THE INFLUENCE OF SAFETY MANAGEMENT PRACTICES TOWARDS SAFETY PERFORMANCE AMONG INSURED PERSON IN COMMUTING ACCIDENT

By

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Abstract

Safety performance play the crucial role in safety management development at the workplace. It's also contribute the main indicator to the success of accident prevention programme. This study purposely to examine the relationship between safety performance with safety management practise. Theory plan behaviour was applied to develop conceptual framework. In this study safety management practise was independent variable and safety performance was dependent variable. While the safety motivation and employees' competency were mediating variable. Quantitative approach was applied in methodology of this study which involved 615 respondents among insured employees who involved in commuting accident.Regression analysis revealed that safety management practise, safety motivation, and employees' competency have positive relationship significantly with safety performance. Safety motivation and employees' competency was found mediated the relationship between safety management practice and safety performance. This study highlighted the organisation should give priority to improve their safety accident prevention programme by enhance employees' knowledge, skills and abilities. In addition, employees; characteristics should be taken into account during the development of safety training need analysis.

Keywords: Safety performance, safety management practise, safety motivation and employees' competency.

Abstrak

Pretasi keselamatan memainkan peranan penting dalam pembangunan pengurursan keselamatan di tempat kerja. Ia juga menyumbang dan menentukan kejayaan pelaksanaan program pencegahan kemalangan. Dalam kajian ini, teori perancangan gelagat (*Theory of Plan Behaviour*) telah digunakan sebgai asas pembentukan rangka konsepsual. Seterusnya amalan pengurusan keselamatan adalah pemboleh ubah bebas manakala prestasi keselamatan merupakan pemboleh ubah bersandar.Disamping itu, motivasi keselamatan dan kompetensi pekerja adalah pemboleh ubah pengantara. Kaedah kuantitatif telah digunakan dalam kajian ini dengan melibatkan 615 responden di kalangan pekerja-pekerja yang berdaftar dengan PERKESO yang terlibat dalam kemalangan semasa ulang-alik ke tempat kerja. Analisa regresi menunjukkan amalan pengurusan keselamatan, motivasi keselamatan dan kompetensi pekerja mempunyai hubungan positif yang signifikan denganp restasi kesalamatan. Kajian ini telah menyarankan bahawa organisasi haruslah member keutamaan dalam meningkatkan program-program pencegahan keselamatan pekerja. Seterusnya, ciri-ciri pekerja haruslah diambilkira dalam proses melaksanakan analisa latihan keselamatan.

Kata Kunci: Amalan pengurusan keselamatan, prestasi keselamatan, motivasi keselamatan dan kompetensi pekerja.

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TABLE OF CONTENTS

CHAPTER THREE: METHODOLOGY

LIST OF TABLES

Table

LIST OF FIGURES

Figure

CHAPTER 1

INTRODUCTION

1.0 Introduction

Occupational safety issues become more complicated and dynamic due to various systems and operations has have been applied at workplace. According to Goetsch (2008) the application of new technologies and complicated operating systems will create the new hazard situation. Employees and employers should have more awareness of their potential hazard and threats at their workplace for the developing the safe environment. The goal of safety and health programme at the workplace totally to prevent accident and enhance safety performance. The safety culture and safety management practice play the crucial role to enhance safety performance (Griffin & Neal 2000, Zohar 2003, Goetsh 2010). Safety culture is explained through employees' attitude and employee behaviour in the workplace, which related to theirs' knowledge, skills and ability. It's also indirectly reflected the organizational safety goals and performance. The safety activities and accident prevention program need employees' and employers' commitment and involvement (Goetsch, 2010). Due to these potential hazards at the workplace, in February 1994, Malaysia government has been inaugurated the Occupational Safety and Health Act which is a compulsory application to all industries accept shipping and arm forces. (Occupational Safety & Health Act 1994.) Thus, the employers, employees and self-employed have theirs' own responsibilities and duties to prevent the accident at workplace.

The occupational safety and health practices been existed ever since the industrial revolution age which was taking place across Europe countries. In order to maintain and monitor the safety at workplace among the employees, National Institute of Occupational Safety and Health (NIOSH) and Department Occupational Safety and Health (DOSH) were developed by Malaysian government. These two organizations are just more of the same in term of ensuring the safety-related prevention programme in every occupational throughout the whole country. Specifically, DOSH is completely responsible towards occupational safety and health practice while NIOSH is responsible in providing services mainly in training, consultation, examination assessment and conducting research and development (R&D). The safety aspect in the workplace to all existing organizations have been enhanced by adapting occupational safety and health in operation management. Dessler (2011) stated that OSH provides a judicial outline as to ensure safety, health and welfare for all the employees as well to protect them from any health or safety risks.

Many studies found that having a good practices of safety performance at the workplace would help in reducing the calamity, for example accident rate, injuries and material damages. (Zohar 2003, Geostch 2008, Griffin & Neal 2000, Goetsh 2010). Hence, it will developed safe environment while working and consequently mounted the employees' motivation and reduced the absenteeism of the employees (Fernandez-Muniz et al., 2009). The danger or hazard of occupational is different based on the type of industry and working environrment the workforces are dealing with. For example a high risk occupational is having greater risk towards the accident compare to the less risky occupational condition.. High risk industry should address the issues on awareness on the potential hazards which could be the main cause for an accident due to the various hazards, weather condition and different type of construction (Marshel, 1996). Most of the reported case at workplaces which involve the

calamity were caused by poor of safety performances at workplaces and it could be lethal to the organizations' workforces and its profit. This issue should take for granted as the calamity at the workplace would be haunting the organization and could bring unhealthy effects in the future. Bowander (1987), clarified that there were different types of errors namely; human error, technological error and systematic error which had caused that accident.

Safety behaviour performance plays the crucial role for monitoring employees' involvement and compliance on safety rules and procedures (Azir 2010). It also helps organization the achieve organizational safety goals and accident prevention programme .Safety performance also gradually developed employees knowledge, skill and ability during performing the job then lead to become competent employees

Notwithstanding the worrying facts that have been reported for each year, there are several organizations yet to take this as a main concern to be recuperated for the sake of its workforces. In conjunction with that, the expenses which have been spent to improve organizational safety performance through accident prevention programme at workplace were increased tremendously. Ever since years ago this problem was and is the main problem for all companies.

1.1 Background of the Study

The Occupational Safety and Health Act were enacted in Malaysia since 1994. This act applies for all industries except for the arm force and shipping. After 20 years this Act has been implemented the number of reported accident still inconsistently decrease. Based on the Annual Social Security Organization, the number of occupational accident reported statistic shows a fluctuate pattern. The details are shown below.

Table 1.1: Occupational Accident Reported (Annual SOCSO report 2012)

Year	Accident Reported
2002	81810
2003	73858
2004	69132
2005	61182
2006	58321
2007	56339
2008	54133
2009	55186
2010	57639
2011	59897
2012	61552

However, the accident involved employee during back and forth to work or in other word commuting accident shows an increasing amount. Based on a recent study, there is a worrying fact, which shows an increasing number of commuting accidents occurred in Malaysia while on the other hand the industrial accident has shown a receding figure.

Table 1.2: Commuting Accident Reported (Annual SOCSO report 2012)

Year	Commuting Accident Reported
2002	18387
2003	17609
2004	18329
2005	17297
2006	17704
2007	17682
2008	19041
2009	20810
2010	22036
2011	24809
2012	26256

It is alarming stats from these two tables where the first stat shows a receding figure while the latter shows an increasing pattern. Table 2 shows that from 2002 up until 2012, the number

has reduced from 81810 to 61552 cases a decline of 20258 cases or 24.8%. Notwithstanding this receding pattern, in 2011 there was an escalating figure, which boosts from 59897 reported accidents up to 61552 reported cases for the next year hence an increasing of 2.8 %.

As reported accident figure has somehow showed a relief, yet the commuting accident shows a vice versa pattern in the same years range. Table 2 shows since in 2002, the amount for that year were 18387 reported cases. Ever since that, its figure has not been consistently decreased until in the year of 2008 where 19041 cases were reported. On that year onward, the number for commuting accident has increased rapidly until in 2012. This is a staggering increasing of 37.9% or 7215 cases.

From the last 11 years, Social Security Organization (SOCSO) has been spending nearly RM117 millions for training and rehabilitation to those employees who had involved in commuting accident. This worrying fact could be prevented with the good practicing of safety management practice in each occupational organization. The main reason of occupational accident happened at the workplace due to the lack of safety performance and safety management practice in the related organization.

Thus, by looking at this issue we are rather curious on how this different situation happened. There is a still related issue on employees' safety behaviour performance and safety management need to address and discuss. In order to understand this, in this study we are using the safety performance and safety management practise as a focus point to provide alternative solution.

1.2 Problem Statement

Malaysia became the automobile manufacturing country ever since 1985 when we launched the first national car. In conjunction to that, the number of accident is also affected by the risen of vehicle usage. Even though the number of reported accident doesn't increase tremendously, but the reported-accident with fatal cases has increased (Department of Road Safety, Malaysia, 2010).

Based on the statistic recorded by several organizations, there is an alarming indication in term of commuting accident in Malaysia where its amount has escalated year by year. This worrying issue has attracted Social Security Organization (SOCSO) concern to take action regarding this issue. In several years ago until today, generally the reported accident on the road has somehow been showing an increasing number of cases (Annual SOCSO report 2012). This issue might somehow have something to do with the escalating amount of vehicle usage among our citizen.

According to World Health Organisation (WHO) data, casualty on road traffic account about 25% of all deaths from injury (WHO, 1996). Based on (Waller 2001), the low-income countries mostly in Asia contribute casualty on road among passengers, cyclist, two-wheelers users, buses, cars and even pedestrians. On the hand, majorly in high income countries the number of casualties is contributed by the car occupants.

However, of all the reported cases each year, the commuting accident indicates the most worrying amount. SOCSO does provide prevention programme (training, etc) for all inured

person, however the implementation is subjected to the employees' organizational to monitor the employees' behaviour at the workplace. This issue related to safety management practice in organization and safety performance among the employee during performing the job.

In conjunction to that, SOCSO has come out with Commuting Accident (CA) Prevention Plan like Safe Motorcycle Riding Program (SMRP) and Defensive Driving Program (DDP). This programme tries to outreach for both employers and employers especially for those who had involved in commuting accident and SOCSO has spent up to RM 4.7 million for it. (APOSHO Conference, 2013).

Safety performance helps organizations evaluate effectiveness of organizational safety which can be evaluated by both organisational and individual level. Lee and Yang (2013) stated that safety performance as "the evolution on the safety process of individual behaviour", and the individual behaviour aggregates to define the whole performance of the organization (Reason, 1997). Siu et al. (2004) defined safety performance as self-reported accidents involvement and occupational injuries that is measured by self-report. Similarly, Huang, Smith, and Chen (2006) stated that safety performance is safety control of employee and self-reported occupational injury. Furthermore, Vinodkumar&Bhasi (2010) stated that safety performance as a result of interactions of features like practices of safety management, attitudinal and behavioural features of workmen and managers.Safety performance provides indicator to organisation for making decision and in addressing safety programme needs (HSE, 2001). Stricoff, (2000) stated that safety performance reflected organizational safety culture and guideline tools for employee competence development. Safety behaviour performance plays the crucial role for high risk industry employees' competency development, including skill,

knowledge, attitudes and abilities. Thus the previous studies focused the safety performance towards organization and employees as the outcomes of research. Discussion on the specific of employees' characteristic or attributes as the respondent not comprehensive was published yet.

There are little discussions have been published regarding safety performance among the employees which involved in commuting accident, which called insured person, Most the studies on safety performance involves employees in the organization or not focused on the issues related to commuting accident employees. Thus, this study was examined the relationship safety management practice and safety performance among the commuting accident employees'

1.3 Research Questions

This study intends to address the following research questions:

1 What is the relationship between safety management practise and safety performance?

2 What is the relationship between safety management practise and safety motivation?

3 What is the relationship between safety motivation and safety performance?

4 What is the relationship between employees' competency and safety motivation?

5 What is the relationship between employees' competency and safety performance?

1.4 Research Objectives

Generally, the objective of this study is to examine the effect of safety management practise, safety motivation and employees' competency on safety performance.

Specifically, the objectives of the study are:

1 To examine relationship between safety management practise and safety performance

2 To examine the relationship between safety management practise and safety motivation

3 To examine the relationship between safety motivation and safety performance

4 To examine the relationship between employees' competency and safety performance

5 To examine the relationship between employees' competency and safety performance

CHAPTER 2

LITERATURE RIVIEW

2.0 Introduction

This chapter will cover the related literatures for this study including the safety management practise which was used as the independent variable and safety performance as the dependent variable. Apart from that, there will be some explanations on safety motivation and employees' competency as well. In addition, this chapter will also provide hypotheses and the conceptual framework to back up the research model.

2.1 Safety Management Practise

They are no specific element for the safety management practice definition. According to Kirwan (1998), safety management practice relates to the practices, roles and functions regarding to the workplace safe environment. At the same time, there is no specific term either has been used to describe what safety management practise is. As for example, Vredenburgh (2002) applied the management practise term in his study on organizational safety. WhileChing&Shu (2014) used the safety management system practise in their study. Hayes, Perander, Smecko and Trask (1998), in their study revealed that safety management practise was one of the elements of work safety scale and found that safety management practise were the best indicator of job satisfaction.

While Mearns, Whitaker and Flin (2003) stated that, the safety management practice should consist with management commitment, communication and employees' involvement. Furthermore, Vinodkumar & Bhasi (2010) mentioned that safety management practice is the

implementation of policies, strategies, procedures and activities of the management of an organization. Labodova (2004) stated that the safety management practice is a tool which is organized in an organization and made to control the hazards from harming the employees. It is the vital item for it will determine how effective the safety management is being applied and how far it complies with the legislation applicable to the organization.

In effort to recognize the so-called safety management practices that would predict the safety performance in an organization, numerous of studies have been conducted. All of the researches were made in order to reveal how safe is the work atmosphere and its compliance in an organization. Several scholar in occupational safety study field like Cohen et al. (1975), Cohen (1977), Griffiths (1985), Harper et al. (1997) and Smitth et al. (1975) had explained that organization with a few rate of accidents were categorized by some of these aspects namely; safety officers possessed high rank, personnel involvement by management in safety activities, superior training for new workers, frequent training for existing workers, displaying safety posters o identify hazards, a procedure in promoting and job placement, frequent communication amongst workers and supervisors regarding safety and health, frequent safety inspections, higher priority for safety in meetings and decisions concerning work practice, thorough inspection of accidents and frequent attendance form senior managers during health and safety meetings. To justify these items, the recent studies done by Vredenburgh (2002) stated that employees involvement, safety induction or training, compensation system, management commitment, employees' feedback and communication as safety management practise in the study of healthcare environment and risk management. Therefore, there are no established instrument and dimension for measuring safety management practise.

In this study, there were six safety management practises focused and there were management commitment, safety training, workers involvement in safety, safety communication and feedback, safety rules and procedures, and safety promotion policies.

First and foremost element in safety management practices is the management commitment whereas it plays the crucial role in any safety program. Donald & Canter (1994) mentioned that it is an obligation in any management of an organization to be aware regarding to the safety issues because they have the power over available resources and not to mention the policies developer, theestablisher and implementer of working method. Based on Zohar (1980), he discovered that the management's commitment is a determent for any organizations to its safety program's success. Nevertheless, the safety commitment from top management must result in an observable activity and should reflect in both behaviour and words (Hofmann et al., 1995). It is safe to say that by having a good commitment in the management would provide a better success in the program, which is held by the organization. Apart from that, there is also safety and health training programme which is as important as the previous element in the safety management practise. Through this element, we would be able to study and evaluate on how effective the training programme in improving the safety in the workplace. With adequate training, the organization will be having a more effective and improving the quality of safety and health among the worker. In conjunction with this element, Vinodkumar&Bhasi (2010) mentioned that effective safety training is the essential part in every effective accident prevention and safety health programme. By having it and implementing it in the organization, it allows the employers to foresee the accidents hence improve the safety in workplace.

A study made by Vredenburgh (2002) identified that by practising a systematic, comprehensive safety and health-training program for newcomer (workers) would improve and be very beneficial in improving every employee's safety and health level. In addition, with several helpful methods such as a Mentor for employees and Buddy System, it would assist those new employees in behaviour and behavioural skills regarding to the safety, health and quality systems. Many previous studies revealed that any organization having lower rate of mishaps was due to the effective safety training that had been rendered to all employees.(Lee, 1998, Ostrom et al. 1993, Timmannsyik, and Hovden2003, Cohen et al. 1975, and Smith et al. 1975).These items determine the safety training effectiveness; training for new employees, safety issues discussion in training sessions, emergency training, self-motivated to join the training programme and hazard identification.

Next element is employee involvement, which is a technique that involves individuals or group in upward communication flow in deciding on a decision. There are two ways in making decision either it has no participation where the calls are only decided by the supervisors or with the full participation where everyone is involved and connected to the decision. By having such practise in an organization, it would permit the employees with some authority, responsibility and accountability in any decisions thus involved both management and employees in agreeing the goals and objectives (Cohen & Cleveland, 1983). It will somehow boost the employees' moral in getting involved either individually or collectively in safety management practise in their workplace. In conjunction to that, Vredenburgh (2002) said thatthe workers themselves are the most appropriate individual in order to advice or suggest for the sake of the organization improvement and its safety and health issues. Thus, workers' involvement in safety could be said as a management practise and is measured by related to safety committee consisted with workers' representatives,

involvement of workers in safety related to decision making, involvement in identify safety problems and consultation with workers about safety matters.

Based on Pidgeon (1998), communication and feedback play a vital feature in organization and its surrounding because through this feature, it will bring a credence amongthe workers towards superior management. Through two-way communication along with feedback with regard on safety and health issues, it will somehow nurture the bond and hence bridge the gap between the employees and superior. This element is as much of an important as that of other element stated previously. To add into account, another study made by Cohen (1977) showed that by using communication and feedback in his survey via questionnaire has proven to be the influential and benefiting the safety performance level in the organization. According to Vinodkumar&Bhasi (2010), by having a consistent communication regarding safety issues from both workers and superiors, it is a proven and useful management practise in enhancing safety in workplace. Therefore, in determining safety communication, several items regard to it are measured namely; communication of safety goals, hazard reporting system, open door policy for safety issues and opportunity to discuss safety issues in meeting.

Safety rules and procedures are also could be described as a feature in preventing accidents from happened at the workplace. According to Vinodkumar & Bhasi (2010), the safety rules and procedures is a feature which would assist in improving the safety behaviours among the workers should it to be implemented in the organization. In another research by Cox and Cheyne (2000), they has clarified that this is an important tool and somehow has a connection with accident rates. Futhermore, Glendon and Litherland (2001) found that safety rules and procedures part of safety management practise in construction industry.

Finally yet importantlyis the safety promotion policy whereas it is one of the safety management practises and it is measured through items which related to safety promotion policies like rewards and incentives, creating awareness among the workers, safety week celebration, encourage employee to report safety matters, and safety inspection and safety audit as a positive factor for promotions measurement.According to Hagan (2001), safety promotion policies such as recreational activities, rewards and incentives are being used in order to motivate the employee so they could perform their routine and duty safely at workplace. Again in Cohen et al., (1979) the organization could increase self-protection action among the employee and add interest in hazard control programme on the workforce. Together with this, a reward system should be credited to the workers by monitoring them in the organization and give them recognition which would help modify in their behaviour (Vredenburgh, 2002).

2.2 Safety Performance

Safety literature revealed that there are many methods that have been applied for measuring safety performance in the organisation (Cooper 1998, Cox and Flin 1998, Flin et al., 2000). However,there are no specific measures or indicators to explain the organisation's safety performance (Glendon& Stanton, 2000; Glendon&Litherland, 2001). A suitable criteria list for the safety effectiveness and method of measures was the main problem in safety assessment (Tarrants, 1970). Numerous techniques have been applied for assessing safety performance and safety goals. Lee and Harrison (2000) had used self-report performance measures for indicating the level of safety performance.

Based on safety climate and safety culture literature, the questionnaire was dominantly applied for safety performance measurement. Previous studies showed that the safety climate questionnaire had been utilised to measure current safety performance (Zohar, 1980; Brown & Holmes, 1986; Glendon et al., 1994; Coyle et al., 1995; Diaz & Cabrera, 1997; Mearns&Flin, 1999; Cooper, 1998, 2000; Flin et al., 2000; Neil et al., 2000), but the factors to explain the dimensions of safety climate were not consistent (Coyle et al., 1995; Flin et al., 2000). The number of accidents at the workplace and data from occupational accident records would be the best possible evidence for actual safety performance in the organisation. However, normally these data and records are strictly confidential, where the third party or researcher is not allowed to access during fieldwork.

Neal and Griffin (2002) and Neal et al. (2000) developed a model of relationship among antecedents, determinants, and components of safety performance based on the job performance model. Safety participation and safety compliance were the main components to explain safety performance

Based on the literatures above, the concept of safety performance differs but is mainly focused on behavioural construct and management system. The purpose of this study to assess safety performance among the commuting accident insured person which reflected bytheirs' behavioral and attitudinal towards safety. Thus, this study applied Neal and Griffin (2002) approach to assess safety performance, which safety participation and safety compliance were used to explain safety job performance. This approach also was appliedby Vinodkumar&Bhasi (2010) for assessing safety performance among the manufacturing employees'.

2.3 Safety Behaviour as Safety Performance

Safety behaviour at the workplace was first used during early 1930 right after the finding of accident report that showed a mass amount of workplace accidents caused from the workers' unsafe acts (Geller, 2001; Cooper, 2009). Safety behaviour is to be said shaped by a couple particular organizational namely safety climate and safety culture (Hofman&Stetzer, 1996; Neal & Griffin, 2000; Cooper & Phillip, 2004; Probst, 2004; Clark, 2006). While Campbell et al. (1996) added from his point of view that safety behaviour performance of the workers has dissimilarity due to the workers' knowledge, skills and motivation. In another different study, Cooper and Phillips (2004) had used this element which was the safety behavioural observation specifications to evaluate the safety behaviour among plant packaging production workers. The result of this study appeared to say that the changes of safety climate perception had nothing to do in the levels of behavioural safety performance.

The safety behaviour and behaviour - based safety (BBS) were used in referring to the behavioural method in order to increase safety performance and yet both of them have different approaches and concept. Goestch (2008) stated that this method (BBS) is a short term and focuses only to the visible behaviour. Therefore, by implementing safety behaviour approaches, the organization would be able to identify with deeply regarding the workers' behavioural, competency level and what motivate them to behave safely hence improving the workers' behaviour at once. Nevertheless, it requires some period in order to do it because it needs both commitment from the employers and the employees. The reason why people are behaving unsafely at the workplace is because the employees themselves had never been injured while doing their work in unsafe manner and due to this fortunate; the workers continue working with their unsafe manner in the daily basis (Cooper, 2009).To fortify this,

Cooper also mentioned that the effects of unsafe manner while working are even stronger for the aftermath of it is soon, certain and positive. To clarify this, best example to be taken is the Smoker. As far as we concerned, smoking habit is a very hard to prevent for its consequence is rather late and uncertain. Nevertheless, once the smoker caught with a lung cancer, the effect is soon (immediate), certain and positive (die). Apart from lacking awareness from the employees, the management is as well to be blamed for the lack of assessment towards their workers and what worse is the management disregard the safety for the sake of business pursuit.

There are two sub topics in safety behaviour which were safety compliance and safety participation. Safety Compliance is an obligation for all the organizations as to provide safety to the employees and its workplace (Occupational Safety and Health Act 1994). According to Neal & Griffin (2002), safety behaviour will be depicted from workers' compliance towards the organizations' regulations and participation in safety programme. In conjunction to that, both safety compliance and voluntary participation behaviour epitomize performance definition as explained by Borman&Motowidlo (1993) as task and contextual performance.

Thus, to carry out the significance of safety compliance among the employees, Reason et al. (1998) proposed the 10 rule-related behaviours namely; correct compliance, correct violation, correct improvisation, mistaken circumvention (Misvention), mistaken compliance (Miscompliance),mistake, incorrect but psychologically rewarding violation of appropriate rules, correct but psychologically unrewarding compliance with appropriate rules, correct but psychologically unrewarding violation of inappropriate rules and last one is incorrect but psychologically rewarding compliance with inappropriate rules.

As for safety participation, it refers to a behaviour which is not completely helpfulin developing employees' safety but somehow could assist in creating safety environment at the workplace such as attending a safety meeting where the employees are able in discuss and share ideas regarding safety working environment.

2.4 Safety Motivation

In describing its definition, there were a lot studies made previously by several individuals and all of them had used this item to depict safety behaviour at workplace. Campbell (1990), explained that motivation comprises with combined effect of three choices namely; the choice to expend effort, the choice of which level of effort to expand and choice to continue in the expenditure of that effort. In addition, based on Neal & Griffin definition (2006), safety motivation is individuals' willingness to strive in order to perform safety behaviour in their daily working basis. This is vital to every organization for it gives impact and induces the employees' behaviour in attaining the intended goals.

For example, a research made by Diefendorff and Mehta (2007) revealed that by using an approach of motivation among 392 employed psychology and business undergraduate it is easy to predict their safety behaviour. In another case, Hinsz, Nicke and Park (2007), they had found motivation in safety behaviour was induced by attitudes and subjective norms. It is inevitable element in any organization where motivation is holding a crucial role in helping and increasing the safety working habit among the employees. As proved in a study made by Zacharatos (2001), he focuses in a manufacturing industries that motivation is so important in

ensuring the safety in workplace. Not to mention a finding by Neal (2000) revealed that motivation has its influence to both safety climate and safety performance at workplace.

2.5 Employees' Competency

There are many ways in defining the meaning of competency. In term of safety, several definitions have been made such as by Berge, Davis, & Smith (2002) stated that competency gradually increases along with the change of industrial requirement in technology and business. In an effort to define this term, a lot of individuals whom research showed it was rather full with ambiguity and confusion than agreed in generally (Stephens, Cole, Gibbs, Riehle&WeareJr, 2009) & (Dole, Hurych&Liebst 2005). Notwithstanding all this, Berge et al (2002) found its explanation in term of skill, knowledge and abilities. Similar to Berge, Mirabile (1997) defined the competency as knowledge, skill, ability or characteristic related to excellent job performance like solving problem, analytical thinking and leadership.

Several attempts have been made to develop the model of competency and eventually Mclagan (1996) has categorised six approaches in developing models for competency namely; job takes, work effort results, outputs, knowledge, skills and attitude, qualities of superior performance and bundles of attitudes.

In a wider explanation of competency and characteristic, Spencer and Spencer (1993) stated it in five points. First of all is motives, it is a characteristic which in preventing an injury in occupational safety, it will drive oneself to choose safe behaviour while on-working. Someone with this characteristic would behave in certain actions and different from other

actions. Secondly is trait, which usually depicts a physical characteristic of a person along with their consistent responses towards the situations. Thirdly is self-concept, which epitomizes the worker attitudes and values. Next one is knowledge, where it does not only help the individual in memorizing the facts but as well in looking for information to solve problems. Finally yet importantly is skill where it is the capability of someone in order to do either physical or mental task. This element includes the skill to process knowledge or data, determines the cause and effect and organizes plan.

2.6 Theoretical Development

In developing and supporting the conceptual framework for this study, there are several theories have been referred. There are theory of reasoned action, theory of learning and theory of planned behaviour. However, the discussion will be focused on theory reasoned action, theory planned behaviour due to the interconnected of the elements within these theories, and both are related to the variables in this study.Ajzen&Fishbein (1980) developed theory of reasoned action. In this theory, there are four important elements which are attitude, subjective norm, intention and behaviour. This theory can be applied to describe the relationship between individual attitude and behaviour. However, currently this theory is not reliable and inappropriate to detail out the relationship between human behaviour and attitude Ajzen & Fishbein (1980). At the same time, theory planned behaviour was introduced to specify the human behaviour. Ajzen and Madden (1986) introduced the theory of planned behaviour and it is an extension from the theory of reasoned action. The details of this theory are explained in Figure 2.1.

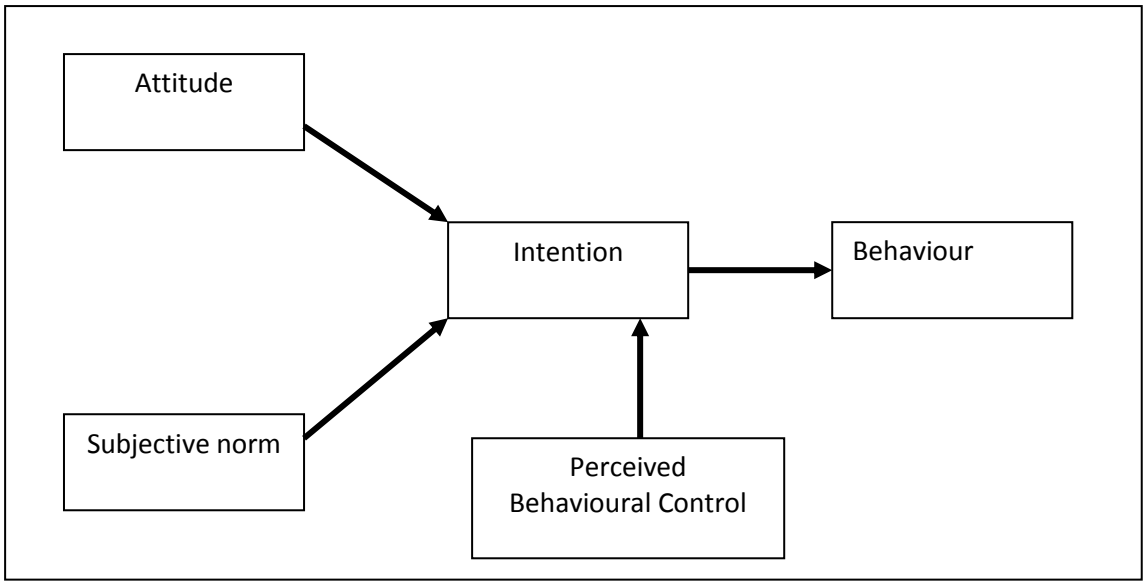

Figure 2.1**:** Theory of planned behaviour (Ajzen& Madden, 1986)

Figure 2.1 describes the theory planned behaviour model. Similarly, to theory reasoned of action, this theory has another element that is perceived behavioural control that makes five elements. Based from Ajzen and Fishbein (1980), subjective norm refers to individual's belief that he or she should perform to fulfil the environment at the workplace.As for intention, it is very important to determine the behaviour in an individual (Ajzen&Fishbein, 1980) and sometimes it also influenced by the subjective norm. Ajzen& Madden (1986) individuals behavioural could be predicted from attitude when an individual has a complete control over his behaviour. Besides that, Abd Aziz (2008) stated that attitude play the crucial role for successful safety practise. As for behaviour, Bandura, Aadams& Beyer (1977) stated that the human behaviour is connected to their confidence to perform a job. However, normally employees during performing the job have limited skill, knowledge and ability and this referred to perceive behavioural control (Abd Aziz, 2008).There are several studies which have successfully used it in determining the performance behaviour such as smoking behaviour studies (Godin et al., 1992), acquired immune deficiency syndrome (AIDS) preventive behaviour (De Wit et al., 2000), and breast cancer by (Godin et al.,

2001).However, the discussion related to safety performance in order to prevent accident at the workplace received a little attention and no deeper discussion on safety prevention programme.

2.7 Conceptual Framework

In this study, the conceptual framework was developed based to the Theory Planned Behaviour (Ajzen&Fishbein, 1985) and similar withVinodkumar&Bhasi (2010), study on occupational safety management practise and safety performance. Whilein this conceptual framework, the study emphasized on the accident prevention programme regarding on safety performance during performing the work at the workplace. Nevertheless, in Vinodkumar&Bhasi (2010) study, there are two intervening variables which are safety knowledge and safety motivation. On the other hand in this study, there is only one element to determine the safety behaviour that is the safety motivation as its intervening variable. Theory Planned Behaviour is a fundamental construct of intention in order to perform the behaviour. According to (Ajzen&Fishbein, 1985), in performing a behaviour, there are several elements involved namely attitude, subjective norm, perceived behavioural control, intention and finally the outcome which is the behaviour. These matters are strongly correlated to each other in finalising a single behaviour. Mearns,Whitaker, and Flin(1995) stated that intention is influenced by the attitude and norm, which lead to apply safety management practise in any organisation. Furthermore, Hoffman (1995) stated that employee attitude and behaviour depict safety practise as micro element at the workplace hence determine the safety management practise in the organisations comprehensively. Thus, in this conceptual, attitude and norm will be represented by safety management practise.

Based on this concept, apart from attitude and norm the intention is also important as well for it will be influencing the behaviour and its change. At the same time, the intention is also influenced by the subjective norm or also known as social pressure where it comes from the related environment like colleagues, bosses and parents.Thus, safety motivation has been chosen as the intention. According to (Klehe& Anderson, 2007), motivation is the internal factor which stimulates the individual desire to perform the job better from others, to receive rewards and intentions toward action. Finally, as mentioned earlier this study will focus on prevention programme among the employees during performing the task. There were many studies previously showed that, unsafe act is one of the factor that could lead to accident at the workplace (Komaki et al, 1980). During the prevention programme development, the top management needs to ensure the similar accident caused by unsafe act will not occur again specifically to those who had involved in the accident. According to Cooper (1997), one of the alternative approaches isthrough monitoring and assessment employees' behaviour during performing the job at the workplace. Thus, in this study the safety performance has been chosen to represent the behaviour in Theory of Planned Behaviour.. Normally, during performing the job, employees' behaviour is subjected to the regulations and procedures where it can contribute an impact towards safety practise. In order to ensure the safe act among the workers, it will relate to employees' knowledge, skill, ability, attitude and characteristic. Those worker who have highly skill, well comprehend on safety information, and highly commitment towards safety goals are called competent employees. Indirectly, these characteristics will control the employees' behaviour in performing the job at the workplace. The conceptual framework is explained in Figure 2.2.

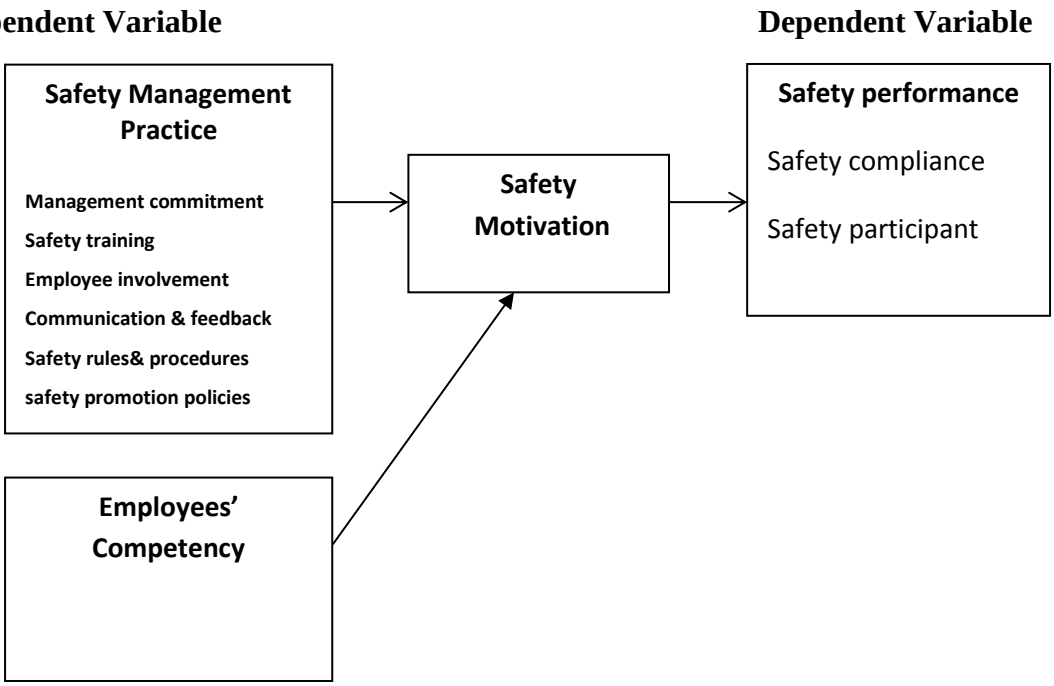

Figure 2.2: Conceptual framework of study

Figure 2 shows the theoretical framework for this study. The study focused on the individual safety performance of the employees' who had involved in commuting accident (insured person). This group of employees behaviour need to monitor and re-examined to prevent the similar accident occurred again due to unsafe act. The figure shows the dependent variable of the study is safety performance. According to Clarke and Cooper (2004) safety performance implies the basic behaviours practiced by the employees in ensuring the safety of the personal and the workplace. The previous studies focused on safety behaviour and its outcomes discussion related to the safety performance (Vinodkumar&Bhasi, 2010 & Malar, 2012), safety climate and culture (Cheyne, 1998), co-worker safety and supervisor safety (Hayes et. al, 1998). However there are little studies discussing on safety performance towards accident prevention at the workplace and the detail discussion on safety performance is not published yet. Thus, this study will emphasize on safety performance issue patterning on accident prevention programme.

In this study, the independent variable is safety management practise. It contains six dimensions, which are management commitment, safety training, employee involvement, communication and feedback, safety rules and procedure, and safety promotion policies. From these six elements, there are four elements, which have been categorized as norm in organization that are management commitment, safety training, communication and feedback, and safety promotion policies. While the other two dimensions reflect attitude among employees at the workplace are employees' involvement and safety procedures and rules.

At the same time, safety motivation is the intervening variable in this study. The previous study revealed safety motivation could be fixedas dependent variable or intervening variable in the conceptual framework development. A study by Azir (2010), safety motivation had been applied as independent variable. While a lot of studies used the motivation as the intervening variable such as Ching&Shu (2014), Vinodkumar&Bhasi (2010) and Neal (2000). In this study, Theory of Planned Behaviour had been chosen as the fundamental conceptual framework and the intention related from the internal factor to perform the behaviour.A study by Vinodkumar&Bhasi (2010) and Neal et. al (2000) found that safety motivation played as mediating role between safety climate and safety performance relationship. Furthermore, Vinodkumar&Bhasi (2010) also found safety motivation is a mediating role between safety performance and safety training. Since this study is an extent to Vinodkumar&Bhasi (2010), safety motivation is also assumed as a mediating variable. Thus, in this study safety motivation is also assumed as a mediating variable.

Furthermore, perceived behavioural control employees' competent explained by employees' competency. It refers to employees' attitude, knowledge, skill and ability during performing

the job.Cooper (1998, p103), explained competence as individual's ability in performing the task and it depends on his or her knowledge, skill, motivation and physical capabilities. At the same time, referring to Spencer and Spencer (1993) research on competence, it was defined as an underlying characteristic of individual which related to a criterion in effective and superior performance in a task.In conjunction to that,Azir (2012) explained competent employee reflects the right attitude and high values regarding the job efficiency, productivity and safety.

2.9 Summary

Therefore, in this study, the independent variable is safety management practise and the mediating variable is safety motivation while the dependent variable is explained by safety performance. Apart from that, this study will focus on insured person who involved in commuting accidents and to discuss the relation between independent variable and the dependent variable.

CHAPTER THREE
METHODOLOGY

3.0 Introduction

This chapter discussed the methodology was applied in this study including the hypothesis development, research design, description of the population and sample, survey instrumentsdevelopment, pilot test and analyse on the data collected.

3.1 Hypotheses Development

3.1.1 Safety Management Practice and Safety Performance

Vinodkumar&Bhasi (2010) mentioned that within the safety management practise there are policies, strategies and activities that implemented by the management in any organisation because it is mainly and focused for the safety of the employees. By practising the safety management practise comprehensively in the organization it could bring positive impact to their employees' safety and could control the hazards in workplace (Labodova, 2004). Apart from improving the working condition in the workplace, it is also influencing the employees' attitude and behaviours during perform the job at the workplace, which will be reflected employees' safety performance

Hypothesis 1: Safety management practise has positive relationship with safety performance

3.1.2 Safety Management Practise and Safety Motivation

As mentioned earlier in the second chapter, in this study one of the elements in safety management practise is safety promotion policies. According to Hagen (2001), safety promotion policies managed by the organisation such as recreational activities, rewards or incentives would motivate the employees to improve their working performance. Besides that, Cohen (1979)said that through safety promotion policies it would encourage employees to participate in safety programme such as hazard control and motivate the employees to be more alert or self-protection action.

Hypothesis 2: Safety management practise has positive relationship with safety motivation

3.1.3 Safety Motivation and Safety Performance

Klehe & Anderson (2007), referred motivational aspects as a source of energy, desire to achieve and to perform better from others. By having safety motivation in individual it will push the employee to bring more effort to practise safety behaviours (Neal & Griffin, 2006). In a research in Australia manufacturing, the motivation proved to be the vital component in influencing safety behaviour among employees (Neal & Griffin, 2000). Neal & Griffin (2006), in their study on 700 employees in Australian Hospital revealed that individual safety motivation related to self-reported safety behaviour and reducing the accident rate.

Hypothesis 3: Safety motivation has positive relationship with safety performance

3.1.4 Employees' Competency and Safety Motivation

Based on definition by Berge (2001), he described competency throughout a person motives behaviour toward certain actions hence motive will influence the individuals to choose safe behaviour while working.

Hypothesis 4: Employees' competencies has positive relationship with safety motivation

3.1.5 Employees' Competency and Safety Performance

According to several definitions like the one found by Mirabile (1997), knowledge, skill, and ability is the key in the individual to be a competent employee. Hence with these elements the employee would be motived to achieve the safety behaviour performance while performing the job in workplace, in order to fulfil safety goals.

Hypothesis 5: Employees' competencies has positive *relationship with safety performance*

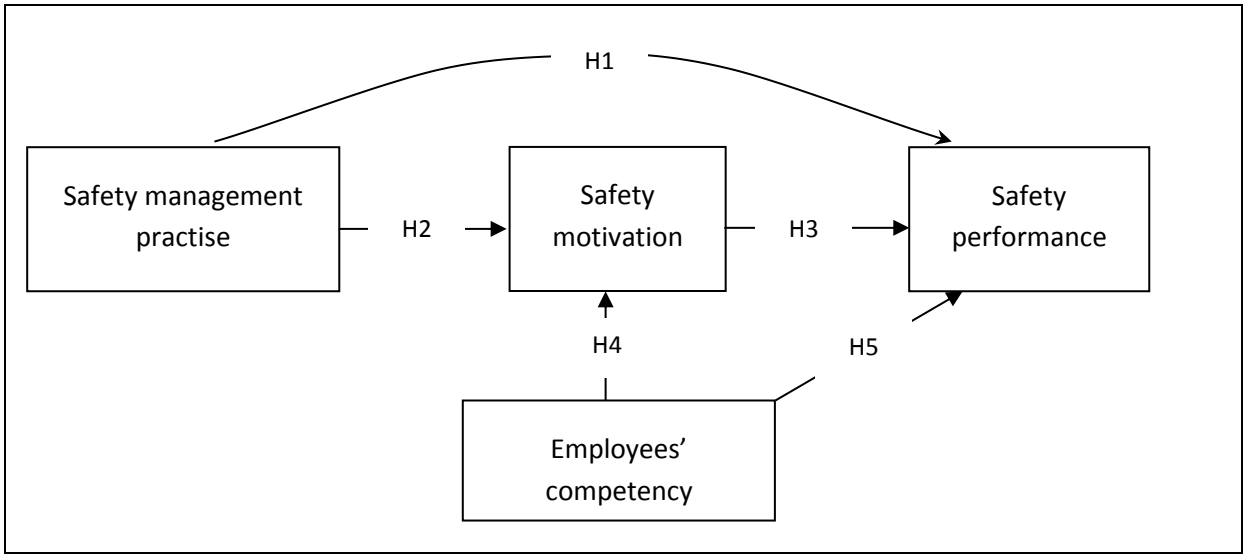

Figure 3.1: Hypothesis Development

3.2 Research Design

The most important aspects of this research were the types of investigation, the study setting, the unit of analysis were discussed in this topic. In this study, there were 4 factors had examined, which are; safety management practise, safety motivation, employees' competency and safety performance. These factors will determine whether the prevention initiatives are successfully practiced in the workplace. The research process will be defining on the problem, reviewing relevant literature, planning a research design, planning a sample, collection data, analysing data, formulating the conclusions, and preparing report (Zikmund, 2003).

At the same time, this study was applied quantitative research design because it is appropriate to what is needed by this study. Based on Creswell (2003) a research is based on quantitative, cross-sectional and survey type due to its economic design and effective completion in collecting the data. Moreover, there are several individual claimed that by using quantitative research is useful in determining the whether an idea or a concept is better than the alternatives (Anderson, Sweeney and William 2000).

In this study the unit analysis was individual, which had involved commuting accident person or insured person. The survey was conducted in the field where individuals responding to the questions based on their own experience.

3.3 Operational Definition

In this study, operation definition of the related variables is explained as follow.

3.3.1 Safety Management Practise

According to Kirwan (1998), safety management is a practise, role and function that implemented by the responsible party in preserving safety condition at workplace. According to Vinodkumar & Bhasi (2010), it consists of policies, strategies, procedures and activities implemented and followed by the organization in order to achieve safety for all employees.

3.3.2 Safety Performance

In this study, safety performance is defined in terms of safety compliance and safety participation (Neal & Griffin, 2002). Safety compliance refers to the core activities that individuals need to carry out to maintain workplace safety whereas safety participation describes behaviors that do not directly contribute to an individual's personal safety but that do help to develop an environment that supports safety goals

3.3.3 Safety Motivation

Neal & Griffin (2007) defined that safety motivation as an individual's willingness in their effort to perform safety behaviour while working and it is important influence among employees.

3.3.4 Employees' Competency

According to Berge et al, (2001), employees' competency is explained in the literature through knowledge, skill and abilities during performing the job.

3.3.5 Insured Person

An employee who is protected by Social Security Organization (SOCSO) from any injuries caused by accidents while on or off duty (Occupational Safety &Health Act 1994 and Regulations, 2007). This employee is registered with Social Security Organization (SOCSO).

3.3.6 Commuting Accident

Accident occurs on insured person while on working hour or while on the way to / from the workplace and it can as well be described as occupational accident.

3.4 Instrument Development

In this study, quantitative approach was applied for data collection, which involved survey, by questionnaire. Applied quantitative approach was used in collecting data for this study because it is the most suitable due to the economical design in collecting the data (Creswell, 2003; Anderson, Sweeney, &Williams, 2000). In completing this study, questionnaire method is used as well to collect the data and it is the most common method in collecting data (Sekaran, 1992). Moreover, according to O'Sullivan, Rassel and Berner (2003), questionnaires were valued by three dimensions of reliability: stability, equivalence, and internal consistency.

There are four instruments were applied to fulfil the objective of research. There are safety performance, safety management practice, safety motivation, and employeecompetency.

In this study, there are five sections developed in this questionnaire with the specific questions to be answered and to test the hypotheses. In section A, demographic questions were included. Thereafter, section B measured safety management practise (35 items), section C measured safety commitment (21 items), section D measured safety performance (11 items) and section E measured employees' competency (10 items). All items were measured using 5-point Likert scale and ranged from "1-strongly disagree" to "5-strongly agree".

At the same time, the questionnaire was also translated into Bahasa Malaysia by translator, later on it was finalised by the supervisor for any anomalies that might be found. After it had been edited, it was re-sent to another translator and was translated back into English to assure consistency in language to the extent possible.

3.4.1 Safety Management Practise

There are six dimensions to in safety management practise and there are management commitment (9), safety training (6), working involvement (5), communication(5), safety rules and procedures (5) and promotion policies(5) and all of them have their own items:

I. Management commitment was adopted from Cheyne (1998), the items are:
    i. Safety is given high priority by the management
    ii. Safety rules and procedures are strictly followed by the management

iii. Corrective action is always taken when the management is told about unsafe practice

iv. In my workplace managers/supervisors don't show interest in the safety of workers

v. Management considers safety to be equally important as production

vi. Members of the management don't attend safety meetings

vii. I feel that management is willing to compromise on safety for increasing production

viii. When near miss accident are reported, my management acts quickly to solve it

ix. My company provides sufficient personal protective equipment for the workers

II. Safety training was adopted from Cox &Cheyne (2000) and its items are:

i. My company gives comprehensive training to the employees in workplace health and safety issues

ii. Newly recruits are trained adequately to learn safety rules and procedures.

iii. Safety issues are given high priority in training programmes.

iv. I am not adequately trained to respond to emergency situations in my workplace

v. Management encourages the workers to attend safety-training programmes.

vi. Safety training given to me is adequate to enable to me to assess hazards in workplace.

III. Working involvement was adopted from Coyle (1995):

i. Management always welcomes opinion from employees before making final decision.

ii. My company has safety committees consisting of representatives of management and employees.

Iii. Management promotes employees involvement in safety related matters.

iv. Management consults with employees regularly about workplace health and safety issues.

v. Employees do not sincerely participate in identifying safety problems.

IV. Safety communication and feedback was adopted from Flin (2000) and its items are:

i. My company doesn't have a hazard reporting system where employees can communicate hazard information before incidents occur.

ii. Management operates an open door policy on safety issues

iii. There is sufficient opportunity to discuss and deal with safety issues in meetings.

iv. The target and goals for safety performance in my organization are not clear to the workers.

v. There is open communications about safety issues in this workplace.

V. Safety rules and procedures was adopted from Glendon&Litherland (2001) and its items are:

i. The safety rules and procedures followed in my company are sufficient to prevent incidents occurring.

ii. The facilities in the safety department are not adequate to meet the needs of my

organization.

iii. My supervisors and managers always try to enforce safe working procedures.

iv. Safety inspections are carried out regularly.

v. The safety procedures and practices in this organization are useful and effective.

VI. Safety promotion policies was adopted from Neal et al (2000) and its items are:

i. In my company, safe conduct is considered as a positive factor for job promotions.

ii. In my company, employees are rewarded for reporting safety hazards (thanked, cash or other rewards, recognition in newsletter, etc.)

iii. 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.

iv. There exists very healthy competition among the employees to find out and report unsafe condition and acts.

v. Our supervisor becomes very unhappy and angry when employees find out and report unsafe conditions and acts in our section

3.4.2 Safety Motivation

The safety motivation dimensions were adopted from Vredenburgh (2002),which had been applied by Vinodkumar and Bhasi (2010) in survey involved manufacturing employees.

i. I feel it is important to maintain safety at all times

ii. I feel that it is important to promote safety programmes.

iii. I feel that it is important to encourage others to use safe practices.

iv. I believe that safety that can be compromised for increeasing production.

v. I feel that it is necessary to put efforts to reduce accidents and incidents at workplace.

vi. I feel that safety at workplace is a very important issue.

3.4.3 Safety Performance

Safety performance was measured by safety compliance and safety participant. There are 12 items was applied to assess safety performance among commuting accident person, which 7 items for safety compliance and 5 items for safety participant. Safety compliance was adopted from Williamson, Feyer, Cairns and Biancotti (1997), while safety participant was adopted from Zohar (1980). The similar approach was applied by Vinodkumar and Bhasi (2010) for measured safety performance employee in manufacturing the details of the items as listed follow:

Safety Compliance

i. I use all necessary safety equipment's to do my job.

ii. I carry out my work in a safe manner.

iii. I follow correct safety rules and procedures while carrying out my job.

iv. I ensure the highest levels of safety when I carry out my job.

v. Occasionally due to lack of time, I deviate from correct and safe work procedures.

vi. Occasionally due to over familiarity with the job, I deviate from correct and safe work procedures.

vii. It is not always practical to follow all safety rules and procedures while doing a job

Safety Participation

i. I help my co-workers when they are working under risky or hazardous conditions.
ii. I always point out to the management if any safety related matters are noticed in my company.
iii. I put extra effort to improve the safety of the workplace.
iv. I voluntarily carryout tasks or activities that help to improve workplace safety.
v. I encourage my co-workers to work safely.

3.4.4 Employee's Competency

There many instruments were applied employees competency. However there is none of the instrument has been established and consistent used from the previous studies. Thus this study was applied all items to assess employees' competency. There are16 items to measure employees' competency. 10 items were adopted from safety climate tools questionnaire (Davies, Spencer & Dooley, 2001). For item i, iii, IV, viii, ix and x were adopted from Health and Safety Climate Survey Tool. For item vii, it was adopted from the Offshore Safety Questionnaire, item ii and v were adopted from Loughborough Safety Climate Questionnaire. Moreover, for the item vi, it was taken from Quest Safety Climate Questionnaire (Davies, Spencer & Dooley, 2001). The remaining 6 items was adopted from Varonen and Mattilla (2006) to measure safety knowledge. Those items are;

i. I fully understand the safety procedures / instructions associated with my job.

ii. I understand the safety rules for my job.

iii. Sometimes I am uncertain what to do to ensure safety in the work for which I am responsible.

iv. I am confident that I can identify the safety risks associated with the work for which I am responsible

v. I am clear about what my responsibilities are for safety

vi. I understand the nature of all the hazards I am likely to encounter during my work

vii. Sometimes I am confused about what I am supposed to do

viii. I have a poor understanding of the risks associated with my work.

ix. I am good at detecting unsafe behaviour during performing the job

x. I am not very efficient at ensuring safety in the work for which I am responsible.

xi. I know how to perform my job in a safe manner

xii. I know how to use safety equipments and standard work procedures.

xiii. I know how to maintain or improve workplace health and safety.

xiv. I know how to reduce the risk of accidents and incidents in the workplace.

xv. I know what are the hazards associated with my jobs and the necessary precautions to be taken while doing my job.

xvi. I don't know what to do and whom to report if a potential hazard is noticed in my workplace.

3.5 Sampling Design

The respondent in this study is insured person (workers) who had involved in commuting accident regardless from any sector of occupation in Malaysia. Based on SOCSO Annual Report (2012), the number of reported commuting accident was 26256 employees. Thus, the potential population for data collection in this study based to this statistic. By referring to the Krecjic and Morgan (1970) guidelines, the number of sample could be determined and from the number of reported commuting accident in 2012 the sample size of this study was 379.According to McMillan & Schumacher (2001), the sample size should be sufficient by having a large respondent in order to get a better result.

In this study both geographical disproportionate stratified and convience sampling had applied for data collection. The reason of using geographical disproportionate stratified was due to it was more reliable to decide the sample will represent all subgroup population (Cavana et al., 2001). There are five areas have been chosen in this study which are Northern (Kedah, Perlis, Pulau Pinang, Perak), Middle (Kuala Lumpur, Selangor, Negeri Sembilan), Southern (Melaka, Johor), Eastern(Terengganu, Kelantan, Pahang) and East Malaysia (Sarawak and Sabah).Then the random sampling was applied to identify the related respondent in each area. The best way to achieve valid conclusions is by using the random sampling for it is the most effective way plus there is no bias involved (Sekaran, 2000).At the same time, Keppel, Saufley & Tokunaga (1992) suggested that random sampling method is economical. The detail of geographical disproportionate stratified result is shown in the Table 3.1.

Table 3.1: Stratified Targeted Sample for Sampling

No	Area	Number Insured person	Sample size	Target sample size
1	Northern Number Kedah 1760 Perlis 160 Pulau Pinang 3310 Perak 2495	7725	367	250
2	Middle Number Kuala Lumpur 3735 Selangor 6120 Negeri Sembilan 1105	10960	370	300
3	Southern Number Melaka 920 Johor 3625	4545	354	150
4	Eastern Number Terengganu 500 Kelantan 395 Pahang 815	1710	313	100
	East Malaysia Number Sarawak720 Sabah 596	1316		50
	TOTAL	26 256		**850**

3.6 Pilot Test

In ensuring the questionnaires were understood, reliable and usable in collecting the data, pilot test was conducted on 7th November – 11th December, 2013involving 60 respondents (insured person). According to Zikmund (2003), the pilot study is used as a guide for a study and collects data from the definitive subjects of research project in a small scale probing sampling technique without exact standard and it is necessary to identify the problem in instrument tool. 60questionnaires had managed to be handed to the insured person who had involved in commuting accident by the SOCSO employees and 49 completed questionnaires

were returned. In other word, the respond rate for the pilot test is 81.6%. The purpose of the pilot test is to test the reliability of the measurement tools in this study and feedback from respondent about the wording difficulties and the lay out questionnaire. Social Package (SPSS) version 20 did the raw data from the pilot test for Social Sciences to produce the descriptive and reliability test.

In the Table 3.2, the demographic profile shows most of the respondent was male with 59.2 % from the total amount. The race of the respondents in this pilot study majorly consists of Malay (61.2 %) followed by Indian (22.4 %), Chinese (12.2 %) and other (4.1%). Most of the respondents are aged between 25 to 34 years old or 32.7 %.

Table 3.2: Demographic Profile.

Items	Profile	Frequency	Percentage %
1	Gender		
	Male	29	59.2
	Female	20	40.8
2	Race		
	Malay	30	61.2
	Chinese	6	12.2
	Indian	11	22.4
	Other	2	4.1
3	Age		
	18 – 24	4	8.2
	25 – 34	16	32.7
	35 – 44	14	28.6
	45 – 54	12	24.5
	55 and above	3	6.1

The data also was done for the reliability test to test the instrumentation consistency. Cronbach Alpha value was used to identify the reliability of the scale in this study.The data then were analyzed by SPSS version 20 to calculate the Cronbach's Alpha coefficient for reliability test. The details of the Cronbach Alpha value results are shown in the Table 3.3.

Table 3.3: The tested Instruments for Reliability in the Pilot Test.

Dimensions	Number of items	Label	Cronbach Alpha coefficient
Safety management practise	35	B1 to B35	.845
Safety motivation	6	C36 to C41	.898
Safety performance	12	D42 to D53	.744
Employees' competency	16	E54 to E69	.709
TOTAL	**69**		**.874**

By referring to the Table 5, Cronbach Alpha value for all instruments above 0.7, which is an ideal for good internal consistencies (Nunnally, 1978).Therefore, it was concluded that all instruments were consistent and reliable for collection data survey.

3.7 Summary

In this chapter, there were 7 hypotheses had developed related to 4 variables, which were safety management practice, safety performance, safety motivation and employees' competency. Then instrument development for the 4 variables was generated 69 items of questionnaires for the survey. The pilot study was conducted involved 60 respondents and the reliability analysis showed that Cronbach Alpha value for all instruments above 0.7, which is was acceptable.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

In this chapter, both results and discussion are clearly explained. Primary data are systematically analysed using Microsoft Excel and Statistical Package for Social Sciences (SPSS). The finding of this study begins with the explanation on data collection, data processing, normality distribution test and other bivariate and multivariate analysis.

4.2 Data Collection and Processing

The survey questionnaire's was prepared in two languages' which are in Bahasa Melayu and English. These are to provide options and flexibility for respondents to answer. The Social Security Organization (SOCSO) headquarters' officer who is responsible on the commuting accident programme was contacted and further detailed was then explained. Then, a total of 850 validated questionnaires were sent to each SOCSO State Office throughout Malaysia. Then, the questionnaires were distributed to targeted organization and selected employees are required to fill in the questionnaire completely prior sent it back to the researcher. This method is relatively time saving and not too costly. Oppenheim, (2000) and Sekaran, (2000) stated that this method could possibly get a higher response rate. The response rate for this study is 72.3%. Table 4.1 summarizes the distribution of respondent selection by area.

Table 4.1: Distribution of Respondent Selection by Area

Area	Sample	Actual sample	Target sample size	%
Northern				
Kedah	41	264	250	105.6
Perlis	17			
Pulau Pinang	86			
Perak	120			
Central				
Selangor	107	155	300	51.6
Negeri Sembilan	48			
Southern				
Johor	104	104	150	69.3
Eastern				
Terengganu	39	59	100	59
Kelantan	10			
Pahang	10			
Borneo				
Sarawak	23	33	50	66.0
Sabah	10			
Total		615	850	72.3

The raw data were then undergo screening process and analysed using Statistical Package for Social Sciences (SPSS) version 21 to obtain both descriptive and inferential statistical results. All relevant variables for hypothesis testing were analysed using bivariate and multivariate analysis. At the same time, the negative items in the questionnaire were recoded and other

related data were prepared for multivariate analysis. This is one of the techniques recommended by Hair et al. (2006) for treating missing data especially when missing data is relatively low.

4.3 Normality Test

Normal distribution of scores is crucial for factor analysis and multivariate analysis (Pallant, 2007). Normality is described as symmetrical, bell-shaped curve, which has the highest frequency of scores in the middle and smaller frequencies towards the extreme ends. There are several statistical methods available to assess the normality of these distributions. In this study, the normality was assessed by determining the value of kurtosis and skewedness statistic as recommended by Muthen and Kaplan (1985) in first stage and then follows by Ferguson and Cox (1993) for the second stage. The skewedness value provides an indication of the symmetry of the distribution whereas kurtosis value provides information about the peakedness of the distribution. Perfectly normal distribution yields kurtosis and skewness value of zero, but highly uncommon occurrence in social sciences (Pallant, 2007). With large sample size of more than 200, slight deviations would not make a substantive difference in the analysis (Tabachnick&Fidell, 2007). Muthen and Kaplan (1985) stated that some degree of univariate skew and kurtosis is acceptable for the majority of the variables if neither value exceeds ± 1.0. While Ferguson and Cox (1993) stated that the percentage of variables adversely affected by either skew and/or kurtosis should be calculated and less than 25 percent of the variables adversely affected by either skewness or kurtosis are taken as cut off point for acceptability. Based to recommendations Muthen and Kaplan (1985) for assessment of normality, the analysis found the response of mean variable of safety

performance and safety motivation indicated kurtosis statistic exceeding 1.0.Table 4.2 shows details analysis of the data normality assessment.

Table 4.2**:** Data Value for Skewness and Kurtosis.

Variables	N	Min.	Max.	Mean	S.D	Skewness		Kurtosis	
	Stat.	Stat.	Stat.	Stat.	Stat.	Stat.	Std. Err.	Stat.	Std. Err.
Safety management practise	615	1.58	4.91	3.44	0.47	-0.27	0.09	0.77	0.19
Safety performance	615	2	6.83	3.59	0.53	0.47	0.09	2.30	0.19
Employee competency	615	1	5	2.37	0.83	0.54	0.09	0.17	0.19
Safety motivation	615	1	5	3.71	0.80	-0.76	0.09	1.12	0.19

N=615

Table 4.2 showed that 2 of 4 value of skewness or kurtosis of the variables exceeds ± 1.0. This result violated statistic recommended by Muthen and Kaplan (1985), thus the mean variable of normality test does not fulfil the needs for the normality test. Therefore, the normality test further explored by identifying the skewness and kurtosis statistics for each item of variable, which recommended by Ferguson and Cox (1993). Table 4.3 shows details analysis of the data normality assessment for each item inside each variable. The analysis found the response of 2 items of the questionnaires (item 48 and 49) indicated kurtosis statistic exceeding 1.0 while while none of the items showed skewness statistic exceeding 1.0. In total two items from the total of 63 items (3.17 percent) of the questionnaires were adversely affected by kurtosis however this value is less than 25 percent of the variables adversely affected and therefore the variations were still within the cutoff point for

acceptability. It was concluded that the majority of the data in the distribution were normally distributed and that the data set was appropriate for parametric analysis.

Table 4.3: Data variable adversely affected by either skewness or kurtosis statistic outside ±1.0 range.

Item number	Skewness		Kurtosis	
	Statistic	Std. error	Statistic	Std. error
48	-1.31	0.09	3.22	0.19
49	-0.38	0.09	2.21	0.19

Normality Test of Safety Management Practices

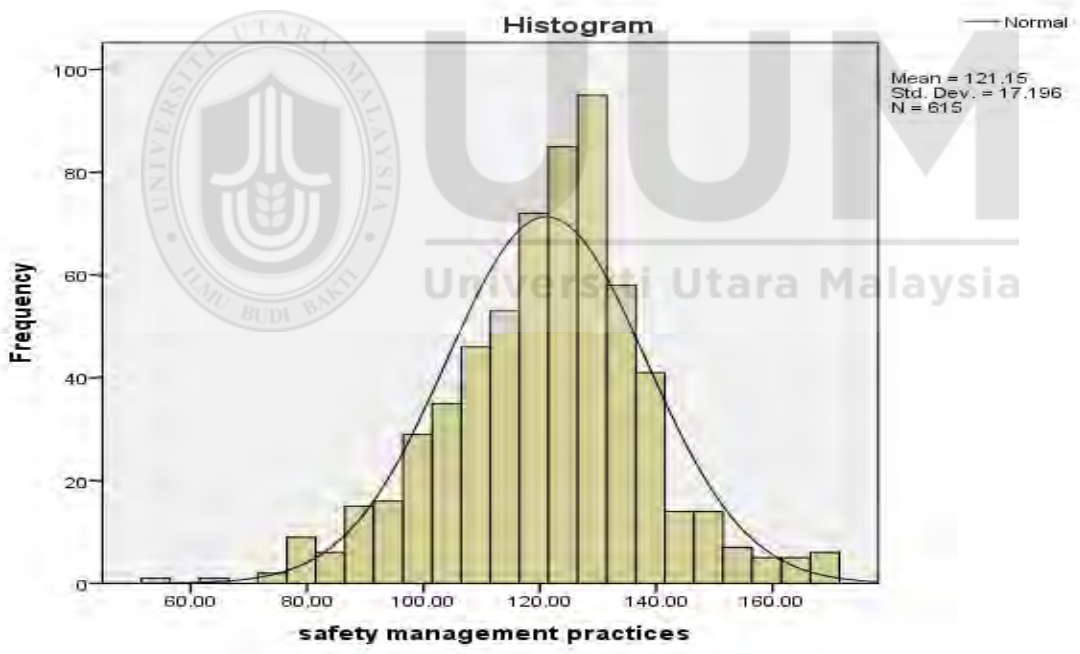

Figure 4.1: Normality Test of Safety Management Practices

Figures 4.1 shows the normality analysis of safety management practices among respondents. The result shows a normal distribution curve, which explains equal variance of respondent's selection. Thus, it fulfills the intrinsic factors criteria that being set.

Outliers of Safety Management Practice

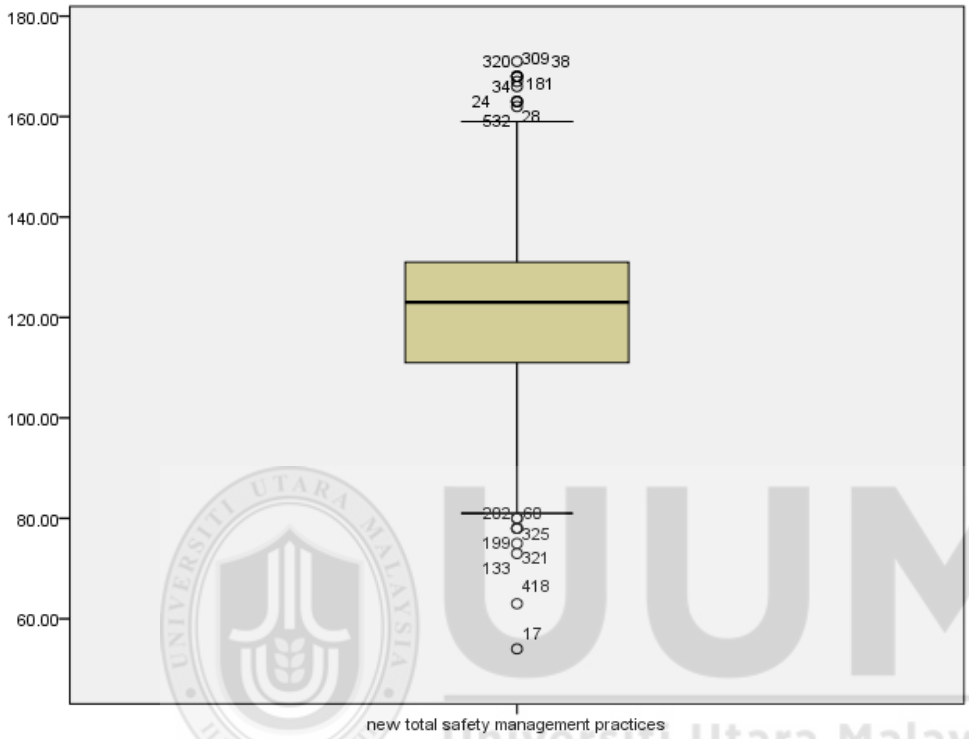

Figure 4.2: Outliers of Safety Management Practice

Figure 4.2 explains the outliers' respondents in safety management practices. The mean total score of safety management practices was reported as 121.2 (± 17.2). Overall the respondent shows a good score (61-80) in this section. There are a total number of 8 (1.3%) respondents, which falls under moderate (41-60) category of score. Statistical analysis shows that the moderate categories of respondents' are among non-managerial level.

Normality Test of Safety Performance

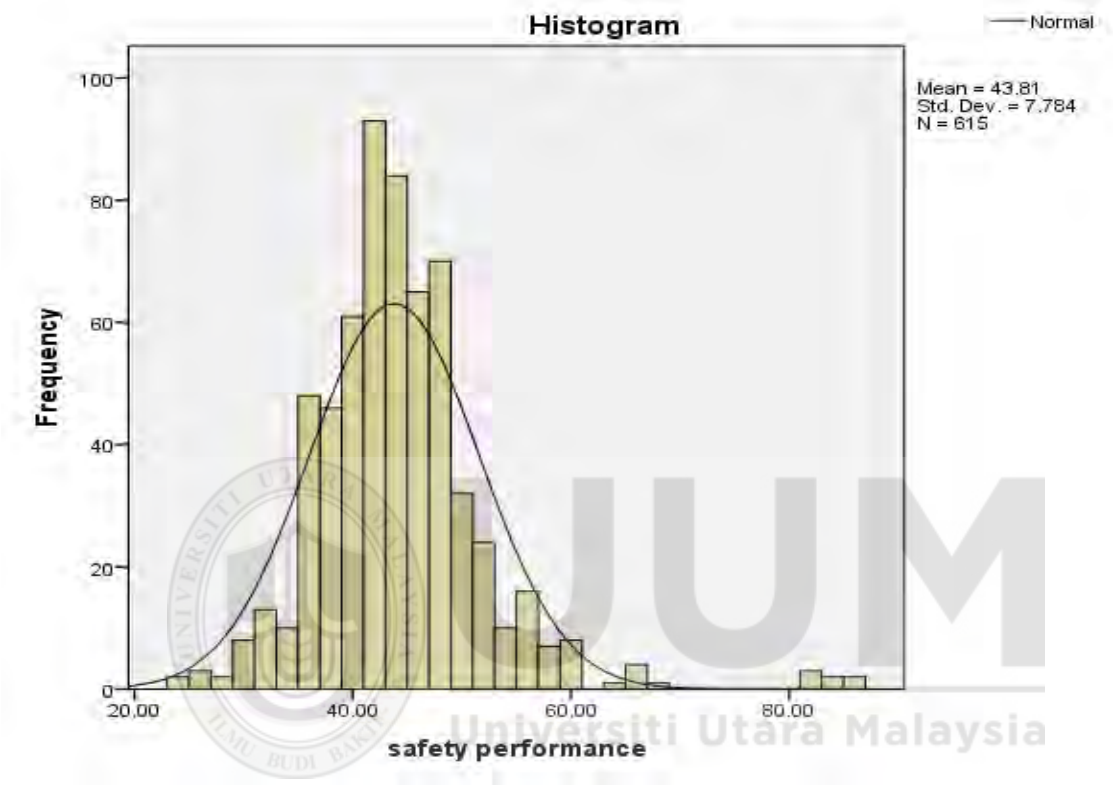

Figure 4.3: Normality Test of Safety Performance

Figures 4.3 shows the normality analysis of safety performances among respondents. The result shows a normal distribution curve, which explains equal variance of respondent's selection. Thus, it fulfills the intrinsic factors criteria that being set.

Outliers of Safety Performance

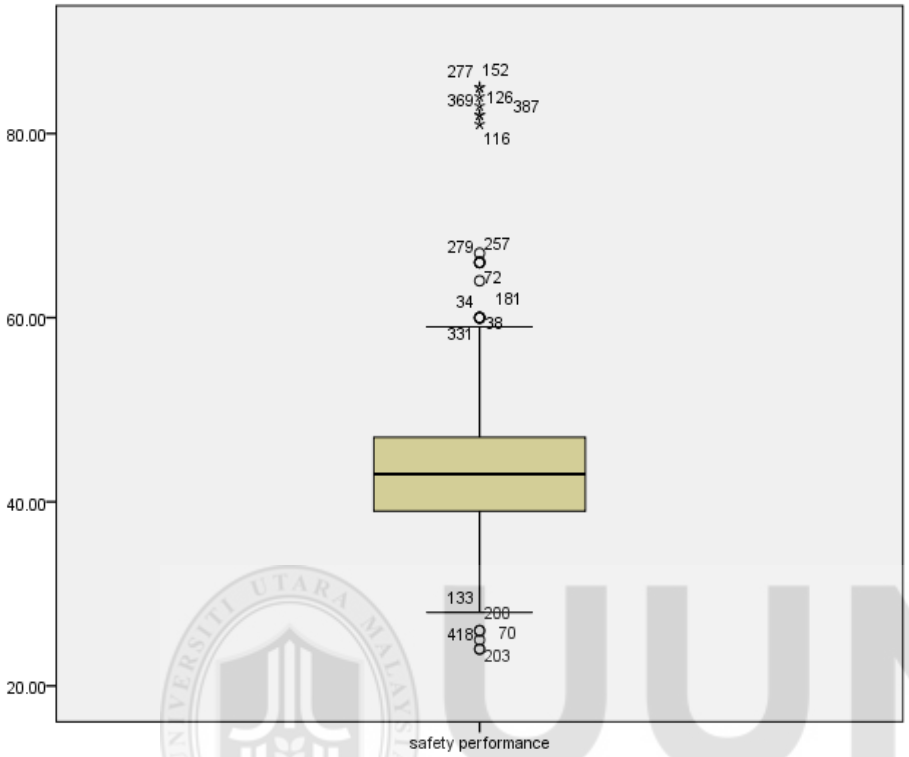

Figure 4.4: Outliers of Safety Performance

There are a total number of 12 questions in this section. Seven questions are related to safety performance and another five questions are safety participation. Most of the respondent falls under moderate score (41-60) category with the mean of 43.81±7.78. Figure 4.6 shows 18 (3%) respondents' shows a good perception towards safety performance. Descriptive statistical analysis shows that the majority of the negative outliers falls in the range of upper outer fence, which represent 192 (31%) respondents are among female operators and managerial level.

Normality Test of Safety Motivation

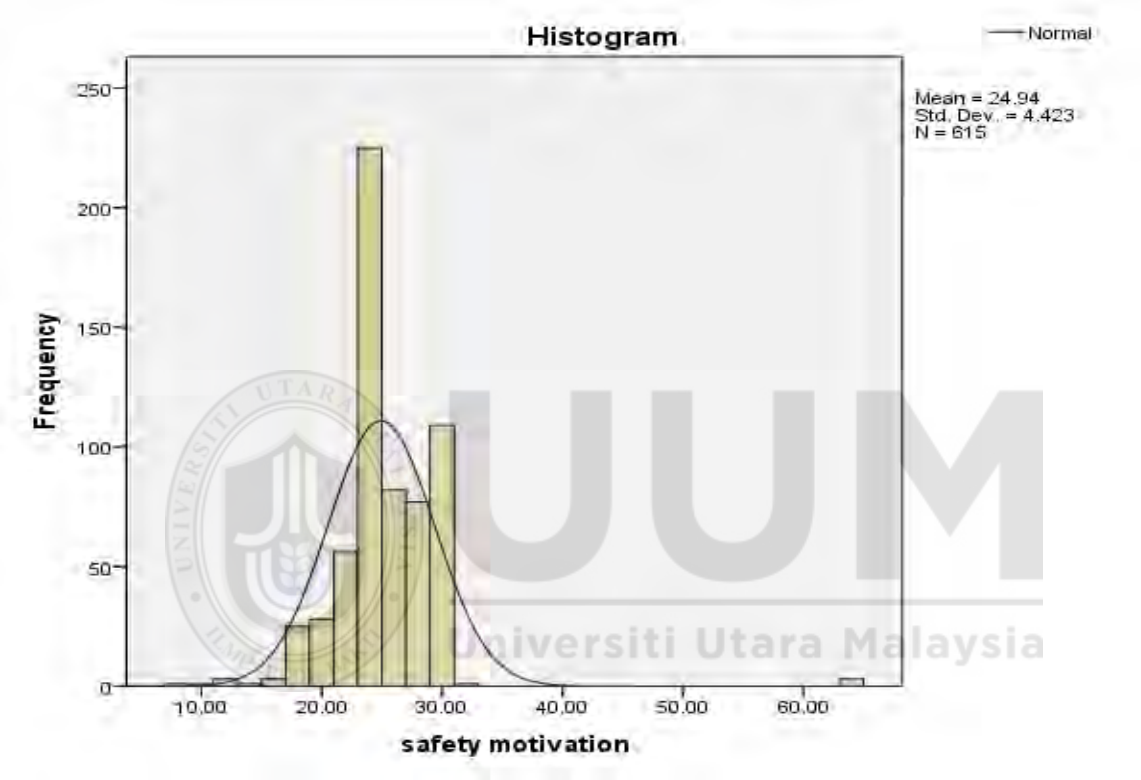

Figure 4.5: Normality Test of Safety Motivation

Figures 4.5 shows the normality analysis of safety motivation among respondents. The result shows a fair normal distribution curve, which explains equal variance of respondent's selection. Thus, it fulfills the intrinsic factors criteria that being set.

Outliers of Safety Motivation

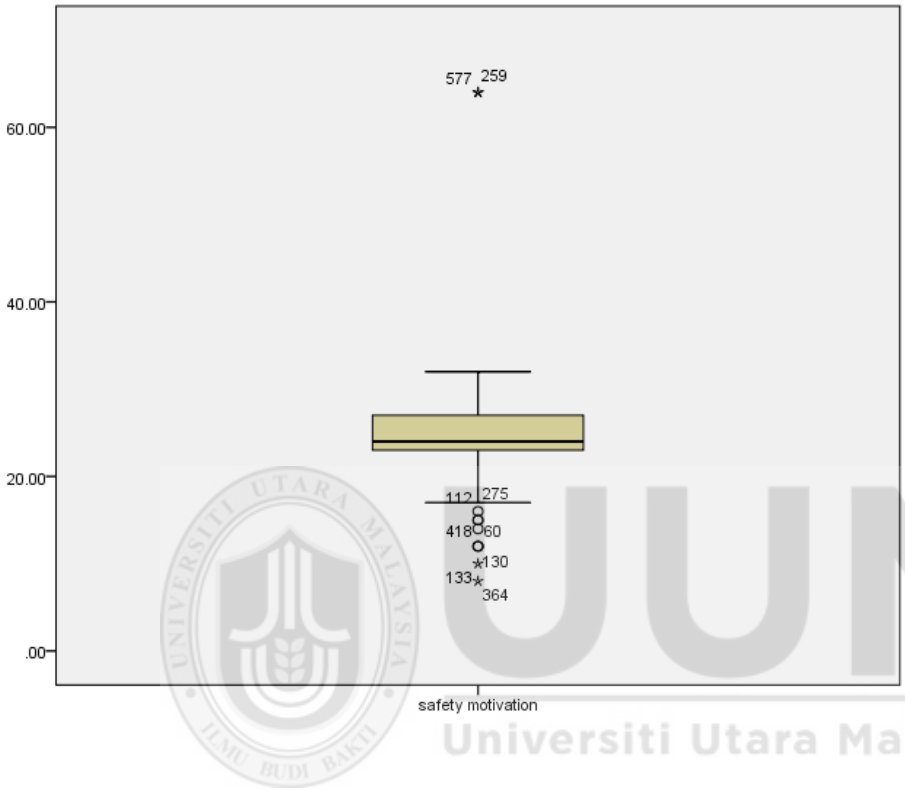

Figure 4.6: Outliers of Safety Motivation

Figure 4.6 shows the outlier's of safety motivation among respondent. It was noted that safety motivation contributed great impact to the level of safety performances total score in this study. Most of the respondent's total score are fair (21-40) category level.

Normality Test of Employees' Competency

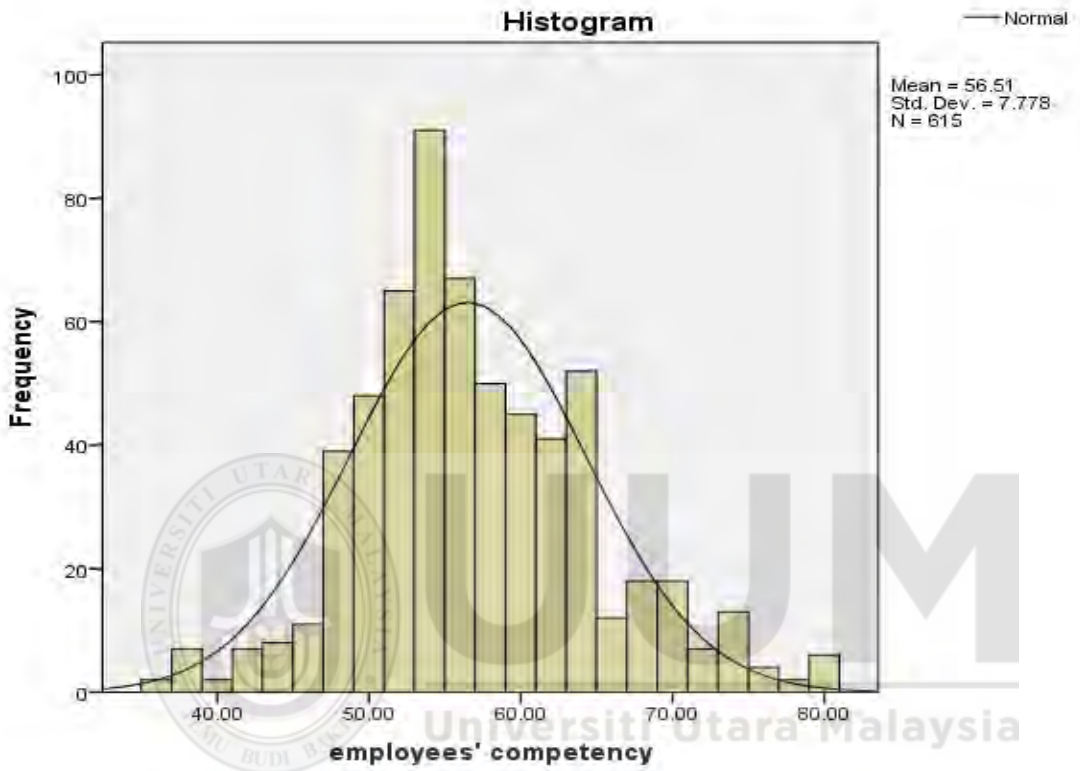

Figure 4.7: Normality Test of Employees' Competency

Figures 4.7 shows the normality analysis of employee's competency among respondents. The result shows a fair normal distribution curve, which explains equal variance of respondent's competency distribution. Thus, it fulfills the intrinsic factors criteria that being set.

Outliers of Employees' Competency

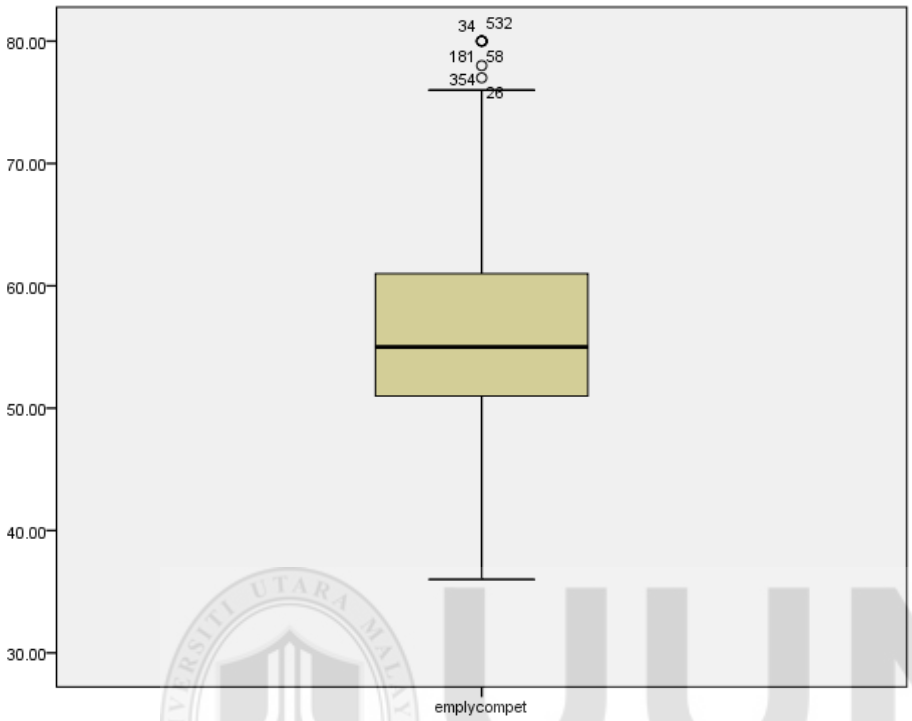

Figure 4.8: Outliers of Employees' Competency

Figure 4.8 shows the number of outlier's in safety competency among respondent. It was noticed that safety competency is one of the significant influence factor, which justify the overall objectives of this study. Safety competency outlier shows an observation that lies an abnormal distance from other values in a random sample from a population. This figures explains only few respondents' safety competencies are at the upper outer fence of Q3 outlier.

Normality Test for Total Score

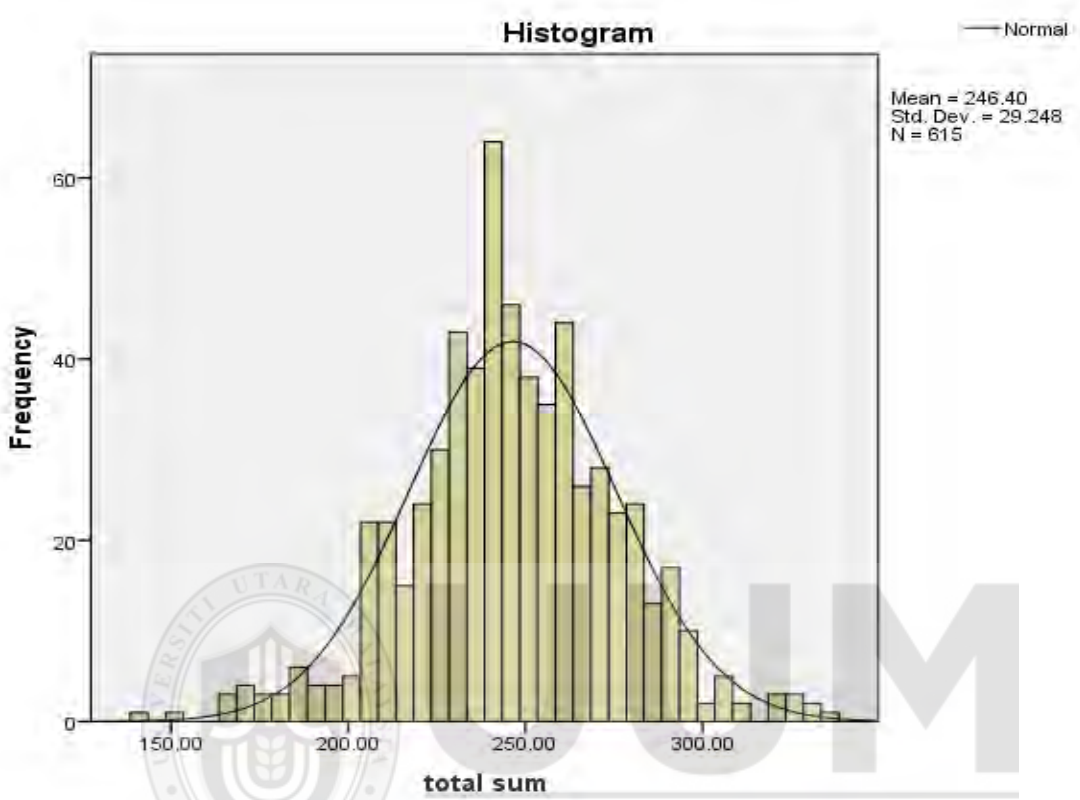

Figure 4.9: Normality Test for Total Score

Figure 4.9 shows the normal distribution graph for total score of safety management practices, motivation and competency towards safety performance among respondents. The mean total score of respondents is 246.40±29.25. Then, the total score will be classify according to different classification which known as Low, Fair, Moderate, Good and Excellent.

Outliers for Total Score

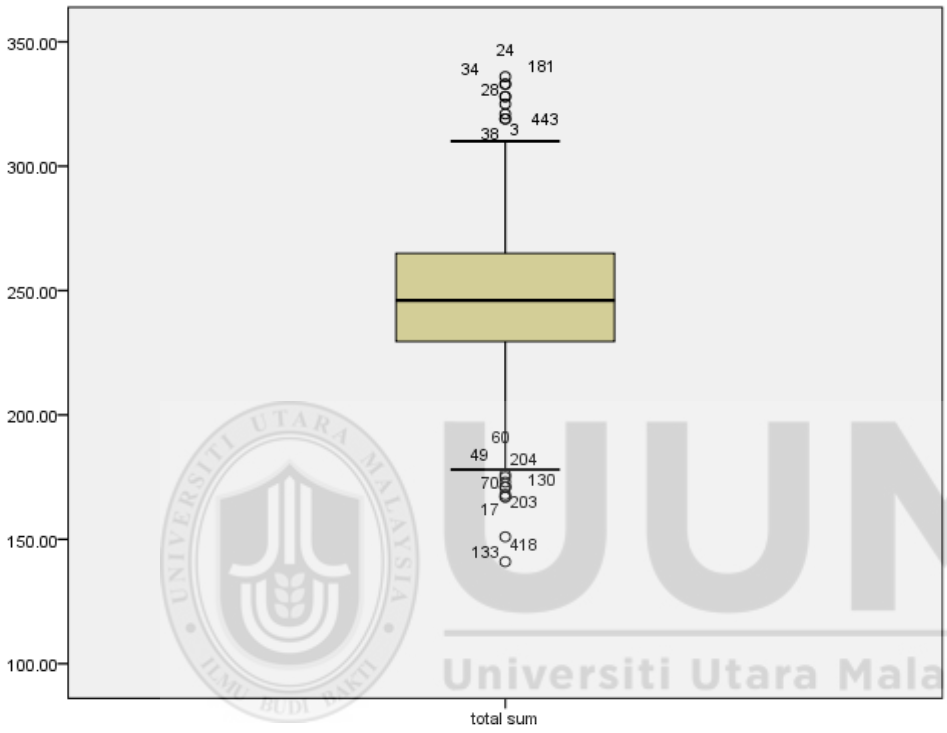

Figure 4.10: Outliers for Total Score

Figure 4.10 shows the outliers for total score among respondents. The outliers are distributed at both upper inner fence and upper outer fence. There are no extreme outliers found in this variable.

Total Score among Respondents

Table 4.4: Total Score among Respondents

Total Score	Remarks	Male	Female	Total
<20%	Low	0	0	0
21-40%	Fair	1(0.16%)	1(0.16%)	2(0.33%)
41 -60%	Moderate	52(8.46%)	54(8.78%)	106(17.24%)
61 -80%	Good	233(37.89%)	219(35.61%)	452 (73.50%)
>80%	Excellent	28(4.55%)	27(4.%39)	55(8.94%)

N=615

Table 4.7 shows the total score among respondents. Generally, this study revealed that 75% of the respondents understanding on overall safety performance is Good (61 -80%), followed by 17.24% Moderate (41-60%), 8.94% Excellent (>80%) and 0.33% Fair (21-40%) respectively. The male respondents total score show 2.28% higher score as compared to female respondents.

4.4 Linearity

Multivariate techniques such as multiple regression, multivariate analysis of variance and factor analysis assumed that the variables the analysis were related to each other in a linear manner (Meyers *at al.*2006). This study referred to scatter plot of residuals against predicted values to test of linearity between each independent variable and dependent variable (Pallent, 2007).

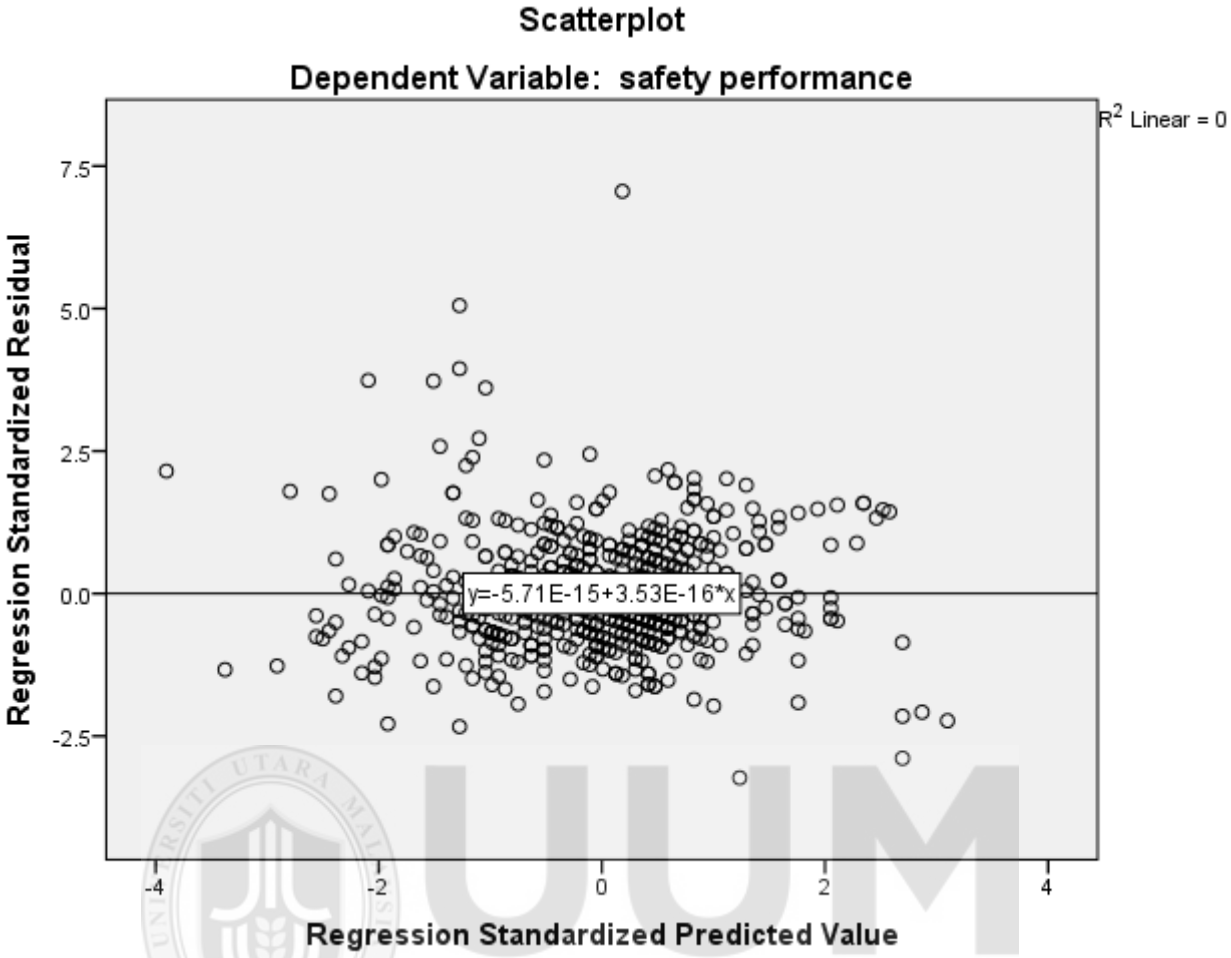

Figure 4.11: Scatter Plot of Regression Standardized Residual

The scatter plot illustrated in figure 4.11 above indicated that no pattern U-shape or other curvilinear relationships between all independent variables and the dependent variable. This indicated that assumption of linearity was met. Meanwhile, the curve estimation plot between independent variable (safety management practices) and dependent variable (safety performance) also revealed that the relationship between them was linear (Pallent, 2007) as demonstrated by figure 4.12 below.

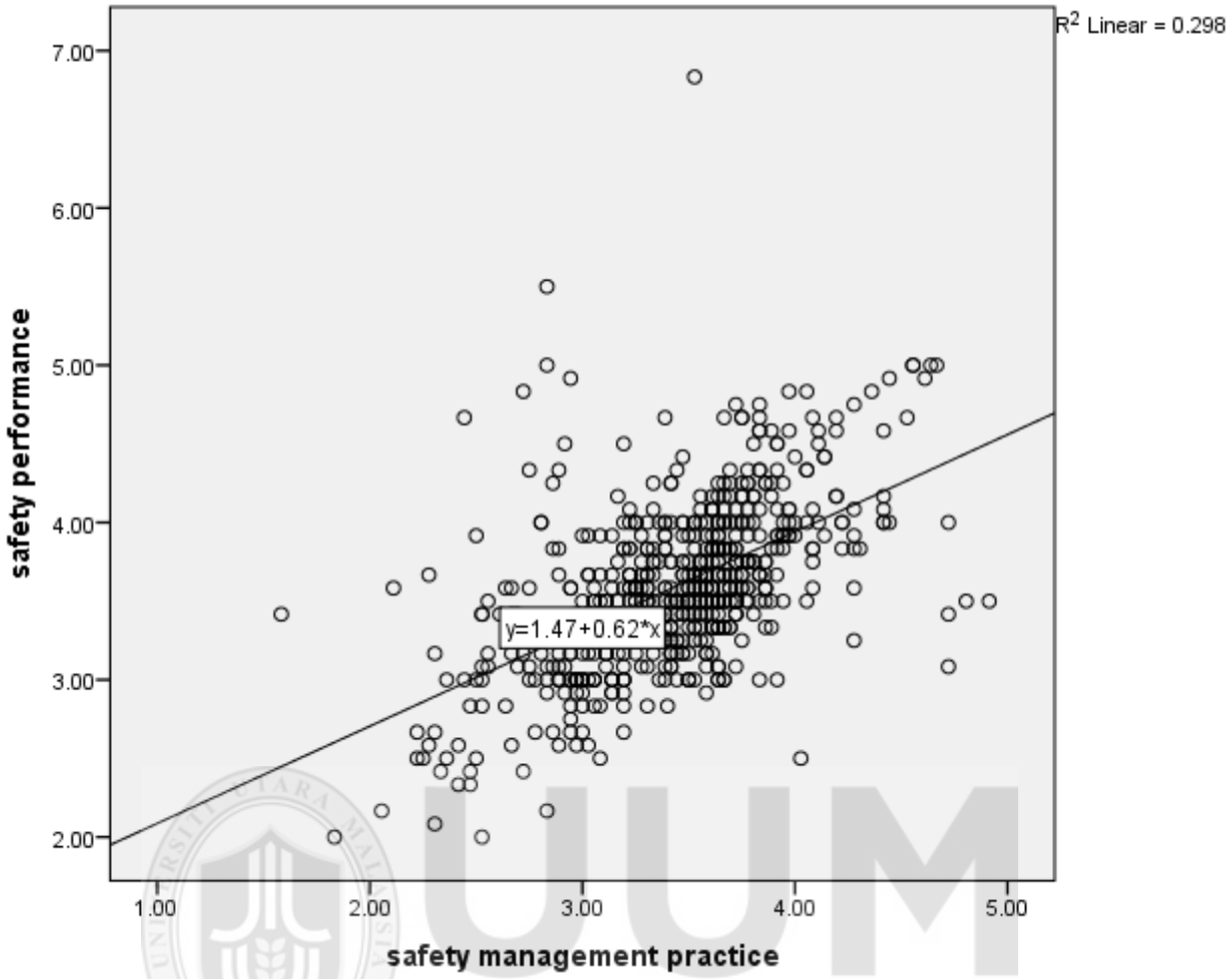

Figure 4.12: Curve Estimation Plot between Independent and Dependent Variables

Tabachnick and Fidell (2007) meanwhile suggest that a normal probability plot (P-P) of regression standardized residual between variables should be symmetrically distributed around a diagonal straight line if the relationship was linear.

4.5 Descriptive Analysis

In this section, the result focused on the respondents' demographic profiles which consist of gender, race, age, marital status, current position, length of employment, and function of current job.

Based on the completed survey, 314 (51.1 %) of respondent are male while the female respondents' was 301 (48.9%). The respondents in this survey consist four type of races which known as Malays 406; followed by Indian 102; Chinese 98; and 9 respondents from others ethnic groups. For the age section, there is no big gap between each age category. There was a mix of various ages among the workers and in this study the minimum age for this survey was 18 years old and the eldest employees was 55 years**.** Majority of the respondents' age are in between 25 and 34 years old and for those age in category 18 to 24 years old (76), 25 to 34 years old (214), 35 to 44 years old (184), 45 to 54 years old (119) and 55 years old and above were 22 respectively.

On marital status of the respondent, there were about 416 respondents who have married and 174 respondents who are still unmarried or single. While for the rest of the respondent were divorced were15 and widowed were 10. In term of the position of the respondents, there were various job position levels; managing director, manager, executive, supervisors, line leader and operators. According to the statistic based on the survey questionnaire, managing director has 11 respondent, followed by manager position with 28 respondent, executive 155, supervisors 108, line leader 57 and 256 respondents for operator position respectively.

As for the length of employment question, a number of 49 respondents were working less than a year. Perhaps these respondents have only been working and a fresh employee in their workplace. The length for 1 to 4 years carry 141 respondent and 179 was from the respondents of working within 5 to 9 years. While respondent with length of employment of 10 – 14 years were 108 and for category 15 – 19 years were 58 in total. The last but not least category was 20 years and above which consisted of 80 respondents.

In term of function of your current job, there were 237 respondents for services which covered a duty regarding with finance, accounting, administration, etc. As for technical which consists with engineering, maintenance, electrician, etc, it carries 105 respondents. Meanwhile, sales that consist with marketing, corporate, communication, PR, customer service, etc, carry 51 respondents. The other two functions that were operations and others consisted of 147 and 75 respondents respectively. All of the subjects from the demographic profiles are shown as in the Table 4.4 below.

Table 4.5: The Demographic Profile of the Respondents

Parameter	Frequency	%
Gender		
Male	314	51.1
Female	301	48.9
Race		
Malay	406	66.0
Chinese	98	15.9
Indian	102	16.6
Others	9	1.5
Age (old)		
18-24	76	12.4
25-34	214	34.8
35-44	184	29.9
45-54	119	19.3
>55	22	3.6
Marital Status		
Single	174	28.3
Married	416	67.6
Divorced	15	2.4
Widowed	10	1.7
Current Position		
Manager	28	4.6
Executive	155	25.2
Supervisor	119	19.4
Line leader	57	9.3
Operators	256	41.6
Length of employment (year)		
<1	49	8.0

	1–4	141	22.9
	5–9	179	29.1
	10–14	108	17.6
	15–19	58	9.4
	>20	80	13.0
Current Job			
	Services	237	38.5
	Operations	105	17.1
	Technical	51	8.3
	Sales	147	23.9
	Others	75	12.2

N=615

4.6 Reliability Test of Questionnaire Items

In this study, all of the items were measured by Cronbach alpha coefficient as indicators of internal coefficient. Internal consistency is used as a method in most studies with cross sectional design and the consistency is valued by using a reliability coefficient called Cronbach's alpha (α) (Cronbach, 1951). Several views said that by having a Cronbach alpha value of 0.70 and above are the best result. According to Nunally (1978) and DeVellis (2003), a value of 0.70 and above is very suitable for demonstrating strong internal consistency. The total items are 59 and its Cronbach's alpha value was at 0.853. Table 4.2 showsthe details of instrument of variables questionnaire items along with their Cronbach's alpha value.

Table 4.6: The Reliability Test of Questionnaire Items

No.	Safety measures	No. of items	Cronbach's alpha
1.	Safety management practise	35	0.89
2.	Safety motivation	6	0.85
3.	Safety performance	12	0.75
4.	Employees' competency	16	0.87
5.	All items	69	0.85

The Table 4.5 showed the reliability test, which was used for the variable items in the questionnaire. In this summary the result showed that the Cronbach's alpha was ranged from 0.75 to 0.89 for the variables in the questionnaire and as for the all items the Cronbach's alpha was 0.85.The highest Cronbach's alpha achieved was safety management practise (0.89) and the lowest was achieved by safety performance (0.75). The measurement and the corresponding alphas of the current study weresafety management practise ($\alpha = 0.89$), safety motivation ($\alpha = 0.85$), safety performance ($\alpha = 0.75$) and finally employees' competency ($\alpha = 0.87$).

All of the Cronbach'salpha value in this study is acceptable because it shows good internal consistency reliability for scale and the value was higher than 0.80 (Pallant, 2007).

4.7 Mean of Variables

In this study, the descriptive of the frequencies shows that the highest mean is safety motivation with 4.118 while the lowest mean goes to safety management practise with 3.521. The minimum value of the frequencies is at 2.675and up to 4.208 for the maximum value.

Meanwhile, as for the standard deviation, the highest score is safety performance with 0.35 and the lowest goes to safety motivation with a score of 0.20.

Table 4.6: Frequencies of Variables (N=615)

Variables	Min.	Max.	Mean	S.D
Safety management practice	2.675	3.909	3.521	0.28
Safety motivation	4.021	4.208	4.118	0.20
Safety performance	2.932	3.886	3.595	0.35
Employees' competency	2.998	3.912	3.529	0.34

4.8 Regression Analysis and Hypothesis Testing

Relationship between Safety Management Practices and Selected Variables

Table 4.8: Relationship between Safety Management Practices and Selected Variables

Variable	r*	p
Safety performance	0.468	0.001
Safety motivation	0.303	0.001

N=615
*Pearson Correlation

Pearson's correlation coefficient (r) was used to measure the strength of the relationship between the safety management practices and each safety performance and safety motivation respectively. Table 4.8 show there is a significant relationship (r=0.468,p=0.001) between safety management practices and safety performance. A significant relationship (r=0.303,

p=0.001) also found between safety management practices and safety motivation. Both correlation coefficient of 0.468 and 0.303 indicated strength of moderate relationship.

Relationship between Safety Motivation and Safety Performance

Table 4.9: Relationship between Safety Motivation and Safety Performance

Variable	r*	p
Safety performance	0.268	0.001

N=615
*Pearson Correlation

Pearson's correlation coefficient (r) was used to measure the strength of the relationship between the safety motivation and safety performance. Result in Table 4.9 shows there is a significant relationship (r=0.268 ,p=0.001) between safety motivation and safety performance. A correlation coefficient of 0.268 indicated strength of weak relationship.

Relationship between Employees' Competency and Selected Variables

Table 4.10: Relationship between Employees' Competency and Selected Variables

Variable	r*	p
Safety motivation	0.362	0.001
Safety performance	0.547	0.001

N=615
*Pearson Correlation

Pearson's correlation coefficient (r) was used to measure the strength of the relationship between employee's competency and both safety motivation and safety performance respectively. Result in Table 4.10 shows that there is a significant relationship (r=0.362, p=0.001) between safety competency and safety motivation. A significant relationship (r=0.547, p=0.001) also found between employee's competency and safety performance. Both correlation coefficient of 0.362 and 0.547 indicated strength of moderate relationship.

Regression Analysis on Safety Management and Commuting Accident

Table 4.11: Regression Analysis on Safety Management and Commuting Accident

Variables	B	p	r2
Employees' Competency	1.145	0.001	
Safety Management Practice	1.037	0.001	0.981
Safety Performance	1.035	0.001	

N=615
Method: enter

Regression analysis was performed to investigate relationships between predictors. The study seeks to ascertain the causal effect of one predictor upon another; the effect of changes in commuting accident upon employee's competency, safety management practices and safety performance. The statistical regression analysis result (Table 4.11) shows that there is a significant relationship between predictors in commuting accident. The multiple regression model with all three predictors produced R^2 = 0.981with p=0.001.

Below are the results of the hypotheses in this study.

Hypothesis 1: Safety management practice will have a positive relationship with safety performance.

Hypothesis 2: Safety management practice will have a positive relationship with safety motivation.

Hypothesis 3: Safety motivation will have a positive relationship with safety performance.

Hypothesis 4: Employees' competency will have a positive relationship with safety motivation

Hypothesis 5: Employees' competency will have a positive relationship with safety performance.

Table 4.12 summarizes all the hypotheses being studied. In conclusion, all the hypothesis are accepted in this study.

Table 4.12: Acceptance or Rejection of Stated Hypothesis

No	Hypothesis	Accept or reject
1	Safety management practice will have a positive relationship with safety performance.	**Accept**
2	Safety management practice will have a positive relationship with safety motivation.	**Accept**
3	Safety motivation will have a positive relationship with safety performance	**Accept**
4	Employees' competency will have a positive relationship with safety motivation.	**Accept**
5	Employees' competency will have a positive relationship with safety performance.	**Accept**

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Introduction

The aim of this research was examined to what extent safety management practices influence safety performance among the employees involved in commuting accidents. SOCSO has come out with Commuting Accident (CA) Prevention Plan like Safe Motorcycle Riding Program (SMRP) and Defensive Driving Program (DDP). This programme tries to outreach for both employers and employers especially for those who had involved in commuting accident and SOCSO has spent up to RM 4.7 million for it. However, Based to SOSCO reported (2013) the statistics indicated that the general trend of reported commuting accidents in Malaysia was increasing.

The findings of this study were crucial because the nature of commuting accidents in Malaysia is in high risk which causes potential human exposure to accidents and fatalities. History had shown those accidents involving people on the way to work or from work either two wheel vehicles or four wheel vehicles were disastrous and the impact to the victims as well as SOCSO were tremendous. As the industry expanded and more people were employed, minimizing these risks was inevitable.To address this issue, the regulatory body introduced laws specifying the responsibilities of the employers and the employees in relation to commuting accidents as this accident rate is increasing.

Meanwhile, literature review revealed that most of previous studies on safety performance focused on organizations and employees as the main respondents. There are a little discussion about specific characteristic of employees' safety performance had been published. In addition, the issues on theirs' competency during performance the job also not detailed discussed. Therefore, it was a compelling urge to examine the safety performance among the insured person involve in commuting accident in Malaysia. The outcomes of this study could assist the management to improve its safety performance by enhancing the safety programme and activities.

In this study, Theory of Planned Behavior (Ajzen&Fishbein, 1986), which states that the intention to perform a behavior is influenced by attitude, subjective norm and perceived behavioral control was applied for conceptual framework development.(Figure 2.2). The independent variable was safety management practices and safety performance was dependent variables. While the safety motivation and employees' competence as the mediating variables. The quantitative approach was applied in this study, which involved 615 respondents among the insured person who had involved in commuting accident. Both geographical disproportionate stratified and random sampling were applied for data collection process.

The results of the regression revealed that safety management practices, safety motivation, employees' competency werehaving positive relationship with safety performance significantly. In addition, the findings showed that safety motivation and employees' competency partially mediated these relationships. It can be concluded that the individual knowledge, skill and abilities strong influenced safety performance during performance the

job at the workplace. Furthermore, the employees fully comply with safety rules and safe operating procedures are viable by changing the attitude towards safety. Similarly, active self-participation in safety programs organized by the employers shall be possible with positive look about the important of safety at the workplace.

5.2 Discussion on the Findings towards Research Objectives

The results of the regression analysis supported all hypotheses and therefore fulfilled the objectives of this study. Safety management practices, safety motivation, and employees' competency were all have positive relationship with safety performance. Among the three antecedents used in this study, safety management practices appeared to have the strongest influence on safety performance, followed by safety motivation and employees' competency.

This is a clear indication that elements of safety management practice a significant role in determining the safety performance among insured person who involved in commuting accident. The elements weremanagement commitment, safety training, working involvement, communication, safety rules and procedures and promotion policies. However, this aspect is almost neglected by many organizations in providing solution to occupational accidents. It would definitely have a great impact on safety performance if these elements were taken seriously by the managerand top management.

The findings also fulfilled the objectives that there is a mediating effect of safety motivation in the relationship between safety management practices and employees' competency with safety performance. Though partially mediated, this finding means that safety motivation

programme plays the crucial role to improveemployees' safety performance by enhanced theirs' attitude and behavior towards safety goals. Highly motivated insured person influenced by good safety management practices and competent employees.Both of these antecedents are interlinked and together forced or motivated employeesto achieve safety performance.Furthermore, motivation to work safely is the key driver for the employees to perform work safely. It was explained that this driver is originated from the regulatory requirements and organizational safety goals mandating compliance from the employees.

This study also revealed that employees' competency also important to improve safety performance. The competency which is explained by skilful and knowledgeable employees are demanded in petrochemical industry because they are more discipline and inclined to exhibit safe behavior. It gave them self-confident and better control when they perform their work. Continuous assessment and improvement of competency programs are therefore imperative to generate a pool of highly competent employees to operate the production facilities.

5.3 Implications to Managers and Organizations

The results of this study have several practical implications. In term of personality, the findings suggest that the employees who are low on competency may be trained to adopt certain skill to be alert and more confident. Employees' characteristics should be taken into account during safety training need analysis developments. Furthermore, the training has to be associated with adequate motivation to improve themselves. Besides sending them for formal training, managers or immediate supervisors shall play their role to help their

subordinates to achieve challenging goals and at the same time overcome obstacles. Individual coaching and positive feedback rather than emphasizing punishment should help employees to enjoy their work more and hopefully improve their performance in safety.

The employees must have a basic knowledge about the hazards, risks and how to protect themselves. They also need to be exposed with hands-on experience while they were in college. This can be accomplished by internship programs, industrial training programs and site visits. Employers have to prepare the long term planning to establish a competent workforce. It has to start from hiring process and the development shall continue from day one until the employees decide to leave or retired from the company. The employers have to establish safety mandatory training where it is applicable for all staff. As an example, hazard identification and risk assessment training shall be part of mandatory safety trainings. On top of it, coaching and feedback from supervisors will enhance the competency level of their subordinates.

The result of this study also suggests that safety motivation drives safety behavior performance at the workplaces. The primary motivator is to leave the workplace at the end of the day as healthy as when leaving the house for work in the morning. To live with this notion, a person needs adequate knowledge about the job and the risks associated with it. Not only that, a person needs to mitigate those risks to as low as possible. In any case of emergency, this person needs to know how to respond and protect himself against the danger. The widely used method for motivating the individuals is by using the reward and punishment method or carrot and stick technique. Rewarding someone for safetyperformance encourages a person to continue the good deeds and sets the role model for colleagues to act

in similar manner. On the contrary, punishment can be viewed as deterrence of safety violation while at the same time pushes the individuals to act according to the rules imposed by the master. This method of "obey me or you will be punished" works because of fear. Ideally, safety involvement and safety compliance were the best motivatorfor individual performance during performing the safety job.

5.4 Implications to Future Researchers

The safety performance model should be applicable to various work settings and industries because the variability of working conditions and the workers. The variation may be in the form of risks, working environment, specific group of employees and job performance assessment.As an example, it is a known fact that construction sectors employ many immigrant workers whose safety conscious might not be as good as locals. Therefore future research should examine the safety performance model in these areas and compare with the findings of this study.

The future research should consider supporting the survey data by safety observation using behavioral checklist and safety records as part of safety performance. However, the safety observation must be conducted with the intention to reinforce safe behavior and correct the unsafe act on the spot. It should not be used to reprimand employees for safety violations. The safety records would be the records of the individual violations of safety rules. When compare with the survey data, the quality observation method and individual safety records should provide a strong support for the actual individual safety performance.

5.5 Limitation of the Study

Several limitations of this study were noted. This study used self-administered questionnaires as a primary tool to collect the data from the respondents. These measurement tools can be viewed as limitation because self-administered questionnaires may raise the tendency of single-source bias. It is understood, that majority of the respondents like to show their good safety performance in the surveys. This might lead to a wrong conclusion assuming the responses represent the true picture of their safety performance at the workplace.

The scope of this study is limited to the selected human factors and its relationship with safety performance. Safety motivation was discussed in the context of fulfilling the obligation of the regulations imposed by the organizations and the government. The general term of motivating factor (e.g., job satisfaction and security) was not discussed. In addition, employees' competency was discussed in term of education background and the knowledge about the safety at work. This is a limitation because competency covers the breadth and depth of the overall work scope in which safety is a part of it.

5.6 Conclusion

This research provided significant contributions to the academy and practitioners of safety management practices, safety performanceand safety motivation. This study revealed thatsafety management practices, safety motivation, and employees' competency were all

have positive relationship with safety performance. These findings may be used to enhance management's and human resource manager to understanding of specific characteristic employees' safety performance and how it can be influenced. This research also provides a foundation for future researchers to extend the study on safety performance by covering wider range of employees' characteristic and different work setting.

Employees are an important asset to the organization, therefore it is imperative that the employers have clear understanding of the best strategy to win the employees to engage and involve in accident prevention accident programme. This is the best approach for employees' safety performance improvement. The focus should be on developing competencies while at the same time motivating them to realize the important of safety performance. The strategy should be delivering properly and then employees' safety performance review regularly conducted to assess and take the corrective actions when necessary.

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UNIVERSITI UTARA MALAYSIA

QUESTIONNAIRE

"The influence of safety management practices towards compliance safety behaviour among Insured Person who involved in commuting accident"

SECTION A: DEMOGRAPHIC CHARACTERISTICS

The following questions deals with the basic information about yourself.

1.1 Gender

☐ Male

☐ Female

1.2 Race

☐ Malay

☐ Chinese

☐ Indian

☐ Others (please specify) :

1.3 Age

☐ 18 – 24 years old

☐ 25 – 34 years old

☐ 35 – 44 years old

☐ 45 – 54 years old

☐ 55 years old and above

1.4 Marital status

- ☐ Single
- ☐ Married
- ☐ Divorced
- ☐ Widowed

1.5 Current position

- ☐ Managing director
- ☐ Manager
- ☐ Executive
- ☐ Supervisor
- ☐ Line leader
- ☐ Operator

1.6 Length of employment in this company

- ☐ Less than 1 year
- ☐ 1 - 4 years
- ☐ 5 - 9 years
- ☐ 10 - 14 years
- ☐ 15 - 19 years
- ☐ 20 years or more

1.7 Function of your current job

- ☐ Services - Finance, Accounting, Administration, Human Resource, IT , Legal etc.
- ☐ Technical - Engineering, Maintenance, Electrician etc.
- ☐ Sales - Marketing, Corporate Communication, PR, Customer Service, Purchasing, Procurement etc.
- ☐ Operations - Production, Quality Control, Planning, Audit etc.
- ☐ Others (Please Specify):

Rating Scale

Strongly Strongly Agree	←			Disagree
1	**2**	**3**	**4**	**5**

SECTION B: SAFETY MANAGEMENT PRACTISES

No		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Safety is given high priority by the management.	1	2	3	4	5
2	Safety issues are given high priority in training programmes.	1	2	3	4	5
3	Management always welcomes opinion from employees before making final decisions safety related matters	1	2	3	4	5
4	Members of the management do not attend safety meetings.	1	2	3	4	5
5	There is open communications about safety issues in this workplace.	1	2	3	4	5
6	Safety rules and procedures are strictly followed by the management.	1	2	3	4	5
7	My company gives comprehensive training to the employees in workplace health and safety issues.	1	2	3	4	5
8	I feel that management is willing to compromise on safety for increasing production	1	2	3	4	5
9	Newly recruits are trained adequately to learn safety rules and procedures.	1	2	3	4	5
10	In my workplace managers/supervisors do not show interest in the safety of workers.	1	2	3	4	5
11	My supervisors and managers always try to enforce safe working procedures.	1	2	3	4	5
12	I am not adequately trained to respond to emergency situations in my workplace.	1	2	3	4	5
13	Employees do not sincerely participate in identifying safety problems	1	2	3	4	5
14	Management encourages the workers to attend safety training programmes.	1	2	3	4	5
15	Management considers safety to be equally important as production.	1	2	3	4	5
16	In my company safety week celebration and other safety promotional activities	1	2	3	4	5

	arranged by the management are very effective in creating safety awareness among workers.					
17	Safety training given to me is adequate to enable to me to assess hazards in workplace.	1	2	3	4	5
18	Corrective action is always taken when the management is told about unsafe practices.	1	2	3	4	5
19	The target and goals for safety performance in my organization are not clear to the workers.	1	2	3	4	5
20	My company has safety committees consisting of representatives of management and employees.	1	2	3	4	5
21	When near-miss accidents are reported, my management acts quickly to solve the problems.	1	2	3	4	5
22	The safety procedures and practices in this organization are useful and effective.	1	2	3	4	5
23	The facilities in the safety department are not adequate to meet the needs of my organization	1	2	3	4	5
24	There is sufficient opportunity to discuss and deal with safety issues in meetings.	1	2	3	4	5
25	Management consults with employees regularly about workplace health and safety issues	1	2	3	4	5
26	My company doesn't have a hazard reporting system where employees can communicate hazard information before incident occurs.	1	2	3	4	5
27	Management operates an open door policy on safety issues.	1	2	3	4	5
28	The safety rules and procedures followed in my company are sufficient to prevent incidents occurring.	1	2	3	4	5
29	Management promotes employees involvement in safety related matters	1	2	3	4	5
30	In my company safe conduct is considered as a positive factor for job promotions.	1	2	3	4	5
31	My company provides sufficient personal protective equipment for the workers.	1	2	3	4	5
32	Our supervisor becomes very unhappy and angry when employees find out and report unsafe condition acts in our section.	1	2	3	4	5
33	In my company employees are rewarded	1	2	3	4	5

	for reporting safety hazards (thanked, cash or other rewards, recognition in newsletter, etc.)					
34	Safety inspections are carried out regularly	1	2	3	4	5
35	There exists very healthy competition among the employees to find out and report unsafe condition and acts	1	2	3	4	5

SECTION C: SAFETY MOTIVATION

No		**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
36	I feel that it is important to promote safety programmes.	1	2	3	4	5
37	I feel that it is important to encourage others to use safe practices.	1	2	3	4	5
38	I believe that safety that can be compromised for increasing production.	1	2	3	4	5
39	I feel that it is important to maintain safety at all times.	1	2	3	4	5
40	I feel that it is necessary to put efforts to reduce accidents and incidents at workplace.	1	2	3	4	5
41	I feel that safety at workplace is a very important issue.	1	2	3	4	5

SECTION D: SAFETY PERFORMANCE

No		**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
42	I use all necessary safety equipment's to do my job.	1	2	3	4	5
43	I carry out my work in a safe manner.	1	2	3	4	5
44	I follow correct safety rules and procedures while carrying out my job	1	2	3	4	5
45	I ensure the highest levels of safety when I carry out my job	1	2	3	4	5
46	Occasionally due to lack of time, I deviate from correct and safe work procedures.	1	2	3	4	5
47	Occasionally due to over familiarity with the job, I deviate from correct and safe work procedures.	1	2	3	4	5
48	It is not always practical to follow all	1	2	3	4	5

	safety rules and procedures while doing a job					
49	I help my co-workers when they are working under risky or hazardous conditions	1	2	3	4	5
50	I always point out to the management if any safety related matters are noticed in my company	1	2	3	4	5
51	I put extra effort to improve the safety of the workplace	1	2	3	4	5
52	I voluntarily carryout tasks or activities that help to improve workplace safety.	1	2	3	4	5
53	I encourage my co-workers to work safely	1	2	3	4	5

SECTION E: EMPLOYEES' COMPETENCY

No		**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
54	I know how to perform my job in a safe manner	1	2	3	4	5
55	I know how to use safety equipments and standard work procedures	1	2	3	4	5
56	I know how to maintain or improve workplace health and safety	1	2	3	4	5
57	I know how to reduce the risk of accidents and incidents in the workplace	1	2	3	4	5
58	I know what are the hazards associated with my jobs and the necessary precautions to be taken while doing my job.	1	2	3	4	5
59	I don't know what to do and whom to report if a potential hazard is noticed in my workplace	1	2	3	4	5
60	I understand the nature of all the hazards I am likely to encounter during my work.	1	2	3	4	5
61	I am not very efficient at ensuring safety in the work for which I am responsible.	1	2	3	4	5
62	Sometimes I am confused about what I am supposed to do.	1	2	3	4	5
63	I am good at detecting unsafe behaviour during performing the job.	1	2	3	4	5
64	I have a poor understanding of the risks associated with my work.	1	2	3	4	5
65	I am clear about what my responsibilities are for safety.	1	2	3	4	5
66	I am confident that I can identify the	1	2	3	4	5

	safety risks associated with the work for which I am responsible.					
67	Sometimes I am uncertain what to do to ensure safety in the work for which I am responsible.	1	2	3	4	5
68	I understand the safety rules for my job.	1	2	3	4	5
69	I fully understand the safety procedures / instructions associated with my job	1	2	3	4	5

THANK YOU FOR YOUR SUPPORT