean and standard deviation for each variable with total 117 set of questionnaires been collected.

Table 4.5
Mean and standard deviation for each variable (based on 117 set data)

Items	Mean	Standard Deviation
Management commitment	3.73	0.626
Safety training	3.86	0.680
Workers' involvement	3.74	0.690
Safety communication and feedback	3.64	0.732
Safety rules and procedures	3.93	0.715
Safety promotion and policies	3.20	0.823
Safety compliance	3.72	0.624
Safety participation	4.08	0.699

Mean is the average of the total numbers in a same variable. All the numbers here are refer to the scale measure of all variables, by using Likert scale, from 1 to 5, which from disagree to agree. In other words, the greater the means, it tends to agree. From the descriptive analysis, it shown that mean of all variables are more than 3.

Standard deviation is a measure of the dispersion of a set of data from its means. Overall the standard deviations of all variables are less than 0.850.

4.6 Correlation Analysis

The result indicated that each of the independent variables of safety management practices have positive significant correlation with safety compliance and safety participation.

4.7 Regression Analysis

Regression analysis is used in this study to estimate the relationships between independent variable (safety management practices) and each dependent variable (safety compliance and safety participation) of safety behaviour.

Multiple regression is a statistical tool that allow us to examine how multiple independent variables are related to a dependent variable. Hence, to examine various independent variables to a dependent variable, multiple regression analysis in SPSS was used for this study.

The regression analysis result between each of the independent variable under safety management practices and safety compliance was shown in table 4.6, while the regression analysis result between each of the independent variable under safety management practices and safety participation was shown in table 4.7

Table 4.6
Regression analysis results between each independent variable under safety management practices and safety compliance

	Unstandardized Coefficients		**Standardized Coefficients**		
Model	B	Std. Error	Beta	**t**	**Sig.**
(Constant)	1.332	0.297		4.479	0.000
Management commitment	0.370	0.108	0.371	3.409	0.001
Safety training	0.400	0.100	0.438	3.984	0.000
Worker involvement	-0.360	0.111	-0.400	-3,230	0.747
Safety communication and feedback	-0.204	0.085	-0.240	-2.408	0.018
Safety rules and procedures	0.089	0.104	0.103	0.858	0.393
Safety promotion polices	-0.001	0.068	-0.020	-0.170	0.986

Dependent variable: safety compliance

The regression analysis result shows that the relationship between management commitment and safety compliance was significant, which is 0.001 ($P<0.05$). This means that hypothesis 1, management commitment has significant relationship with safety compliance among production workers in steel drum company is supported.

The regression analysis result shows that the relationship between safety training and safety compliance was significant, which is 0.000 (P<0.05). This means that hypothesis 2, safety training has significant relationship with safety compliance among production workers in steel drum company is supported.

The regression analysis result shows that the relationship between worker involvement and safety compliance was not significant, which is 0.747 (P>0.05). This means that hypothesis 3, worker involvement has significant relationship with safety compliance among production workers in steel drum company is not supported.

The regression analysis result shows that the relationship between safety communication and feedback and safety compliance was significant, which is 0.018 (P<0.05). This means that hypothesis 4, safety communication and feedback has significant relationship with safety compliance among production workers in steel drum company is supported.

The regression analysis result shows that the relationship between safety rules and procedures and safety compliance was not significant, which is 0.747 (P>0.05). This means that hypothesis 5, safety rules and procedures have significant relationship with safety compliance among production workers in steel drum company is not supported.

The regression analysis result shows that the relationship between safety promotion policies and safety compliance was not significant, which is 0.986 (P>0.05). This means that hypothesis 6, worker involvement has significant relationship with safety compliance among production workers in steel drum company is not supported.

Table 4.7
Regression analysis results between each independent variable under safety management practices and safety participation

	Unstandardized Coefficients		**Standardized Coefficients**		
Model	B	Std. Error	Beta	**t**	**Sig.**
(Constant)	1.450	0.341		4.257	0.000
Management commitment	-0.100	0.124	-0.090	-0.806	0.422
Safety training	0.221	0.115	0.215	1.926	0.057
Worker involvement	-0.158	0.127	-0.156	-1.245	0.216
Safety communication and feedback	0.122	0.097	0.128	1.255	0.212
Safety rules and procedures	0.535	0.119	0.546	4.474	0.000
Safety promotion polices	0.061	0.077	0.072	0.793	0.430

Dependent variable: safety participation

The regression analysis result shows that the relationship between management commitment and safety participation was not significant, which is 0.422 (P>0.05). This means that hypothesis 7, management commitment has significant relationship with safety participation among production workers in steel drum company is not supported.

The regression analysis result shows that the relationship between safety training and safety participation was not significant, which is 0.057 (P>0.05). This means that hypothesis 8, safety training has significant relationship with safety participation among production workers in steel drum company is not supported.

The regression analysis result shows that the relationship between worker involvement and safety participation was not significant, which is 0.216 (P>0.05). This means that hypothesis 9, worker involvement has significant relationship with safety participation among production workers in steel drum company is not supported.

The regression analysis result shows that the relationship between safety communication and feedback and safety participation was not significant, which is 0.212 (P>0.05). This means that hypothesis 10, safety communication and feedback has significant relationship with safety participation among production workers in steel drum company is not supported.

The regression analysis result shows that the relationship between safety rules and procedures and safety participation was significant, which is 0.000 (P<0.05). This means that hypothesis 11, safety rules and procedures have significant relationship with safety participation among production workers in steel drum company is supported.

The regression analysis result shows that the relationship between safety promotion policies and safety participation was not significant, which is 0.430 (P>0.05). This means that hypothesis 12, worker involvement has significant relationship with safety participation among production workers in steel drum company is not supported.

The hypotheses result was summary in Table 4.8.

Table 4.8
Hypotheses results

	Hypotheses	**Result**
H1	Management commitment has significant relationship with safety compliance among production workers in steel drum company.	Supported
H2	Safety training has significant relationship with safety compliance among production workers in steel drum company.	Supported
H3	Worker involvement has significant relationship with safety compliance among production workers in steel drum company.	Not supported
H4	Safety communication and feedback has significant relationship with safety compliance among production workers in steel drum company.	Supported
H5	Safety rules and procedures have significant relationship with safety compliance among production workers in steel drum company.	Not supported

Table 4.8
Hypotheses results - continued

	Hypotheses	**Result**
H6	Safety promotion policies have significant relationship with safety compliance among production workers in steel drum company.	Not supported
H7	Management commitment has significant relationship with safety participation among production workers in steel drum Company.	Not supported
H8	Safety training has significant relationship with safety participation among production workers in steel drum company.	Not supported
H9	Worker involvement has significant relationship with safety participation among production workers in steel drum company.	Not supported
H10	Safety communication and feedback has significant relationship with safety participation among production workers in steel drum company.	Not supported
H11	Safety rules and procedures have significant relationship with safety participation among production workers in steel drum company.	Supported
H12	Safety promotion policies have significant relationship with safety participation among production workers in steel drum company.	Not supported

4.8 Summary

This chapter had analyzed the data from 117 respondents. These included frequency analysis, descriptive analysis, correlation analysis, and regression analysis. After all the analysis had been carried out, the two hypotheses were supported. The recommendations for future study will be discussed in the next chapter.

CHAPTER 5

RECOMMENDATION AND CONCLUSION

5.1 Introduction

This chapter provides justification of the findings and results obtained from data analysis about the relationship between each independent variable under safety management practices (safety training, management commitment, safety communication and feedback, workers' involvement in safety, safety promotion policies, and safety rules and procedures) and each dependent variable under safety behaviour (safety compliance and safety participation) among workers in steel drum company.

The results and findings of the study may be useful to the company as the company can know the workers perception on the level of safety management practices and safety behaviour of the company. The justification and recommendation may assist the company to improve the safety management practice and safety behaviour in their organization. Besides, the limitation of current study will be discussed in this chapter as well.

5.2 Discussion of Research Questions

This study is to determine the level of safety behaviour among production workers. Besides, the study also focused on the relationship between safety management practices and safety behaviour by identifying the relationship between safety management practices and safety compliance, and between safety management and safety participation. The following sections will further discussed on the research objectives and also the result of the hypotheses of this study.

5.2.1 The Level of Safety Behaviour among Production Workers

From the analysis data on mean and standard deviation we obtained, it shows that the mean of both dependent variable of safety behaviour are high (3.72 for safety compliance and 4.08 for safety participation). The standard deviation is 0.624 for safety compliance and 0.699 for safety participation. In other word, the range of safety compliance on all respondents is within 3.096 to 4.344, while the range of safety participation is 3.381 to 4.779. This implies that the level of safety behaviour among production workers is above average, meaning the company production's workers having high awareness to behave and act safely in the organization.

5.2.2 Relationship between Safety Management Practices and Safety Compliance among Production Workers

From the study that we obtained, it is difficult to justify as overall as whether the safety management practices have significantly influenced safety compliance among production workers. This is because from the regression analysis, it shows that only management commitment, safety training and safety communication and feedback have significant influence to safety compliance; while the other three independent variables (worker involvement, safety rules and procedures, and safety promotion policies) have no significant influence to safety compliance.

Management commitment has significant relationship with safety compliance. Production, safety and quality are the three common areas that manufacturing management can demonstrate commitment in company, and the commitment that shown by management can impact a variety of areas, including employee attitudes (Michael, Evans, Jansen, & Haight, 2005). The management commitment in this company can clearly be seen through the safety and health committee meeting. The managers show their accountability to participate in safety activities. Managers show their concern in the safety of the workers. Hence, management commitment is significantly influence worker's safety compliance in this company.

From the result analysis for this study, safety training has the most significant relationship with safety compliance. Safety and health compliance training will be given to every employee in the company by yearly basic. The content of the safety and health compliance training is comprehensive, as it covers all the safety and health topics, such as company safety and health policies, safety and health rules, roles and responsibilities of safety and health committee meeting, employer and employee responsibilities, workplace safety, machine safety, fire safety, use of personal protective equipment, chemical safety, electrical safety, working at height safety, safe manual handling, hazard communication and office safety. By end of the training, the employee will be evaluated through a test. The purpose is to know their understand level of the training so that we can ensure the safety and health knowledge are delivered to them. Besides that, the employee will required to sign on the attestation form as prove as they commit to follow all the company safety and health rules. Hence, this could be a reason on why the safety training has significant influent workers' safety compliance in the company.

Worker involvement has no significant relationship with safety compliance in this study. This is probably due to most of the decision making of safety and health activities and meeting are made by management, without voting or open to all workers. For example, domination of workers' representatives are direct selected by management without discussed with the workers and let them select their representative.

Safety communication and feedback has significant relationship with safety compliance in this study. Workers will expose to hazards if they not aware on the hazard of their work. They tend to act unsafe by putting themselves expose to the hazard although they not intend to do that, as they have no safety hazard awareness. Their unsafe act can be considered as they are not complying with safety rules and procedures. Hence, safety communication between management or supervisor and workers are important to let the workers know the safety issues in the workplace. The company provides sufficient opportunity to workers' representative to discuss and deal with safety issues in meetings. Workers can feedback any safety issues to the management in the company. Hence, this open door policies may be the reason that why safety communication and feedback shows significant relationship with safety compliance.

Safety rules and procedures have no significant relationship with safety compliance in this study. The possible reason can be workers not really understand every rules and procedures especial safe operation procedures on their word although training is given. This is because majority of the workers in the company are foreign workers and the job training is usually carried out by key operator or line leader, and most of the key operator are foreign worker as well. Besides, there is low possibility for supervisors manager of the company always try to enforce safe working procedures as they are not all the time in production line. Hence, safety rules and procedure have no significant influence workers' safety compliance.

Safety promotion policies have no significant relationship with safety compliance in this study. Safety promotion policies are the policies that can add interest to the hazard control programme of an organization, offering recognition, which can help modify behaviour. The company has policies on safety and health, however it is only for documentation purpose. Hence, workers might not aware on the content of safety promotion policies and thus it have no significant relationship with safety compliance.

5.2.3 Relationship between Safety Management Practices and Safety Participation among Production Workers

From the analysis results of the study that we obtained, it can be justified that overall safety management practices have no significantly relationship with safety participation among production workers. This is because from the regression analysis, it is only safety rules and procedures have significant relationship with safety participation; while other independent variables (management commitment, safety training, worker involvement, safety communication and feedback, and safety promotion policies) have no significant influence to safety participation.

Safety participation is about employee initiative to voluntarily take part in any safety and health matters or activities in the company. Safety rules and procedures have no significant influence to safety compliance, it show significant influence to safety participation in the company. The procedures was reviewed by QAQC department when is needed for change, and at the same time, they will refer safety department to update if any safety aspect to be added in revised procedure and usually the line leader and key operator will take part to understand the new procedure and all the respective workers will attend the job safety training that conducted by safety department.

Safety participation is more like voluntarily of worker to take part or join in while safety compliance is more like requirement that worker shall comply. In other word, safety participation is involved worker's self interest to join the safety activities, which not really related to management commitment nor safety training that provided by the company. So far, safety training is only delivered the safety knowledge to the workers and make sure they understand the company safety and health rules and workplace safety, but doesn't have any motivation factor to encourage them to participate in safety activities. This could be the reason of why safety training is not significant influencing safety participation in the company.

Safety promotion policies have no significant relationship with safety participation in this study. As mention in section before, the company has policies on safety and health, however it is only for documentation purpose. Hence, workers might not aware on the content of safety promotion policies and thus it have no significant relationship with safety participation.

5.3 Implications

In this section, the implications of the finding on both theoretical and practical perspective will be focused.

5.3.1 Theoretical Implications

This study was focused on the relationship between safety management practices and safety behaviour among production workers in steel drum company. Similar studies was done by other researchers in various industries, such as construction, hospital, electrical industry, automotive industry, and some researcher also carried out similar study in SMI (Small Medium Industry). However, it is limited resources on similar study specific only to steel drum industries. Therefore, this study was carried out in one of the steel drum company, to analyze the six independent variable under safety management practices, namely management commitment, safety training, worker involvement, safety communication and feedback, safety rules and procedures, and safety promotion and two variables under safety behaviour, namely safety compliance and safety participation.

5.3.2 Practical Implication

The finding of the study will provide as a good reference to the company to further improve in their safety management practices in order to increase the level safety behaviour among workers.

The present study shows that management commitment, safety training and safety communication and feedback significantly influence safety compliance, however not significant in other three variables, which are worker involvement, safety rules and procedures, and safety promotion policies. Therefore, the management of the company could encourage the worker involvement is safety matters by letting them to vote their safety leader for each section and assist to monitor in workplace safety. Management shall considered to encourage workers give their opinion on safety related idea before any final decision making for safety related matter as this can increase the workers involvement in the company and create a safety awareness among the workers.

The company could also improve in the safety promotion policies by more communication and publication on company safety policies to all workers and brief them the content in morning talk. Eventually, this can create a safety and health awareness to all workers and therefore increase the level of safety behaviour in term of safety compliance and safety participation, as in present study, the safety promotion policies have no significant influence to safety compliance and safety participation.

5.4 Limitation

The main limitation for this study is concerned on the understanding level among the foreign workers. Although the questionnaire had been translated to their language (Myanmar language) besides Malay language and English language, some respondents were still unable to understand the question as there is too specific and they are not familiar with those words. It take times for the researcher to collect back the questionnaires as some of the foreigner need friends to assist to explained to them in details. Hence, different understanding and interpretation may happen.

The second limitation for this study is the concerned on the honesty of respondents during the assessment as all questions in the questionnaires are using self-assessment method. Respondents may have hidden agenda and may not be hundred percent truthful with their answer.

5.5 Recommendation for Future Research

To improve the limitation in present study, the researcher can simplified the questions in questionnaire to their understanding level however without changing the meaning of the questions. The translation of questions in questionnaires shall also be doubled checked by second or third person to ensure the meaning is correct before distributed to all foreign workers if any future researches are facing the same issue.

This study was only focus in production workers of steel drum company and only focused on safety management practices and safety behaviour among workers. In future study, safety performance index of the company can be considered to be included to the study so that the researcher can study whether the high level of safety behaviour of workers will contribute good safety performance index in company.

5.6 Conclusion

The results of the study is not only beneficial to the company that selected for this study, however it could also beneficial to all related parties involved, which included educational sector, such as student and academic researcher, similar industries and also other industries in the aspect of safety management practices in company.

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SURVEY ON WORKPLACE SAFETY MANAGEMENT PRACTICES AND SAFETY BEHAVIOUR
(SOAL SELIDIK TENTANG AMALAN PENGURUSAN KESELAMATAN DI TEMPAT KERJA & TINGKAH LAKU KESELAMATAN)

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*:
   - ☐ Below 25 years old / *kurang daripada 25 tahun*
   - ☐ 25 - 34 years old / *tahun*
   - ☐ 35 - 44 years old / *tahun*
   - ☐ 45 - 54 years old / *tahun*
   - ☐ 55 years old and above / *tahun dan ke atas*

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

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

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

5. Highest educational level / *Tahap pendidikan tertinggi*:
   - ☐ No education/ *Tiada pelajaran*
   - ☐ Secondary school / *Sekolah Menengah*
   - ☐ Certificate / *Sijil*
   - ☐ Diploma / *Diploma*
   - ☐ Degree/ *Ijazah*
   - ☐ Others, please specify _____ / *Lain-lain, sila nyatakan* _____

6. Work level / *Jawatan*:
   - ☐ Supervisor / *Penyelia Kilang*
   - ☐ Line Leader / *Ketua Seksyen*
   - ☐ Key Operator
   - ☐ Operator
   - ☐ Others, please specify _____ / *Lain-lain, sila nyatakan* _____

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

☐ Less than 1 year / *kurang daripada 1 tahun*

☐ 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?*

☐ Less than 1 year / *kurang daripada 1 tahun*

☐ 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) _____

SECTION B : SAFETY MANAGEMENT PRACTICES & SAFETY BEHAVIOUR
BAHAGIAN B: AMALAN KESELAMATAN & TINGKAH LAKU 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
Disagree *Tidak setuju*	Somewhat disagree *Agak tidak bersetuju*	Neutral *Neutral*	Somewhat agree *Agak setuju*	Agree *Setuju*

MANAGEMENT COMMITMENT
KOMITMEN PENGURUSAN

1. Safety is given high priority by the department. 1 2 3 4 5

   Jabatan ini memberi keutamaan kepada keselamatan.

   ကာကွယ်မှုနှင့်ပတ်သက်သည့် စည်းမျဉ်းစည်းကမ်းများ လုပ်ငန်းခွင်တွင်ရှိပါသလား:

2. Safety rules and procedures are strictly followed by the management. 1 2 3 4 5

   Peraturan dan prosedur keselamatan dipatuhi dengan tegas oleh pihak pengurusan.

   အုပ်ချုပ်သူ၊ မှူကြီးပိုင်းများသည် ကာကွယ်မှုနှင့်ပတ်သက်သည့် လိုက်နာဆောင်ရွက်မှု ရှိပါသလား:

3. Corrective action is always taken when the management is told about unsafe practices. 1 2 3 4 5

   Tindakan pembetulan sering diambil oleh pihak pengurusan apabila dimaklumkan mengenai amalan yang tidak selamat.

   အုပ်ချုပ်သူ၊ မှူကြီးပိုင်းက အန္တရာယ်များသည့်အရာ - ကာကွယ်မှု မရှိသည့်အရာများကို တင်ပြသည့် အခါ ပြုပြင်ဆောင်ရွက်ပါသလား:

4. In my workplace managers/ supervisors do not show interest in the safety of wokers. 1 2 3 4 5

   Pengurus/ penyelia di tempat kerja saya tidak memberikan perhatian kepada keselamatan pekerja.

   လုပ်ငန်းခွင်တွင် အလုပ်သမားများ၏ ကာကွယ်မှုနှင့်ပတ်သက်သည့် အရာများကို မန်နေဂျာ - ဆုပါဗိုက်ဆာတို့က ဂရုစိုက်မှု ရှိပါသလား:

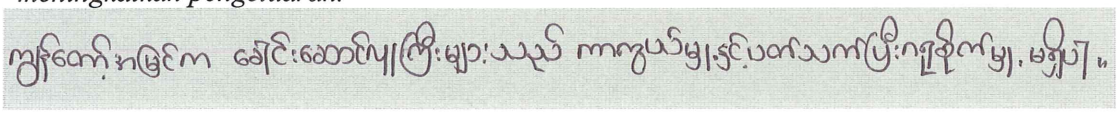
5. Management considers safety to be equally important as production. 1 2 3 4 5

   Pihak pengurusan merasakan keselamatan dan pengeluaran adalah sama penting.

   ထုတ်လုပ်မှု၊ အရေးအကြောင်း နှင့် ကာကွယ်မှုအား ညီမျှမှု ရှိပါသလား:

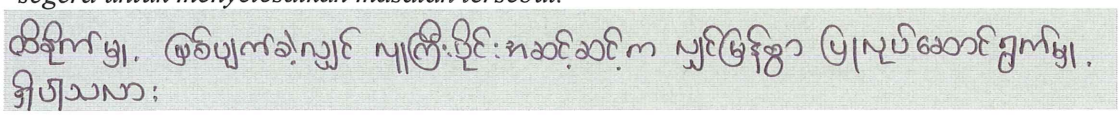
6. I feel that management is willing to compromise on safety for increasing production. 1 2 3 4 5

Saya berasa pihak pengurusan sanggup mengabaikan keselamatan demi meningkatkan pengeluaran.



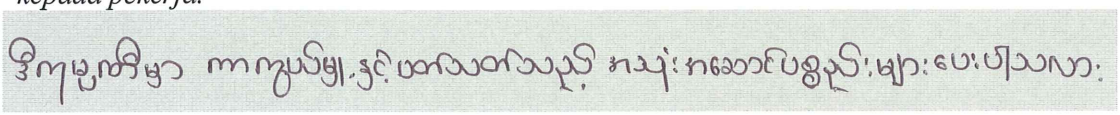
7. When near-miss accidents are reported, my management acts quickly to solve the problems. 1 2 3 4 5

Apabila kemalangan nyaris dilaporkan, pihak pengurusan bertindak segera untuk menyelesaikan masalah tersebut.



8. My company provides sufficient personal protective equipment for the workers. 1 2 3 4 5

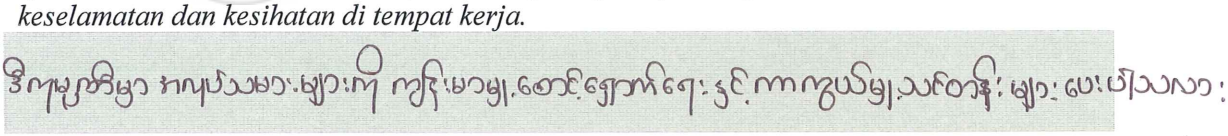
Syarikat ini menyediakan peralatan perlindungan diri yang mencukupi kepada pekerja.



SAFETY TRAINING
LATIHAN KESELAMATAN

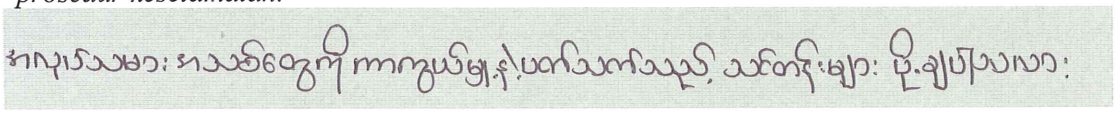
9. My company gives comprehensive training to the employees in the workplace health and safety issues. 1 2 3 4 5

Syarikat ini memberi latihan menyeluruh kepada pekerja mengenai isu keselamatan dan kesihatan di tempat kerja.



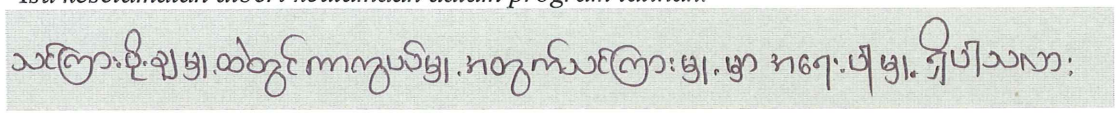
10. Newly recruits are trained adequately to learn safety rules and procedures. 1 2 3 4 5

Pekerja baharu dilatih secukupnya untuk mempelajari peraturan dan prosedur keselamatan.



11. Safety issues are given high priority in training programmes. 1 2 3 4 5

Isu keselamatan diberi keutamaan dalam program latihan.



12. I am not adequately trained to respond to emergency situations in my workplace. 1 2 3 4 5

Saya tidak dilatih secukupnya untuk bertindak dalam situasi kecemasan di tempat kerja.

13. Management encourages the workers to attend safety training programmes. 1 2 3 4 5

Pihak pengurusan menggalakkan pekerja menghadiri program latihan keselamatan.

14. Safety training given to me is adequate to enable to assess hazards in workplace. 1 2 3 4 5

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

WORKERS' INVOLVEMENT
PENGLIBATAN PEKERJA

15. Management always welcomes opinion from employees before making final decisions on safety related matters. 1 2 3 4 5

Pihak pengurusan sentiasa mengalu-alukan pandangan daripada pekerja sebelum membuat keputusan akhir mengenai hal-hal keselamatan.

16. My company has safety committees consisting of representatives of management and employees. 1 2 3 4 5

Syarikat ini mempunyai jawatankuasa keselamatan yang terdiri daripada wakil pengurusan dan pekerja.

17. Management promotes employees' involvement in safety related matters. 1 2 3 4 5

Pihak pengurusan menggalakkan penglibatan pekerja dalam hal-hal berkaitan keselamatan.

18. Management consults with employees regularly about workplace health and safety issues. 1 2 3 4 5

Pihak pengurusan kerap berunding dengan pekerja mengenai isu keselamatan dan kesihatan di tempat kerja.

19. Employees do not sincerely participate in identifying safety problems. 1 2 3 4 5

Pekerja melibatkan diri secara tidak ikhlas dalam mengenalpasti masalah keselamatan.

SAFETY COMMUNICATION AND FEEDBACK
MAKLUMBALAS DAN KOMUNIKASI KESELAMATAN

20. My company doesn't have a hazard reporting system where employees can communicate hazard information before incidents occur. 1 2 3 4 5

Syarikat ini tidak mempunyai sistem pelaporan bahaya yang membolehkan pekerja menyampaikan maklumat bahaya sebelum insiden berlaku.

21. Management operates an open-door policy on safety issues. 1 2 3 4 5

Pihak pengurusan mengamalkan polisi keterbukaan berkenaan isu keselamatan.

22. There is sufficient opportunity to discuss and deal with safety issues in meetings. 1 2 3 4 5

Terdapat peluang yang cukup untuk berbincang dan menangani isu keselamatan dalam mesyuarat.

23. The target and goals for safety performance in my organization are not clear to the workers. 1 2 3 4 5

Halatuju dan matlamat keselamatan di syarikat ini adalah tidak jelas kepada pekerja.

24. There is open communication about safety issues in this workplace. 1 2 3 4 5

Terdapat komunikasi terbuka mengenai isu keselamatan di tempat kerja.

SAFETY RULES AND PROCEDURES
PERATURAN DAN PROSEDUR KESELAMATAN

25. The safety rules and procedures followed in my company are sufficient to prevent incidents occurring. 1 2 3 4 5

Peraturan dan prosedur keselamatan yang diikuti di syarikat ini mencukupi untuk mengelakkan dari insiden berlaku.

ဒီကုမ္ပဏီမှာ ကာကွယ်မှုနှင့်ပတ်သက်သည့် စည်းမျဉ်းစည်းကမ်းများဟာ ရှိသင့်အတွက် ကာကွယ်မှုများဟာ ပြီးပြည့်စုံပါသလား

26. The facilities in the safety department are not adequate to meet the needs of this organization. 1 2 3 4 5

Fasiliti di jabatan keselamatan tidak mencukupi untuk memenuhi keperluan di syarikat ini.

ဒီစက်ရုံမှာ ကာကွယ်ရေးဌာန မှုနှင့်ပတ်သက်တဲ့ ကာကွယ်ရေးပစ္စည်းများ ပြီးပြည့်စုံပါသလား (မီးသတ်ဗူး - မီးသတ်ပိုက် စသည်ဖြင့်)

27. My supervisors and managers always try to enforce safe working procedures. 1 2 3 4 5

Penyelia dan pengurus saya sentiasa cuba untuk menguatkuasakan prosedur kerja selamat.

ကျွန်တော်တို့၏ ဆူပါဗိုက်ဇာ နှင့်မန်နေဂျာတွေဟာ ကာကွယ်မှုနှင့်ပတ်သက်ပြီး အမြဲတမ်း လိုက်နာဆောင်ရွက်ဖို့ ကြိုးစားကြပါသလား

28. Safety inspections are carried out regularly. 1 2 3 4 5

Pemeriksaan keselamatan kerap dijalankan.

ကာကွယ်စောင့်ရှောက်ရေးတာဝန်ရှိသူတွေဟာ ကာကွယ်မှုနှင့်ပတ်သက်သည့် စစ်ဆေးမှုများရှိပါသလား

29. The safety procedures and practices in this organization are useful and effective. 1 2 3 4 5

Prosedur dan amalan keselamatan di syarikat ini berguna dan berkesan.

ကျွန်တော်တို့စက်ရုံမှာ ကာကွယ်မှုနှင့်ပတ်သက်ပြီး လုပ်ဆောင်မှုတွေဟာ အသုံးဝင်ပါသလား အကျိုးရှိပါသလား

SAFETY PROMOTION POLICIES
DASAR PROMOSI KESELAMATAN

30. In my company, safe conduct is considered as a positive factor for job promotions. 1 2 3 4 5

Di syarikat ini, amalan kerja selamat dianggap sebagai faktor positif untuk kenaikan pangkat.

ဒီစက်ရုံမှာ ကာကွယ်မှုကို လိုက်နာဆောင်ရွက်သူတွေကို ရာထူးအဆင့်တိုးပေးတာ မျိုး ရှိပါသလား

31. In my company, employees are rewarded for reporting safety hazards (thanked, cash or other rewards, recognition in newsletter, etc.). 1 2 3 4 5

Di syarikat ini pekerja akan diberi imbuhan untuk melaporkan bahaya keselamatan (ucapan terima kasih, wang tunai atau imbuhan, pengiktirafan dalam makalah dan lain-lain).

ဒီကုမ္ပဏီမှာ အန္တရာယ်များသည့် အရာများကို သတင်းပြပြောကြားသောအခါ - သင့်ကို ကျေးဇူးတင်ကြောင်း ပြောကြားမှုများ - ငွေကြေးထောက်ပံ့မှုများ ရှိပါသလား;

32. 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. 1 2 3 4 5

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.

ဒီကုမ္ပဏီမှာ ကာကွယ်မှုနှင့်ပတ်သက်သည့် အခမ်းအနား - ပျော်ပွဲရွှင်ပွဲများ ပြုလုပ်သည့် အခါ ကာကွယ်ရေး - ကျန်းမာရေးနှင့်ပတ်သက်သည့် အကြောင်းအရာများ ပါရှိပါသလား;

33. There exists very healthy competition among employees to find out and report unsafe condition and acts. 1 2 3 4 5

Wujud persaingan yang sangat sihat dalam kalangan pekerja untuk mengenalpasti dan melaporkan keadaan dan tindakan tidak selamat.

ဒီကုမ္ပဏီမှာ အန္တရာယ်ဖြစ်နိုင်သည့် အရာများ - ကာကွယ်မှုမရှိသည့် အရာများကို တွေ့ရှိလျှင် သတင်းပို့အကြောင်းကြားမှု ရှိပါသလား;

34. Our supervisor becomes very unhappy and angry when employees find out and report unsafe conditions and acts in our section. 1 2 3 4 5

Penyelia kami menjadi sangat tidak gembira dan marah apabila mendapati pekerja mengenalpasti dan melaporkan keadaan dan tindakan tidak selamat di seksyen kami.

ဒီကုမ္ပဏီတွင် အန္တရာယ်များသည့်အရာများ ကာကွယ်မှုမရှိသည့်အရာများကို ပြောကြားသည့် အခါ ရုပ်ပါစိတ်ပါ တွေက ဒေါသဆိုး - ချပ်ပုပါသလား;

SAFETY COMPLIANCE
PEMATUHAN KESELAMATAN

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

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

ကျွန်တော်သည် အလုပ်လုပ်ကိုင်သည့်အခါ ကာကွယ်မှု အသုံးအဆောင်ပစ္စည်းများကို အသုံးပြုပါသည်

36. I carry out my work in a safe manner 1 2 3 4 5

Saya menjalankan kerja dengan selamat.

ကျွန်တော်ဟာ အလုပ်လုပ်တိုင်း ကာကွယ်မှု - အန္တရာယ်ကင်းမှုကို အမြဲပြုလုပ်ဆောင်ရွက်ပါသည်

37. I follow correct safety rules and procedures while carrying out my job. 1 2 3 4 5

Saya mengikut peraturan dan prosedur keselamatn semasa menjalankan kerja saya.

ကျွန်တော်ဟာ ကာကွယ်မှု နှင့်ပတ်သတ်သည့် စည်းမျဉ်းစည်းကမ်းများကို လိုက်နာ
ဆောင်ရွက်ပါသည်

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

Saya memastikan tahap keselamatan paling tinggi semasa melakukan kerja saya.

ကျွန်တော်ဟာ အလုပ်လုပ်ကိုင်တဲ့အခါ ကာကွယ်မှုကို အလေးထား လိုက်နာဆောင်ရွက်ပါသည်

39. Occasionally due to lack of time, I deviate form correct and safe work procedures. 1 2 3 4 5

Kadang-kadang disebabkan kesuntikan masa, saya mengabaikan cara kerja yang selamat dan betul.

တစ်ခါတလေ သင်ဟာ လုပ်ငန်းမြန်ချင်စိတ်နဲ့ ကာကွယ်မှုကို မလိုက်နာပဲ ဆောင်ရွက်မှု
မျိုး လုပ်ဆောင်ပါသလား

40. Occasionally due to over familiarity with the job, I deviate from correct and safe work procedures. 1 2 3 4 5

Kadang-kadang disebabkan kebiasaan terhadap kerja saya, saya mengabaikan cara kerja yang selamat dan betul.

တစ်ခါတလေ သင်ဟာ လုပ်ကိုင်နေကျ အလုပ်ဆိုပြီး ကာကွယ်မှုကို မလိုက်နာ မေ့လျော့
နေပါသလား

41. It is not always practical to follow all safety rules and procedures while doing a job. 1 2 3 4 5

Ia tidak selalunya pratikal untuk saya mengikut semua peraturan keselamatan dan prosedur kerja semasa saya menjalankan kerja saya.

ကာကွယ်မှု စည်းမျဉ်းစည်းကမ်းတွေဟာ သင့်အတွက် လုပ်ကိုင်ဆောင်ရွက်မှု ခက်ခဲမှု
ရှိလျှင် သင်ဟာ လိုက်နာဆောင်ရွက်ပါသလား

SAFETY PARTICIPATION
PENGLIBATAN KESELAMATAN

42. I help my co-workers when they are working under risky or hazardous conditions. 1 2 3 4 5

Saya membantu rakan sekerja saya apabila mereka bekerja dalam keadadn berisiko atau berbahaya.

ကျွန်တော်ဟာ အန္တရာယ်များသည့် အလုပ် လုပ်ကိုင်သူ၊ ကိုတွေ့ရင် ကူညီဆောင်ရွက်ပါသလား

43. I always point out to the management if any safety related matters are noticed in my company. 1 2 3 4 5

Saya sentiasa melaporkan kepada pihak pengurusan sekiranya terdapat perkara berkaitan dengan keselamatan yang dijumpai di syarikat saya.

ကျွန်တော်ဟာ ကာကွယ်မှု မရှိသည့်အရာများ အန္တရာယ်များသည့်အရာများကိုတွေ့ရှိလျှင် ခေါင်းဆောင်များကြီးမိုင်းကို အမြဲတမ်းအကြောင်းကြားပါသည်

44. I put extra effort to improve the safety of the workplace. 1 2 3 4 5

Saya berusaha untuk meningkatkan tahap keselamatan di tempat kerja.

ကျွန်တော်ဟာ လုပ်ငန်းခွင်တွင် ကာကွယ်မှုကို အထူးအလေးထားဆောင်ရွက်ပါသည်

45. I voluntarily carry out tasks or activities that help to improve workplace safety. 1 2 3 4 5

Saya secara sukarela melakukan tugas atau aktiviti untuk membantu meningkatkan keselamatan di tempat kerja.

ကျွန်တော်ဟာ လုပ်ငန်းခွင်တွင် ကာကွယ်မှုနှင့်ပတ်သက်ပြီး မိမိအန္တရာယ်ကင်းရှင်းဖို့ လိုအပ်ချက်များကို အလေးထား ပြင်ဆင်ဆောင်ရွက်ပါသည်

46. I encourage my co-workers to work safely. 1 2 3 4 5

Saya menggalakkan rakan sekerja saya supaya bekerja dengan selamat.

ကျွန်တော်ဟာ အဖွဲ့လိုက် လုပ်ဖော်ကိုင်ဖက်သူတွေကို အန္တရာယ်ကင်းရှင်းအောင် အကျွဲကာ လုပ်ကိုင်ဆောင်ရွက်ရန် ပြောကြားပါသည်

- THANK YOU / *TERIMA KASIH* –