COMPLIANCE ON SAFETY BEHAVIOUR AMONG THE LIFT MAINTENANCE WORKER

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ABSTRACT

This study was conducted to probe the effects of certain factors on Compliance of Safety Behaviour among lift maintenance workers as a very few studies has been conducted. The aim of this study was to examine the influence of five (5) independent variable; (1) Job Safety, (2) Co-Worker Safety, (3) Supervisor Safety, (4) Management Safety and (5) Satisfaction on Safety Programs and Strategy on Compliance of Safety Behaviour among lift maintenance workers. This quantitative study used five (5) element of the Work Safety Scale (WSS) to measure perceptions of safety at work. The result will show that compliance with safety behaviour is significantly related job safety, supervisors safety, management safety, and satisfaction on the programs implemented. However, it has been shown that Co-Worker Safety is less significant related to Safety Behaviour. Recommendations and suggestions for future study were illustrated in the discussion. Moreover, a brief proposal had been discussed on how to implement Safety Behaviour among lift maintenance worker.

ABSTRAK

Kajian ini dilakukan untuk mengkaji kesan faktor-faktor tertentu terhadap Pematuhan Tingkah Laku Keselamatan di kalangan pekerja penyelenggaraan lif kerana sangat sedikit kajian yang telah dilakukan. Tujuan kajian ini adalah untuk mengkaji pengaruh 5 pemboleh ubah tak bersandar iaitu (1)Keselamatan Pekerjaan; (2)Rakan Sekerja; (3)Penyelia Keselamatan; (4) Pengurusan Keselamatan dan Kepuasan terhadap Program Keselamatan dan (5) Polisi Pematuhan Tingkah Laku Keselamatan di kalangan pekerja penyelenggaraan lif. Kajian kuantitatif ini menggunakan lima (5) element Skala Bekerja Selamat (WSS) untuk mengukur persepsi keselamatan di tempat kerja. Hasilnya akan menunjukkan bahawa kepatuhan terhadap tingkah laku keselamatan sangat berkaitan dengan keselamatan pekerjaan, penyelia keselamatan, amalan pengurusan, dan kepuasan terhadap program yang dilaksanakan. Walau bagaimanapun, telah ditunjukkan bahawa Keselamatan Pekerja kurang berkaitan dengan rakan sekerja. Cadangan dan syor untuk kajian di masa akan datang juga telah dibincangkan. Hasilnya, cadangan ringkas mengenai bagaimana menerapkan kelakuan yang selamat di kalangan pekerja penyelenggaraan lif.

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Alhamdullilah, a study of Safety Behaviour among elevator maintenance workers were conducted and successfully discussed. For that, this is my opportunity to express my gratitude, to my supervisor, Associate Prof. DR. Siti Zawiah binti Md Dawal. Her guidance helped me in completing the study. Not to forget, a dedication to my mother, Mrs. Norsham bt Md Som for supporting me in my studies. In memories of my late father, Mr. Mustaffa bin Md Yassin, who have always believed in my career and my studies.

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CHAPTER 1

INTRODUCTION

1.1 Background of study

Every lifts installed in Malaysia need to be maintained by an amenable service. The lifts would be service by the appointed company by the owner of the premise (Omar Mat Piah, 2019). According to Factories and Machinery Act, 1967

> *"Such person shall thoroughly examine the lift at least once in every three months and cause the lift to be serviced and adjusted once in every month"*

A maintenance company known as 'Competent Firm' is a company registered with The Department of Occupational Safety And Health Malaysia. According to Department of Occupational Safety and Health (DOSH), there are 61 organizations of competent legal firm that conduct services such as installation, maintenance, and dismantle in Malaysia. Every organization of Competent Firm has a capable person whom is responsible to execute installing, maintaining, and dismantling the lifts, which the person is obliged to register with DOSH.

Lifts' maintenance is complex. This is because it involves dynamic mechanical and electronic system. Due to the complexion, the workers are exposed with risk and danger comparing to the other work profession. According to *Sinar Harian* published report with the date of 30 May 2020, a man died while servicing the lift in one of the hospital in Johor (Azura, 2020). On the other hand, the same case was reported in Putrajaya by *Utusan*, dated of 2 October 2020 with the title of "Maintenance worker dies

being stuck on an lift". A maintenance worker dies because he was stuck on the lift while doing maintenance service in an apartment at Precint 9.

Lifts and escalators are possible causes of severe accidents and casualties for the general public and the staff who build, fix and maintain them. (Staal and Quackenbush 1998). Aside from dealing with constant and potential danger, many of lift maintenance workers are going through stress in their workplace. The possible stress factors would be workforce shortages and the relationship between co-workers.

Significance of safety behaviour can be measured by Job-Safety, Co-Worker Safety, Supervisor Safety, Management Safety Practice, and Safety Program, which all of these factors contributed to the same compliance ensuring workers' safety. Based on procedures, rules and regulators, effort made by the management would maintain workplace safety (Griffin and Neal, 2000; Neal et al., 2000; Inness, Turner, Barling and Stride, 2010). This is to work minimum measured expected by the employee. For instance, safety compliance is the actions that accredited of the workers (Jiang et al., 2010). Safety policies that were breached that will be resulting in discipline while safety enforcement can be rewarded (Reason, 1990).

Aside from obligations to the work, the workers mental state are important as it will improve productivity of their work. Maintenance work is rather complex that other profession it will danger most with most of their time to ensure people's safety. According to Kohll, 2020, by having adequate amount of rest and non-stress schedule, workers' productivity will be increasing as their focus on the job increases. By working with optimum benefits that come from co-workers, managers, supervisors, and by having equal and fair policies would boost their confidence and their preference of executing their work. In this context, workers would feel protected and respected to complete their job.

Cognitive is one the cause of human behaviors. When an individual started to gain knowledge in several different conditions especially in Malaysia, it would be resulted in their behaviors (Zhen Li, 2018). Planting the importance of the safety behavior compliance in the beginning of a task would improve workers comprehension. With complete understanding of their works, they would not have as much pressure knowing the knowledge that they have learned. To put it in other words, this type of cognition will create better behavior as the workers understood concurrence in their work sites.

1.2 Five (5) types of hazards

Hazards in workplace are classified into five categories. It can be defined as risks that could happen in any workplace or work sites. Lift maintenance workers are the people who often will encounter hazards considering their job environment. First classified hazard is Physical Hazard which involves risking workers physical figure without touching them. It could involve height, noise, radiation, and pressure. Lift maintenance workers are exposed to the narrow space when working and any incidents involving being stuck within any space near the lift. This has been proven with a lot of few cases published on various mass media. Next, Chemical Hazard is one of the risk that the maintenance workers will face. Chemical Hazard in lift maintenance involves applying high quality of lubricant needed by pulley on lifts. High quality of lubricant is prone to cause any incidents and an unsafe behaviour in executing this task would danger workers' lives. Third category of hazard is Biological Hazard which any exposure of it would cause health impacts towards the workers. Lift is a car that moves to carry passenger between levels in a building and placed in a horizontal compartment or space that holds the car. The compartment could be full of dust, insects, and any tiny particles that could endanger the workers whilst completing the task. Ergonomics Hazard is the next category that has

been classified risking safety of lift maintenance workers. Ergonomics Hazard could be taken account of musculoskeletal injuries which can be caused by poor posture during working or tight space of work site. Compartment for lifts are not spacious as it is a carriage for people. With that, the maintenance workers could be having injuries if they do not practice safety behaviour. Unsafe doings would endanger their figure even more so safety behaviour implementation is required in every maintenance companies. Lastly, socio development of a worker is counted to be classified as Psychosocial Hazard. In Malaysia, hierarchical aspect plays an important role which could be resulting in negative effects. Abuse of power between the lift maintenance workers could give pressure on their emotional aspect which can lead to stress. This often happens in an organisation between co-workers, supervisors, or managers that sometimes exploit people below them to work over time. Workplace violence could be stop by proper implementation of safety behaviours. In conclusion, the type of hazards represent every aspect that could affect lift maintenance workers which would lead to a serious negative outcome.

There are other problems encountered by maintenance workers which relates to the characteristics of their job is exhaustion. Being exhausted or fatigue could affect mental and/or physical state due to lack of quality sleep, from prolonged working hours, intense physical, mental or emotional which would disturb with decision-making (Youngcourt & Huffman, 2005). Studies have also shown that exhaustion appears to undermine the ability of a person to make rational decisions, to control his or her feelings. and behaviour at work, and would affect their work performance. Fatigue continues to increase the propensity for injuries during times of high operation.

Compliance with safety behaviour includes adhering to safety protocols and conducting work in a safe way. Safety engagement includes supporting co-workers, encouraging workplace safety services, demonstrating initiative, and making attempts to improve workplace safety. Based on existing job performance hypotheses, the safety

performance model was introduced (Neal & Griffin, 2002). Some of the factors highlighted to influence safety behaviour and occupational safety efficiency are organizational factors, such as job factors, policies and procedures, and training programs, and human factors, such as supervisors and co-workers.

The random mixture of variables found in the workplace is the product of occupational injuries.. Factors including organizational and social factors are also found to have some influence towards workplace safety behaviours (Chaudhry & Fang, 2008). The majority of incidents and injuries in the workplace are due to workers' unsafe behaviour rather than the unsafe work climate (Mullen, 2004). Smith and DeJoy (2014) found that safety climate at the workplace affected safety behaviour among employees. They also found that safety compliance behaviour and safety participation behaviour could reduce workplace injuries and accidents.

1.3 Problem Statement

Studies have highlighted he value of a good safety culture in maintaining a high level of safety in the workplace for both the company and employees (Smith and Deloy, 2014). They added that there is a need for studies to be conducted to improve safety behaviour compliance and to avoid unsafe workplace. Safety behaviours could lead to safety performance. Factors such as overloaded job and fatigue could add pressure in ensuring safety behaviour and performance. Organizations are more concerned with work performance rather than safety (Uryan, 2010).

Lift maintenance worker are exposed to a variety of risks and threats which could increase workplace accidents and injuries. For instance, when maintenance worker has to carry out lubrication activities at car top to ensure the rotation of pulley and sheave is applicable. While doing their daily routine, they are exposed to fall from certain height,

slippery flooring, and being exposed to open circuit, which might cause physical hazard and being unprotected from chemical such as lubricants.

There might be hardly any studies have been conducted among maintenance workers in Malaysia focusing on safety behaviour. This research was therefore an attempt to determine the effects of such variables on the compliance of maintenance staff in Malaysia with safety behaviour. Safety behaviour among lift maintenance worker is really important to reduce workplace accidents and injuries. A master plan of Occupational Safety and Health Department was launched in 2016 by Dato' Seri Najib bin Abdul Razak, the Prime Minister as a guideline for the employees. Employee attitude, safety culture, and employee involvement are depending to the implementation of OSH that could be related significantly (Hussain, 2009).

Occupational injury is the second most critical issue at the workplace (Haslam et al, 2016). Workplace accidents are primarily caused by at-risk work conduct, which remains a major issue (Smith and Deloy, 2014). More focus is now focused on investigating the key causes of safety failures due to human flaws, since men play an important role in safety results (Neal & Griffin, 2002).

It is important to tackle the ever-present risk of employee injuries and related losses for the Malaysia Association Lift and Escalator, MALEA to identify factors which could lead towards unsafe behaviours amongst lift maintenance worker. The outcome from this study might be a reference on how to improve and to enhance the acceptance of safety culture among lift maintenance worker in general. Therefore, the compliance safety behaviour among lift maintenance worker will be conducted thoroughly in this study.

1.4 Research Question:

The purpose of this study was to analyse the effect of the five aspects of the Work Safety Scale (WSS) (Hayes et al., 1998) on the compliance of the lift skilled individual with safety actions. This thesis attempted to answer the following questions from the research: What is the relationship between job safety and compliance safety behaviour among lift maintenance worker?

a) Is there a link between the safety of co-workers and the safety enforcement actions of lift maintenance workers?
b) Does supervisor safety have a relationship with compliance safety behaviour among lift maintenance worker?
c) Is there a relationship between safety management and compliance safety behaviour among lift maintenance worker?
d) Does satisfaction with safety programme affect compliance safety behaviour among lift maintenance worker?

1.4.1 Research Objective

Specifically, this study intended to:

a) To investigate and analyse the relationship between Job Safety, Co-Worker Safety, Supervisor Safety, Management Safety Practices, and Safety Program Satisfaction among lift maintenance workers.
b) To propose Safety Behaviour guideline according to Job Safety, Co-Worker Safety, Supervisor Safety, Management Safety Practices, and Satisfaction on Safety Programme and Policies with Compliance of Safety Behaviour among lift maintenance workers.

1.4.2 Significant of the study

The results of this study could provide a better understanding of the variables influencing lift maintenance worker compliance with safety actions. It can be used to review the current safety policies and practices to improve perception on safety behaviour in the workplace and help reduce risks.

Management will also use the analysis to improve the handbook on workplace safety and health in the lift industry. This study will provide important and specific information of safety effectiveness and influencing factors on safety perception among lift maintenance worker in ensuring a safer workplace. The findings can be used in future study as a reference in other lift company facing similar risks.

1.5 Summary

Incidents are common occasion that happened if appropriate measure are not applied. Safety concerns are important in order to give beneficials effect to an organisation. This is why Job Safety, Co-Worker Safety, Supervisors Safety, Management Safety Practices, and Safety Program and Policies are important to be implemented in every lift maintenance company. In addition, the types of hazards discussed are be one of the factors that should be evaluated by the companies. These hazards often to be ignored as the importance were not emphasized by every companies. Lift repair employees are subjected to workplace risks on a regular basis that they are able to take in order to ensure the safety of people. Drawbacks of the implementation could cause various situations affecting the employees. Maintenance workers are the core of their companies which the supervisors should not take advantage of in exploiting their work capacity. Encountering stressful situations in their daily work which subsequently can adversely influence their job behaviour and safety at work. Hence, this study are conducted to examine factors which could reduce unsafe job behaviours amongst lift maintenance in Malay

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Five independent variables, Job Safety, Co-workers Safety, Supervisor Safety, Manger Safety Practiced and Safety Program Satisfaction, were written in this chapter to explore. Which influenced the dependent variable; Safety Behaviour compliance. Studies on this topic have also been carried out.

2.2 Safety Behaviour Compliance

Workplace accidents lead to problem within and between organizations. For essence, when injuries happened, it costs substitutes of the workers to complete their task in certain places. This would cost few expenses to be paid by the organization and for an example, the medical expenses for the injured worker. Compliance of safety and participation can be defined as safety behaviour (Neal and Griffin, 2006). In order to ensure the safety of the workplace, safety enforcement relates to the key tasks that individuals need to conduct. Safety involvement identifies behaviour that does not relate directly to an individual's personal safety, but that helps to build an atmosphere that encourages it.

Safety behaviour is referred to as employee agreement and obligations to the organisation's safety policies, rules and regulation, as well as employee participation in safety programs and efforts (Neal & Griffin, 2002). To maintain workplace safety, agreement of safety is contributing to personnel safety which represent the core activities. Basic enforcement is a prerequisite for the use of personal protective equipment enforced

by many organisations and also required by the Occupational Safety and Health Act, 1994. Safety involvement has identified activities that do not explicitly contribute to personal safety for workers, but help create an atmosphere that encourages workplace safety.

Employee ethics at the workplace applied influences on an organizational effectiveness (Campbell, 1990). Productive work behaviour contributes positively to the organization. According to Jex and Britt (2008), Job efficiency, organizational citizenship behaviour, and creativity are linked to positive work behaviours. Meanwhile, counter-productive attitude at work contributes negatively to organizational effectiveness. Accordingly to Motowidlo (2003) counter-productive behaviours could lead to poor work performance for individuals who behaved negatively. An amount of effects could tarnish performance of an organization.

Job behaviour influences employee performance. To ascertain work safety, employees must behave according to the rules and regulations, policies, and practices implemented by the organizations. However, some jobs were unable to avoid exposure to potential dangers and threats that could lead to work injuries and accidents. This includes occupations as lift maintenance workers.

Many variables, including leadership, safety awareness, training program, inspection, and compliance, may affect safety behaviour. The leadership style of management should be visionary, versatile, inventive, and sensitive. Leadership is one of the important predictor of good safety performance. Organizations that achieve optimal safety performance have an effective leadership safety performance. These organizations apply visionary leadership from top to bottom, which aligns and implements leadership excellence around the enterprise.

The presence of employees can also influence compliance with safety behaviour. It is important for employers to implement safety programs and policies that encourage physical action on an ongoing and daily basis. Employee involvement will ascertain that every member of the organization embraces safety as a core value.

Employee involvement provides the means by which workers identify and handle hazards that, if appropriate, can propose and track solutions or participate in their own safety program. Employee interest in shaping safety conduct and occupational safety efficiency is desirable. Education gives staff the opportunity to learn new skills and experience. For workers to perform their jobs efficiently and safely, training is necessary. Training would also cover the safety duties of all workers and ensure that they comply with those responsibilities. Organizations that achieve optimum efficiency in safety provide efficient systems for safety preparation. Inspection and evaluation of physical conditions and people's behaviour are critical for identifying workplace hazards. In order to ensure compliance with safety regulatory requirements and standards in organizations, routine safety inspections are necessary. A safety inspection program will detect possible hazards that could have a detrimental impact on employee safety conduct. Management is accountable for conducting inspections. Efficient and frequent inspections may lead to improved results in terms of safety and an opportunity to share experiences.

Health is a major concern for organizations, as the effect on organizations may be costly (Neal & Griffin, 2002). Organizations need to proactively monitor safety in order to improve the safety of employees at work and avoid major financial losses (Giovanis, 20l0).

Human error models and methods have been developed to analyse employee job habits that contribute to injuries. According to Rasmussen (2003), 70%-80% of industrial accidents were partly caused by human factors. Other factors like work requirements and

work systems, as well as mechanical errors, were some of the other causes to workplace accidents. Reason (1990) explained that unsafe behaviours or acts can be influenced by a chain of events, including failures such as organizational processes and strategic decisions; and working conditions such as workload, supervision, communication, equipment, and capacity. Unsafe acts or behaviours can lead to accidents or adverse outcomes.

Reason (1990) identified two types of work behaviours which could lead to undesirable outcome or work performance. Human failures, as Reason (1990) termed it, could be caused by human slips i.e. misapplied competencies or know-how; and human mistakes, i.e. expertise, rule-based failure, lack of expertise, or knowledge. Unsafe behaviours which do not comply with organizational safety policies, rules and regulations could lead to negative work performance.

Sawacha et al. (1999) reported several factors associated with work safety. Management must constantly remind employees the importance of safety at work. Site managers and supervisors, for example, need to hold frequent meetings with site staff to ensure compliance with safety behaviour. Employees must be given booklets or employee handbooks which include safety rules and regulations, as well as safety policies and practices. Required safety equipment's should be provided to employees. Employees must use the correct type of protective equipment and clothing and must be trained to ensure safety performance is adhered to. Management must ensure a safe working environment and climate to avoid workplace injuries or accidents. Trained safety representatives must be assigned on site. A well-trained on-site safety representative will boost safety efficiency by detecting defects and insisting on taking corrective steps. (Sawacha et al., 1999).

Yang et al. (2009) found that factors such as a top management's poor safety awareness, lack of training, failure to provide, and use safety equipment and clothing, as well as negligence and reckless behaviours were the main causes of workplace accidents. They found that, as laid down in the safety manual, most Chinese contractors refused to use the proper method. Only a small percentage supplied their staff with sufficient personal protective equipment and provided systematic safety training. Essentially, as revealed by their unusual presence at the safety meeting, management lacked focus on safety.

2.3 Workplace Safety Scale (WSS)

This study is to aim investigating the link between compliance safety behaviour and five independent variables which are the facets in the Workplace Safety Scale (WSS) developed by Hayes et al. (1998). According to Jose (2005) cited Hayes et al (1998), despite the fact that job satisfaction has been thoroughly investigated, and its correlation with injury frequency has been well reported, surprisingly, no systematic attempt has been made to examine the empirical associations between job satisfaction and the perceptions of workplace safety by employees. The independent variables are Job Safety, Co-Worker Safety, Supervisors Safety, Management Safety, and Satisfaction of Safety Programme.

Safety performance focuses on work safety practices including policies, strategies, rules and regulations, procedures, and activities which the organization implemented or followed to enhance workplace safety (Vinodkumar & Bhasi, 2010). To eliminate occupational incidents and injuries, as well as deaths due to work-related mishaps, safety standards are followed. Hayes et al. (1998) divided safety activities in workplaces into five groups, namely:

1. Job safety - The degree to which workers perceive that the work they do is secure (i.e. whether the job is perceived to be unsafe, hazardous, daunting etc.).
2. Co-worker safety - The degree to which co-workers are considered to cooperate with and comply with the conduct of safety work (i.e. whether they observe safety rules or persuade others to comply with safety rules, regulations and procedures)
3. Supervisor safety - The degree to which the supervisor is considered to monitor and comply with safety-related behaviour in the workplace (i.e. if he/she imposes safety laws and regulations, observes safety protocols, acts on safety recommendations, etc.)
4. Management safety - The degree to which management is seen to plan and implement a workplace safety culture (i.e. includes rewarding safe behaviour, providing safe working conditions etc.)
5. Satisfaction with safety program - The degree to which the safety programs carried out are deemed satisfactory (whether the safety program is perceived to be clear, worthwhile, important etc.).

The five features of workplace safety typically reflect the degree of workplace safety procedures performed in organizations. With respect to the various aspects of safety at work, workers may have different expectations, which could contribute to actions of safety work or dangerous work behaviour.

Safety practices enclose different safety dimensions; therefore, it is important to scrutinize the impacts of each dimension in order to enable workers to comply with safety behaviour at the workplace. Through doing so, when organisations have finite and restricted resources, we can not only strengthen our understanding of the degree to which safety practices can influence safety enforcement behaviour, but more efficient steps can be enforced. Therefore, this study was performed with to analyse the workplace safety

policies, as assessed by Hayes and his associates (1998), affecting employee compliance with workplace safety behaviour.

2.3.1 Job Safety

The level of safety at work can be influenced by the working environment, the conditions that people are required to work in and the nature of their work. This in tum, could affect work performance and productivity, as well as the employees' health and well-being. Job safety requires the work nature or environment that protects any worker from any unnecessary work-related injuries or accidents (Giovanis, 2010). The expectations of employee safety at work are usually linked to injuries; i.e. positive perceptions on job safety are normally associated with very few work-related accidents. The views of workers on job safety have been considered a key reference to safety obligations.

Past studies have shown that employees with unfavourable views of their work safety appear to act unsafely while doing their jobs. This could increases the possibilities of workplace accidents (Giovanis, 2010; Gyekye, 2005). Giovanis (2010) also added that employees with job insafety, higher job risks, there has been a comparatively higher rate of injury exposure and being concerned in hazardous chemicals and operations. Employees with favourable views of their workplace safety, on the other hand, have expressed greater job satisfaction, reported greater compliance with safety habits, and reported less injuries. (Gyekye, 2005).

Gyekye and Salminen (2004) used the Work Safety Scale (WSS) to investigate the causal attribution of accident accidents to Ghanaian industrial employees. The result showed that incidents of work injuries were primarily caused by human error and factors in the environment.

A study on Occupational Safety and Health Management System (OSHMS) guideline compliance had been conducted among medical laboratories in Klang Valley (Anuar, Zahedi, Kadir & Moktar, 2008). The goal of this study was to measure the level of compliance among medical laboratories in Malaysia with national occupational safety and health management system guidelines. It included in-depth workplace safety and health measurement inquiries into elements of job management, such as strategy, organization, planning and execution, appraisal and improvement actions.

Samples consisting of seven managers, 52 managers and 53 supervisors were selected from 17 public medical laboratories and 17 private medical laboratories in the Klang Valley to determine the level of compliance with national OSHMS guidelines in medical laboratories. The findings reported that work safety affected behavior enforcement with respect to OSHA and organizational safety policies, rules and regulations. In other words, workers who considered job safety as essential would act safely on the job and would comply with the policies, rules and regulations of OSHA and organizational safety. The study also identified a substantial difference in perceptions of job safety between private medical laboratories and public medical laboratories, and between medical laboratories that have been accredited and non-accredited with MS ISO 15189.

2.3.2 Co-Worker Safety

Haslam et al. (2016) showed that workers who have perceived a high degree of organizational interest and encouragement and are happy with working conditions have felt a sense of indebtedness and a desire to reciprocate in ways that would help their organizations / management. Socializing is one factor which could influence employees' safety behaviours at the workplace. A research on this aspect has been developed to

analyse variables affecting individual workplace safety behaviour. (Mullen, 2004). The results showed that organizational variables and social variables explained why people were participating in hazardous working practices. The variables were classified into common themes such as roll over, safety efficiency, influences of socialization, and attitudes to safety and perceived risk for organizational variables.

As for social variables, this aspect consisted of saving photos and preventing negative effects such as co-worker bullying and fear of losing a good role. Both variables were triggered by the socializations of the employee with their closest encounter with superiors and colleagues who then transform their workplace safety actions.

Managers are responsible to enhance positive co-worker relationships as it could affect organizational commitment and also improve team development, group functioning, and cohesiveness but if he failed, this would lead to subgroup polarity, caused problems in managing tension among co-workers reduce organizational commitment (Gyekye, 2005). He added that another finding reported the influence of co-worker on other employees' work attitudes. It was discovered that diversity in co-worker relationships could lead to negative influence on safety behaviour and safety performance. For instance, co-workers from different countries might have communication problems. Thus, certain information may get twisted or misinterpreted. This could cause misunderstanding of job requirements including safety policies and procedures.

Zohar (2008) studied on transformational leadership and group networking interaction analysis to investigate the long-anticipated impacts of leadership and engagement on climate and safety results. The key findings of the study showed that the influence of transformative leadership on safety-climate intensity was arbitrated by communication network density.

2.3.3 Supervisor Safety on Safety Performance

Supervisors play an increasingly critical role in delegating work tasks, managing subordinate efficiency, and managing conflicting productivity, quality, and safety requirements, and they also see a central role in coordination between management and hourly workers as an integral part of manufacturing organizations.

Supervisors, primarily because of their position as supervisors, are increasingly important in the functioning of manufacturing operations. Although the relationships and contact of supervisors with their subordinates are known to be significant in affecting the actions of subordinates, little is known about how these two factors can affect the protection of subordinates (Cox et al., 2004). The results of this study further highlighted the value of supervisors and demonstrated the role of supervisors in improving safety in the workplace. In particular, companies should encourage healthy social exchange between their workers and superiors and develop supervisors' leadership skills to help minimize accidents in the workplace.

Zohar (2008) shows that in organizational subunits, transformative and positive (contingent reward) leadership predicts injury rates. The management-safety relationship with the present engagement, depending on the leadership dimension, is moderated by the safety priority dispersed by higher supervisors.

Zohar (2008) stated that the visibility of the supervisors at work could determine the work safety and employee's behaviour. When employees know that their supervisors are around and observing them performing their work, they will behave in compliance with safety rules and regulations. Employees will be more careful when working. Hence, their safety behaviour in compliance with the safety policies and rules could avoid workplace accidents or injuries.

The survey also found that constant monitoring by supervisors, such as through random observation schedule and inspecting work samples, would significantly influence compliance of safety behaviours among employees. The results identified a substantial effect on employee safety behaviours of supervisory protection interventions. The result of the leader's engagement is close to the outcome of their safety orientation on the safety environment and safety actions of the employees.

2.3.4 Management Safety

Workplace accidents are also a big concern for companies due to unsafe work conduct. The value of a good safety culture to ensure that the workplace is safe for all has been recognized by several studies (Haslam, 2016). The management is responsible in setting up the safety policies, strategies and procedures to ensure all safety rules are adhered to.

ldoro (2008) shows that the level of effort made by the Nigerian contractors to maintain a safe and stable work environment was examined. The aims are to assess the degree of health and safety (H&S) management efforts made by contractors and their connection with the performance of H&S. The outcome revealed that efforts by contactors to handle H&S on site were significantly associated with H&S results. In the provision of personal protection equipment (PPE) to workers, management safety efforts had a substantially strong connection with employee compliance with H&E regulations. The results showed that Nigerian contractors' management efforts to maintain a healthy and secure working atmosphere have a positive effect on employee safety compliance behaviours.

2.3.5 Satisfaction with Safety Programme & Policies

Safety programmes and policies are interventions planned by the management in their effort to reduce workplace accidents (Gyekye & Salminen, 2007). Safety services provide preparation, including handbooks and work manuals, to provide workers with the requisite knowledge of safety laws, principles or attitudes to perform efficiently in particular job situations (Luria et al., 2008).

Training can be described as a systematic learning process which is work-related equipping workers with the experience, knowledge and attitudes needed to perform their jobs more effectively (Blanchard & Thacker, 2008). The needs of the company and the individual workers are addressed by appropriate training plans and activities. Effective training depends on several factors including the employees, the programme design and implementation, as well as the working environment.

By the Construction Owners' Association of Alberta (COAA) (2013), the value of safety training in order to enhance safety efficiency was stressed. Efficient training of building staff can be one of the best ways to increase the efficiency of site protection. Safety training should be able to influence the employees' safety behaviours. Knowledge acquired from effective training on safety policies, rules and regulations should be able to influence employee to comply with those job requirements.

Employees need to be informed and continually reminded that they are responsible for their own safety and that they must act responsibly when employed to reduce the risk of accidents and injuries. In addition, all staff must work as a team and work together to stop workplace injury or accidents (Uryan, 2010). COAA (2013) highlighted by introducing training programs for workers, it could easily avoid such incidents such as falling from height and hitting by falling materials on construction sites. Sawacha et al. (1999) found most employees received limited education on safety

concerns at the construction sites, including organizational safety measures, rules and procedures, as well as related regulations. They found that some construction sites did not provide appropriate and certified safety equipment and clothing to employees. This consideration may be one of the causes of accidents and injuries associated with work. Several studies have shown that there is a strong correlation between individual protection actions and safety efficiency (Sawacha et al., 1999). Successful training of staff can also minimize unsafe behaviour dramatically. Employees with good knowledge of safety act more favourably at work than those with bad knowledge of safety.

Mullen (2004) identified lack of training as a critical factor that influenced employees' attitudes towards safety behaviour and compliance with relevant safety legislations. In order to improve safety awareness and improve efficiency, Mullen found that training of construction employees and safety supervisors is necessary. Awareness and expertise affect the efficiency of personal defence. Companies must also retain and upgrade their staff with suitable work-related skills and information through instruction, skill upgrades, and efficient communication on site (Motowidlo, 2003).

2.4 Summary

This chapter has discussed past studies related to the factors which influenced how employees behaved on the job. Employees who have positive perceptions on the importance of job safety, the roles of co-worker safety, supervisor safety and management safety, as well as the satisfaction on safety programmes and policies, would be more inclined to comply to safety legislation, policies, rules and practices. This is because the policies were created supposedly to protect the workers from any incidents or accidents that would cost their organization financially. Accidents might be unpredictable but implementing such effort would mean a lot to lift maintenance workers. Implementing

policies is expected to be used by an organisation wisely in order to check off the requirements to begin a task.

Importance of implementation of safety behaviours should not be neglected by any organisations or workers. Obeying and agreeing to the policies are fully up to the workers themselves and it is a responsible to look out for themselves. Implementation by the company would not be enough if the sense of responsibility in every of the workers is being ignored.

CHAPTER 3

METHODOLOGY

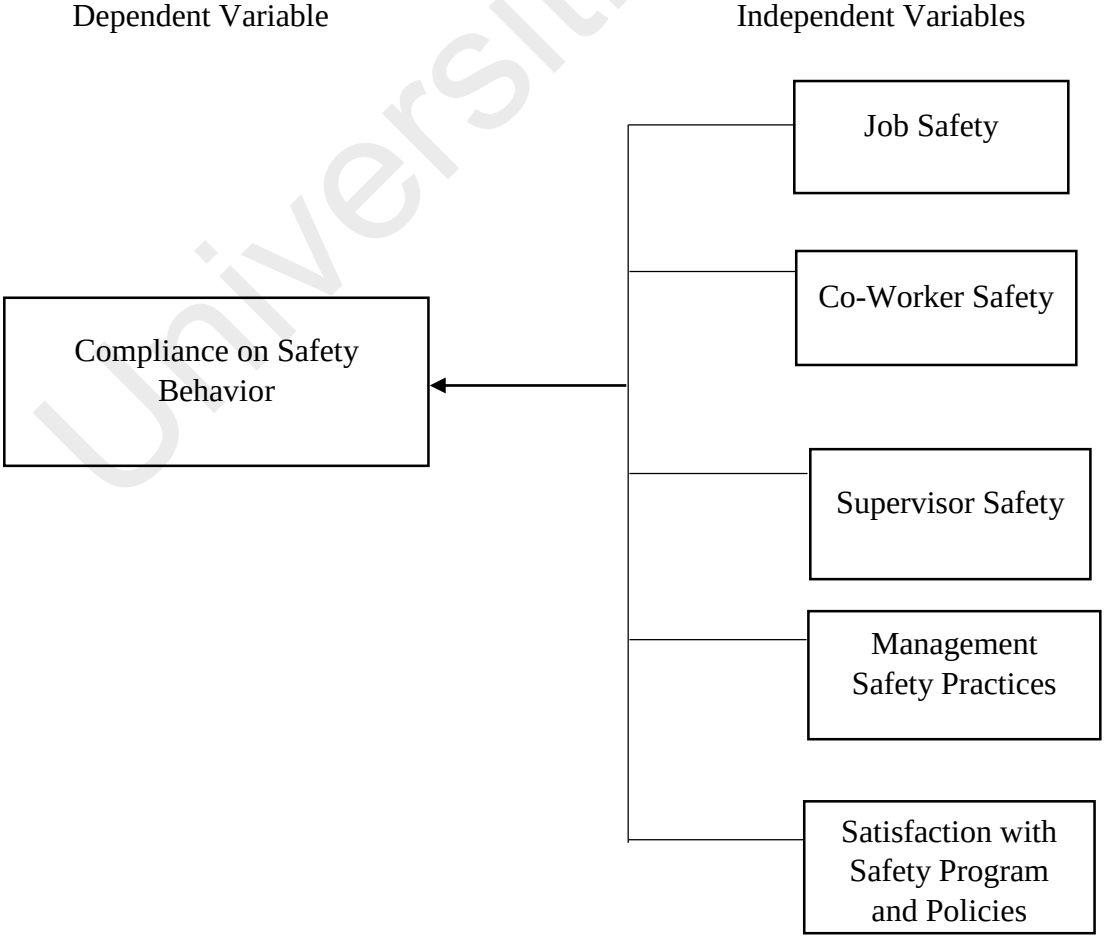
3.1 Introduction

This chapter addresses the approach that was incorporated in this report. In addition, the population and sampling of the sample, research tools, data collection and data analysis were explained in this chapter.

3.2 Research Framework

This research framework consists of five independent Safety Behavior variables; (a) Job Safety, (b) Safety of Co-Workers, (c) Safety of Managers, (d) Safety Behaviors of Management, and (e) Safety Program and Policy Satisfaction. The independent variables were calculated in this analysis by Enforcement with Safety Actions, a dependent variable.

Figure 3.1 Research Framework



3.3 Operational Definition

The listed definitions below were applied in this study:

i. According to Neal & Griffin (2020), Safety conduct reflects an employee's compliance with the safety procedures, rules and regulations of the company that need to be implemented in order to ensure safety in the workplace, including employee participation in safety initiatives and initiative.

ii. The work environment or surrounding which protects every employees from any unexpected work-related injuries or accidents is define as Job Safety (Giovanis, 2010).

iii. Co-Worker Safety is involving safety efforts among employees towards and between their work-peers whilst executing a supervisor safety.

iv. Management Safety is where an organization provides an understanding of all the efforts implemented in the management level ensuring appropriate safety measure in workplace or work-site.

v. Satisfaction with safety programs and policies is the prerequisite for employees to value the organization's implemented protection program or policies to enhance safety culture in the workplace or work sites. This will be resulting agreement of practicing safety behaviors in the forms of five safety contents listed by dominating the dependent variables.

3.4 Research Instrument

A set of questionnaire in the form of Google Form which assist the measurement on lift maintenance workers' perception on safety behaviors at work. The elemental focus of this study would be to find out the relationship of the safety perceptions by agreeing to the safety behavior.

3.4.1 Independent Variables

The Work Safety Scale (WSS) were the evaluation scale to evaluate perceptions of work safety behaviors developed by Hayes *et al.* (1998). A five point; Likert Scale were used to range from 1 to 5; 1 = Strongly Disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, and 5 = Strongly agree. By these five scales, the respondents can indicate their length of agreement on their perceptions of work safety. In addition, for a better comprehension of the Work Safety Scale has been translated into Bahasa Malaysia according to the five facets. To ensure the reliability of the translated version, a pilot test was conducted.

Job Safety was the first variable measured to evaluate their perception on their work safety that includes condition of being in danger, safe, hazard, risk, damaging, injurious, and unsafe (refer to Appendix A). The second variable is the workers' perceptions on Co-Worker Safety in their work sites or workplace. The questions listed are to acknowledge their relationship between the co-workers. Third variable evaluated is how they distinguish the supervision practice on safety on the job. The questionnaire has included few questions for the lift maintenance workers in terms of supervisors have inform them about safety rules and make them to practice in the settings of safety goals. That include updating them about safety rules and the importance of it every time they about to execute their work.

The fourth variable is to focus on whether the management do safety practices. The ten items included in the survey was if the management have provided on safety inspection, provided them with a safe working environment, or if an injury happened, the management take charge of resolving the issue quickly. These items could give an indication to the management to revise their procedures and might improve their

policies in order to give their employees better supervision. Last variable that has been studied is whether the employees satisfied with the programs and policies been implemented by the management. A set of questions with the terms of worthiness, helpful in preventing accident, useful, and excellent practicality of the programs that would help in reducing injuries.

3.4.2 Dependent Variable

Agreement of complying to the safety behavior was the measured dependent variable, using 11 items that was developed by Hayes et al (1998). The respondents are required to indicate how often they practice safety behavior at work with the scale from 1 to 5; which 1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Always). The items structured in this study meant to reflect on the workers' opinion on their safeness of their workplace. Respondents are asked to response on the frequency's scale given to measure their behaviors.

3.5 Population & Sampling

The target population in this study would be the lifts maintenance workers in Penang. This targeted group was chose based on the relevancy of this study which compromises their job scope such as technicians, engineers, lift competent workers, drivers, and clerks. A total population of 60 lift maintenance employees based on Department of Safety and Health. A table has been structured to determine the size of this study.

3.6 Pilot test

Reliability of this study's results was tested by using pilot test separately on 10 samples with the Cronbach's alpha. This is to ensure their relevancy of this study on few basis using this method with the guide of respondents' answers on the questionnaire given. Pursuant to Elsevier B.V. , a general accepted rule (2015) is that 0.6-0.7 indicates an acceptable reliability level, and 0.8 or higher indicates a really good level.

3.7 Data Collection

A total of set questionnaires has been distributed among lifts maintenance workers in Penang. However, with busy schedules and commitments of these workers, a total of 38 response has been collected for the data collection of this study.

3.8 Data Analysis

A Pearson correlation analysis will be used in this study for data analysis of the data that has been obtained. It is to access the dependent variable relationship ; Obedience of Safety Behavior among lift maintenance workers and the independent variables; Job Safety, Co-Worker Safety, Supervisor Safety, Management Safety Practices, and Satisfaction on Safety Programs and Policies.

A matrix of Pearson correlation will indicate the direction, intensity, and significance of the relationships between the studied variables. The relationship between dependent variable and independent variable can be considered as excellent when the r value is 0.50 and above, moderate when the r value is between 0.30 – 0.49, and weak with

an r value below 0.30 (Cohen, 1988). While negative value of r shows the direction of the relationships.

To determine the total variance in the dependent variable which explained by the independent variables involves the regression analysis. According to Sekaran and Bougie (2013), the square of multiple R^2 will explain the dependent variable by the calculation or predictors known as Multiple Regression. The F statistics and its significance level which the result can be interpreted through R^2.

3.9 Summary

This study will be using the 50-items of WSS to examine the five facts of safety opinion or perceptions by the help of independent variables against 11 items of the obedience of safety behavior as the dependent. While internal consistency can be determined by using Cronbach's alpha reliability test and the result of the pilot study will be the mark for the study to be continue with having the determinations from the variables listed. The variable then generated with bivariate analysis using descriptive analysis, correlation matrix, and regression analysis.

CHAPTER 4

RESULTS AND DISCUSSIONS

4.1 Introduction

The analysis of the data collected using the reliability test, descriptive frequencies, Pearson correlations and regression analysis will be discussed in this chapter. The descriptive frequencies will be including the demographics measurement on job area, level of education, race, work experience and age. Throughout this chapter, the results of this study will be explained and discussed.

4.2 Response Rate

A set of 60 questionnaires were distributed and 38 questionnaires were responded at it is used in this study. The response rate is 63%.

4.3 Pilot Test

A pilot test has been conducted by using 10 samples to determine the reliability of the variables given. In the table below, Management Safety practices has recorded a reliable value of 0.9211 and accepted rule for Cronbach's Alpha is that 0.6-0.7 shows allowable level of reliability and the value of 0.8 or greater indicates a really significant reliable level of the study (Elsevier B.V., 2015). While Job Safety and Supervisors Safety both cumulated values of 0.8324 and 0.8112 indicating moderate reliability of the study. Accepted value of 0.7221 has been calculated representing Co-Worker Safety and

Satisfaction on Safety Program and Policies recorded the lowest but significant value of 0.6345.

Table 4.1: Pilot Study Results

Independent Variables	Items	Cronbach-Alpha
Job Safety	10	0.8324
Co Workers Safety	10	0.7221
Supervisor Safety	10	0.8112
Management Safety Practices	10	0.9211
Satisfaction on Safety Program and Policies	10	0.6345
Dependent Variable		
Compliance of Safety Behavior	11	0.71563

4.4 Profile of Respondents

The 38 respondents are from lift maintenance workers in from Competent Firm in Penang and all of the respondents were involved in maintenance tasks directly that involve in examining the lift by the response time, travel time between floors, leveling, operation, starting and stopping, and call lights and indicators. The results are shown in the table below, Table 4.2.

In this study, 100 percent of the respondent are male. From the data extracted, 57.9 percent of the respondents possessed Diploma/Degree which holds the highest percentage of the respondents. The respondents with SPM with 28.9 percent is the second

highest, and followed by PMR with 7.9 percent. The lowest percentage would be the respondent with 2.6 percent possessing Master or PHD.

It shows from the outcome that 60.5 percent of the respondents are Malay. The second highest percentage will be 28.1 percent for Chinese respondents and 7.9 percent for Indian respondents. The race other than these three main races, it shows the percentage of 2.6 percent. As for the working experiences that these respondents had, 78.9 percent of them had working experience of 20 years and below. With 35 years and blow, it shows the percentage of 13.2 percent and lastly, 50 years of working experience and blow has shown the percentage of 7.9 percent.

Table 4.2 Demographic Scale of Respondents

	Frequency	**Percentage**
Job Rank		
Technician	14	39.5
Lift Competent Worker	15	36.8
Engineer	9	23.7
Level Of Education		
Master/PHD	1	57.90
Diploma/Degree	23	28.95
MCE/SPM/SPMV	11	7.90
LCE/SRP/PMR	3	2.630
Race		
Malay	23	60.5
Chinese	11	28.1
Indian	3	7.8
Others	1	2.6
Age	Mean = 37.340	SD = 9.735
Working Experience	Mean = 13.157	SD = 9.544

The age statistics from the table is calculated in mean; 37.340. While the youngest age of a respondent is 27 where competent person of maintaining lifts is after they get a formal

education, the oldest age that is recorded is by 65 years old. From the data extracted, the standard deviation calculated is 9.735.

4.5 Reliability Analysis

The Alpha method of Cronbach was the technique used in reliability calculation to verify internal accuracy for each factor (Sekaran & Bougie, 2013). In this table below, the data of 38 out of 60 respondents were calculated to its significance value. The suggested reliability basic research must be above 0.7. The result shows the corresponding alphas of the study are: Job Safety (α = 0.813), Co-Worker Safety (α = 0.732), Supervisor Safety ($\alpha = 0.917$), Management Safety Practiced ($\alpha = 0.909302$), Satisfaction on Safety Program and Policies (α = 0.664), and Compliance on Safety Behavior (α = 0.656). According to George Ursachi *et al* (2015) stated that 0.6-0.7 indicates the acceptable level of reliability if it did not reach 0.7. However, values higher than 0.95 The Cronbach's Alpha coefficient for each calculation is in the Table 4.2.

Table 4.3: Reliability coefficients for each variable

Measurement	Cronbach's Alpha
Job Safety	0.813
Co-worker Safety	0.732
Supervisor Safety	0.917
Management Safety	0.909
Satisfaction of Safety Program and Policies	0.664
Compliance Safety Behavior	0.656

4.6 Correlation Analysis

The matrix of correlations and sample statistics of all the variables used in this analysis are shown in table 4.4. The recorded reports that job safety is the only independent variable that did not have any significant relationship with Safety Behavior. The four other independent variables which are co-workers, supervisors, management, and satisfaction on safety program and policies shows positive sign and the significance relating to safety behavior.

Correlation value has to be important by evaluating the nearest value to 1. Reliability between dependent and independent variables will be shown by the nearest value. The table below analyzed that Co-Worker Safety correlated to Compliance on Safety behavior at 0.005 which indicates it is less significant comparing to the other variables. The closer value of 0.795; Supervisors Safety correlating to Compliance of Safety Behavior shows that it is the most significant. The relationship between Satisfaction on Safety Program and Policies and Compliance on Safety Behavior is placed second with the value of 0.378 but significant. Moreover, the study also indicates Management Safety correlates with Compliance on Safety Behavior; 0.278. The table has shown that Job Safety with the value of 0.129 somehow recorded the lowest correlated value to Compliance of Safety Behavior.

Table 4.4 Pearson Correlation Coefficients

	Job Safety	Co-workers Safety	Supervisor Safety	Mgt Safety	Policies Safety	Compliance Safety
Job Safety	1					
Co-workers Safety	0.268	1				
Supervisors Safety	0.030	0.237	1			
Management Safety	0.149	0.273	0.795	1		
Policies Safety	0.071	0.118	0.346	0.492	1	
Compliance Safety	0.129	0.005	0.795	0.278	0.378	1

4.7 Discussion

As been discussed in the analysis, Job Safety, Supervisor Safety, Management Safety, and Satisfaction on Safety Program and Policies are significantly related to the dependent variable which is Compliance on Safety Behavior. The analysis also indicates that Co-Worker is less significant related to Safety Behavior. This somehow shows that the past studies on factors which influence Compliance on Safety Behavior at workplace were consistent. A study conducted by Haslam *et al* in 2016 were consistent as it finds the workers emphasizing on work safety compliance would resulted in a higher level of

organizational notice about their co-workers' safety and a safe workplace or work site conditions. This indicates that there are any possible factors that might issue the workers' perception in this study. Co-Workers' Safety is important as the workers executed the works as a group and not individually. Unsafe work practices by co-workers also indicates the consistent findings where organizational factors and social factors that has been clarified. It included executing tasks without obeying to the safety rules, socialization influences, and safe behavioral.

To improve a safety procedure on work performance, supervisors are responsible in order to improve co-worker relationships when it could affect managerial commitment towards safety (Gyekye, 2005). Cox *et al* (2008) have highlighted the importance of having supervisor in workplaces to enhance workplace safety. In addition, Zohar (2008) found that having priority on safety by supervisors could maintained a safe environment at workplace. Then, he added with a constant supervision towards subordinates at work could improve work safety and it would affect employee's safety behavior positively.

A consistent finding has been studied when a management's focus and emphasize on practice on safety at the workplace, it would correlatively to safety performance and employees' obedience on safety regulations (Idoro, 2008). According to Gyekye & Salminem, (2007) cited Luria *et al* (2008) found that critical factors in affecting employees behavior towards practicing safety. Safety program has include training that involved the manuals and job instruction in order to educate the employees with required knowledge on the safety rules, concepts, or necessary behavior to execute their task effectively on certain situation. It has been proven that safety knowledge is limited among the employees that gives the information on organizational safety policies, rules and procedures, and related legislations.

The past studies indicate that employees with negative perspective decline to obey safety behavior and performed their work dangerously. This probability could increase the chance of workplace accidents (Giovanis, 2010; Gyekye, 2005). Giovanis (2010) has added that employees with dangerous jobs involving hazardous materials and operations do have high record of accidents rate. To compare, workers with positive understanding on work safety behavior have done great job satisfaction, make the obedience on safety behavior reduces the accidents (Gyekye, 2005).

4.8 Guidelines Proposal

This proposal of guidelines on Safety Behavior is to suggest on how safety culture should be complied by the organization, supervisors, and workers. It is to suggest more efficient, systematic, and precise to identifying hazards and to control emergent incidents or accidents by the workers, supervisors, and organization. It is to ensure workers' safety, supervisors' credibility and to avoid any financial lost to the company. In addition, to enforce and establish a safe atmosphere in their workplaces, the Occupational Safety and Health Act 1994 (Act 514).

4.8.1 Hazard Identification

The purpose of hazard identification is to highlight the critical task activities, i.e. those tasks which pose serious risks to the health and safety of employees, as well as to highlight certain hazards associated with certain equipment due to the sources of energy, the working conditions or the activities carried out. Three main categories can be categorized as risks, health hazards, safety hazards and environmental hazards.

4.8.1.1 Health Hazards Guideline

An occupational health risk is any agent that may trigger illness in a person. A health threat can, with severe and immediate consequences, create or trigger long-term problems. All or a part of the body may be affected. The signs cannot always be detected by anyone with an occupational condition. Once it is well advanced, for example, noise-induced hearing loss is often difficult for the affected individual to detect. Chemicals such as battery acid and solvents, biological threats, physical agents and work design; ergonomic hazards may be responsible for health risks (such as bacteria, viruses, dust and molds).

4.8.1.2 Safety Hazards

Any force that is strong enough to cause injury or collateral damage is a threat to safety. An accident triggered by a danger to safety is generally obvious. A worker may, for example, be badly cut. Safety risks cause harm when occupational controls are not appropriate.

Mechanical hazards are one of the possible accidents that could happened to the workers caused by many variables. One of the Mechanical hazards is crushing where a worker could be stuck or crush by lifts components when the inspection is in process. The accidents could be described as being trapped between an ascending lift and the shaft of the lift, being stuck between the door, between the descending lift and the counterweight inside the hoist way, and being trapped the lift and the bottom of the pit. It is also can be caused by the sharp and sheared of the lift which the possible accident could be; landing on the door panel, the sharp corners of the machine under the component of the lift, ropes that could come into contact with sheave or the pulley, the moving components left uncovered, trapping the worker inside the lift machine room, and the hatch door is left unsecured.

Other than Mechanical hazards, Electrical hazards are exist because lifts process use a lot of electricity in order for the lift car to be operated. Thus the type of electrical hazards are uncovered electrical panels, electrical cords that are damaged, exposed wires, coming into contact with non – finger safe termination blocks, group of overloaded wires and circuits, a flooded lift pit, and not to forget carelessness during working inside the compartment of the lift. It is to mention that rainwater could probably enter the lift and a damp hoist way come into contact. These hazards are unpredictable but the workers should know the precaution.

The next hazard to take into precaution is Physical hazards which it can be caused by falling objects that fall on the workers. The accidents may due to hand tools falling from the lift car, equipment falling through the landing door to hoist way, and into the hoist way, objects might be falling through the openings in the machine room. Physical hazards also can be associated with moving objects which it is due to being struck by stationary bracket while on top of the cage when the lift moves, being too close to the adjacent lift or moving equipment inside a common hoist way.

Fire hazards are usually caused by inflammable items or materials in the work sites or workplace. Inspecting lifts might need some exposure with these items as they are one of the important compartment in lifts. It is due to ignition of flammable substances, absorbed oil cloths to lubricate the lifts, painting works due to the chemicals in paint, and smoking cigarettes. The last factor might due to less awareness on safety culture which stated that lifts are among non-smoking areas.

Lift motors commonly used asbestos as a brake lining. It might be a possibility that these asbestos fibres be released due to the tear of the lining overtime. When inspections process happens, it is important to check for this hazard because not it would endanger the workers, a slight negligence would put the passengers in risk. It would be

the management's responsibilities to confirm the quality of the asbestos whether there is existing brake lining in the motor.

4.8.1.3 Environmental Hazards

An environmental risk is a release into the atmosphere that can cause harm or deleterious effects. An environmental release may not be apparent. For instance, a worker who drains a glycol system and releases the liquid into a storm sewer may not be aware of the effects on the environment. Environmental risks cause damage when controls and job protocols are not followed.

4.8.2 Hazard Identification Technique

The management should take an initiative to build an identification of hazards where some methodology should take into account:

I. Reports on any hazardous incidents;
II. Records on first aid and acute injury;
III. Results of work place maintenance;
IV. Protection programs on work place health;
V. Feedbacks or complaints from the workers;
VI. Records on hazardous substances

4.8.2.1 Hazard Identification and Assessments

The identification and assessments of the methodology involves the steps taken and the duration to identify and to assess the hazards. It is important to define the steps for identifying hazards and a time period for this identification. Who will be responsible for identification, processed of identification reports, and period identification should be

included in the following detail. Once the hazards were identified, a record of the hazards should be kept in printing or in electronic format. Lastly, a duration to review and revising the methodology.

It is in your interest to follow your own method and recognition methods so that they complement the processes of management and company size. In fact, the identification method will differ depending on the size of the place of work.

4.8.3 Analysing and Estimating the Risks

Risk is the determination of the likelihood and seriousness of accident/event reliable sequences to determine the scope and hazards identified by priorities. It can be done via a qualitative, quantitative or semi-quantitative process. To describe the magnitude of the potential severity and the likelihood of the occurrence of that severity, a qualitative analysis uses terminology. These scales may be adjusted or adapted to suit the conditions and different meanings can be used for various hazards. This approach uses specialist skills and experience to determine the likelihood and severity group. In semi-quantitative analysis, qualitative scales like those described above are given significance.

The goal is not to suggest realistic risk values, such as those attempted in quantitative analysis, but to establish a rating scale that is more extended than is usually achieved in qualitative analysis. Quantitative analysis uses numerical values (rather than the descriptive scales used in qualitative and semi-quantitative analysis) for both intensity and probability, incorporating evidence from a variety of sources, such as previous knowledge of injury and observational studies.

Severity can be measured by predicting the effects of an event or a series of events, or by extrapolating them from experimental or historical data studies. In terms of monetary, technological or human impact criteria, or any of the other criteria, severity

may be expressed. Depending on the nature of risk and the reason for which the risk assessment performance is to be used, the manner in which magnitude and probability are represented and the ways in which they are combined to provide a degree of risk can differ.

4.8.3.1 Likelihood of an Occurrence

This meaning is based on the possibility of an event taking place. You can ask the question, "How many times in the past has this event occurred?" Determining probability is based on employee awareness, analysis or estimation. The levels of probability range from "most likely" to "inconceivable." For example, a small spill of bleach from a container is most likely to occur when filling a spray bottle during any transition. Instead, a diesel fuel leak from a sealed storage tank would be less probable.

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LIKELIHOOD (L)	EXAMPLE	RATING
Most likely	The most likely result of the hazard/event being realized	5
Possible	Has a good chance of occurring and is not unusual	4
Conceivable	Might be occur at sometimes in future	3
Remote	Has not been known to occur after many years	2
Inconceivable	Is practically impossible and has never occurred	1

4.8.3.2 Severity of hazard

In Table 4.6 below, the following table shows the magnitude and divides it into five categories:

SEVERITY (S)	EXAMPLE	RATING
Catastrophic	Numerous fatalities, irrecoverable property damage and productivity	5
Fatal	Approximately one single fatality major property damage is hazard is realized	4
Serious	Non-fatal injury, permanent disability	3
Minor	Disabling but not permanent injury	2
Negligible	Minor abrasions, bruises, cuts, first aid type injury	1

4.8.3.3 Risk Assessment

In order to make risk management decisions, risk can be interpreted in a variety of ways to communicate the results of study. The presentation of results in a risk matrix is a very efficient way of communicating the distribution of risk for risk analysis within a plant and area in a workplace that uses likelihood and intensity in the qualitative process.

Thus, risk can be calculated using the according formula:

L x S = Relative Risk

L = Likelihood

S = Severity

A sample of risk matrix is shown below, in Table 4.7:

	Severity (S)				
Likelihood (L)	1	2	3	4	5
5	5	10	15	20	25
4	4	8	12	16	20
3	3	6	19	12	15
2	2	4	6	8	10
1	1	2	3	4	5

High = 15-25

Medium = 5-12

Low = 1-4

To use this matrix, find the severity column that first defines the risk outcome best. Then follow the row of probability to find the description that matches the probability of the severity occurring better. The risk level is given in the box where the row and column meet.

It specifies the priority by range in Table 4.8 below. The associated risk value used to prioritize activities needed to mitigate risks to the workplace. As below, the ranges are:

RISK	DESCRIPTION	ACTION
15-25	HIGH	A HIGH risk requires immediate action to control the hazard as detailed in the hierarchy of control. Actions taken must be documented on the risk assessment form including date for completion.

5-12	MEDIUM	A MEDIUM risk requires a planned approach to controlling the hazard and applies temporary measure if required. Actions taken must be documented on the risk assessment form including date for completion.
1-4	LOW	A risk identified as LOW may be considered as acceptable and further reduction may not be necessary. However, if the risk can be resolved quickly and efficiently, control measures should be implemented and recorded.

4.8.4 The Suggested Steps Implementation

Control can be defines as elimination of a hazard that could practice so the hazard would not endanger to the workers whom have entered their work places or work sites. When a problem was reported in maintaining lifts, hazard should be controlled and a better look on the source of a hazard would prevent any unpredictable accidents occurred. There are several ways of having controls and one of them is to have engineering controls. If this method is not successful, the workers involved would be in controlled of the hazards along their path way in working. As this initiative could be referred as applying administrative controls, and the least thing a worker could do is to protect their figures or physical by wearing personal protective equipment (PPE).

In order to conclude suitable ways, it involves:

I. Evaluating and selecting short and long term controls;

II. It is possible to put in place short-term measures to protect workers until permanent protections have been carried out; and

III. Implementation of long-cause if it possible.

4.8.4.1 The Steps Taken to Tackle Source of the Hazards

I. Elimination - The precautionary measures to protect the workers would be to get rid of a dangerous task, firearm, activity, device or material. For instance, due to explosion risks, a salvage company may decide to stop buying and cut down scrapped bulk fuel tanks.

II. Substitution - It is sometimes possible, in a less risky way, to do the same task. For example, a toxic chemical might be replaced with a less harmful one. Controls must protect workers from any new hazards that are introduced.

For instance, when a noise hazard is created. Short-term controls can require short-term controls. The use of hearing aid for employees. Permanent controls could be eliminated or removed in the long term.

4.8.4.2 Control of Engineering

I. To recheck – The type of the inspection and the processes could be check in order to make them safer. For example, to have containers that would hold the lift could be easier for the workers.

II. To segregate – The worst case scenario of a hazard could not be replaces, it could be segregated from the workers. For instance, control room of air-conditioned could protect the employees from chemical substances.

III. Mechanization – A process of lift maintenance could be automated. A computerized which has been formulated to spot any welding operations would protect the workers.

IV. Compartment – Any hazards could be prevent before it could happen to the workers. To have a suitable and an appropriate protection of the body would guard the workers whenever they are doing their work especially using safe-guard body rope.

V. Immersion – An immersion method could block or absorb the noise. A system of lockout mechanisms are capable of isolating energy. During repair and maintenance the sources. Commonly, the more of control could be maintained, it would be safer from the employees.

VI. Reduction – A system of ventilation could reduce the toxic gasses before they could reach the workers. Where some hazards can be reduced or diluted.

4.8.4.3 Controls of Administrative

I. Procedures of Safety Behaviour - It is possible to have implementation for the employees to use uniform safety professions. It is expected that the employer will ensure that employees complied these policies. Job processes with personnel must be regularly checked and revised.

II. Supervision and Training of Safety Behaviour - Initial training on safe work procedures and refresher training are essential to provide. Appropriate monitoring to assist workers in detecting possible risks and updating processes for jobs.

III. Implementing Job Rotations - The duration of employees are exposed to a threat can be minimized by job rotations and other procedures. For example, in order to avoid cumulative fracture injuries, employees should be rotated through jobs involving repetitive muscle movements. When no one is in the office, noisy processes may be scheduled.

IV. Equipment Maintenance System - Cleaning, waste management and spill cleaning require this system. If the equipment are kept clean and well maintained, it is less likely that instruments, equipment and machinery may cause damage.

V. Hygiene Purposes – Hygiene well-being practices may decrease the risk of workers swallowing unsafe materials or taking them home to their families. Street garments should be kept in separate lockers to avoid being contaminated by work clothes. The segregation of eating areas from toxic hazards is critical. Eating should be avoided in toxic areas of work. Where applicable, workers should be permitted to shower and change clothes at the end of the shift.

4.8.4.4 The Importance of Personal Protective Equipment

Personal protective equipment (PPE) and clothing are used where other control systems are not feasible and where additional protection is required. Personnel must be eligible to use and operate equipment properly. The employer and staff must consider the drawbacks of personal protective equipment. The employer is forced to encourage staff to use their equipment whenever it is necessary. Care must be taken to ensure the equipment is working correctly. Otherwise, by providing a safety illusion, PPE can endanger a worker's health.

4.8.4.4 Monitoring the Controls

The effectiveness of the implementation of inspections and maintenance of controls should be checked consistently. It could be ensure by having these questions in the list:

a. Have the problems solved by the controls?

b. Will the staff with the controls be at any risk?

c. Are the hazards listed being investigated?

d. Would there be any new hazards that is significant?

e. Would the accidents be documented and analysed?

f. Would there be any requirements needed by the company?

These questions are to have the hazards and unexpected accidents to be prevented and to handle them cautiously.

4.8.4.5 Implementation of Safety Procedures

By the conclusion of a Job Danger Analysis, the frequent hazards are identified and could not be eliminated or engineered from a particular mission. Safe Work Procedures are step-by-step protocols that allow workers to carry out their work safety when risks are present. The required materials and resources and how and when to use them for safety are defined in A Secure Work Procedure. Health Procedures Ready for:

I. Assessing where the accidents resulted in having risky jobs.
II. If the accidents occur where the workers executing hazardous work.
III. A changed in tasks introduced by the employer.
IV. If new equipment is added to a certain work progress.
V. If the task would have detailed close up from the workers.
VI. Whether more than one worker is required for the task and how they would executed the task simultaneously.
VII. If the tasks have been done not consistently.

This will be including the Safety Behaviour Practices:

a. A consistently system of the requirements needed.

b. A requirement on personal protective equipment (PPE)

c. Necessities and importance of training and practices on Safety Behaviour.

d. The responsibilities of the workers.

e. The steps taken to be followed in order to complete the tasks.

f. A legal and declared documentation.

g. Initiative of emergency procedures.

Furthermore, if confined space entry is an instance of a job requiring the development of a protected work procedure. In order to increase safety in life, individuals who have to work in enclosed spaces must ensure that secure work processes are established and followed.

In a conclusion, the steps taken should be implemented by the organization in order to have a systematic systems ensuring the workers safety. The system on Safety Behaviour Precautions are in the guidelines in order for the organisation to have the proper measurement, preventing accidents to happen. In order to avoid any losses, the steps implemented need to be taken seriously by the organisation and governments.

4.9 Summary

Internal consistency of the relation between influence of five facets towards the Compliance of Safety Behavior shows that the reliability scores above 0.7 on all of the independent variables examined. The study found summaries in the Table 4.9 below:-

Research Objective	Finding
1. To determine the connection between job safety and compliance safety behavior among lift maintenance staff	Significant
2. To ascertain the relationship among lift maintenance workers between co-worker protection and enforcement of safety conduct.	Less Significant
3. To ascertain the relationship between Supervisor Safety and Compliance of Safety Behavior among lift maintenance workers.	More Significant
4. To establish the relationship between Management Safety Practices between Compliance of Safety Behavior among lift maintenance workers.	Significant
5. To analyze the relationship between Safety Program Satisfaction and Safety Behavior Compliance Policies among lift maintenance workers.	More Significant

CHAPTER 5

CONCLUSION & RECOMMENDATION

5.1 Conclusion

The perception of the lift maintenance workers indicated by the response results of 100 percent. The approached use to indicate the relation between the five independent variables to the dependent variable. This discussion would be responding to the objectives elaborated in chapter one.

According to the results, it indicated that the Co-Worker Safety somehow did not contribute to compliance of safety behavior. This is maybe because the job involves the workers get tasks to maintain lifts from time to time based on their teamwork needed. Because of the time consuming of servicing an lift, the risks and exposure of hazards could be within forces that exist in executing the task and affect their response as an individual while working with amongst each other.

Lift Maintenance Workers are exposed to occupational hazards in daily life compares to other professionals. Dealing with dangerous tasks that involves the heights, narrow spaces, chemical usage, and many more, they do feel some pressure from their companies. Their tasks also include the emergency demands on fixing broken lifts whenever they received reports.

Job Safety did contribute to the variables in obeying safety behavior. The workers as an individual has aware of the importance executing the task and in the period of the training given by the management, they practice the procedures in real tasks.

According to the results in the previous chapter, Supervisor protection has been shown to add the most important benefit to the variation in accordance with safety

conduct. This is might be because the supervisors take responsibilities ensuring their subordinates practices safety behavior by the guidelines or standard operating procedure (SOP) that had been implemented by the department.

When their employees need to take safety initiatives and comply with the rules, supervisors must be committed to the implementation of safety. By passing elements of safety precautions to members of the workplace, the supervisor played an important role in avoiding the accident process. Zohar (2002) finds that by merely stressing protection in interactions, supervisors could boost safety efficiency with impressive performance.

The result of correlation analysis of Management Safety Practices is significantly influencing the compliance of safety behavior among lifts maintenance workers involved in operational tasks. The management has implemented the SOP to remind them in behaving safely to reduce accident and injuries.

The results on workers' satisfaction show that the safety program do influence obeying the safety behavior among lift maintenance workers. Safety behaviors and performance can be done by consistent training. In order for the employees to be able to comply the policies and rules, they must know the organization safety policies, rules and regulation. Knowledge can be acquired from effective training implemented by the companies on safety policies, rules and regulation that should be a guide for the employees to perform their job.

5.2 Recommendation

In this chapter, recommendations in improving Compliance of Safety Behavior is suggested thoroughly. This study is carried out to investigate the impact of five selected facets of WSS on the enforcement of the safety actions carried out among lift maintenance employees. Even though this study has the same content as it has been

conducted in the industries such as construction, police officers, factory and telecommunications but by having this type of investigated studies in the maintenance work in Malaysia is something new.

Although the occupational safety and health field is the common thing in lift maintenance workers, this study could improve the awareness as one of the references to be used in the future to improve the safety system in this field that has been launched by OSH.

To refer previous studies in nearly same subject, the five facets which are Job Safety, co-worker Safety, Supervisor Safety, Satisfaction on Safety Program and Policies and Management Safety has been studied to analyze the relationship with the compliance of safety behavior among lift maintenance workers. Aside from the workers are daily exposed with a lot of risk, this study could be one of the effort to improve the safety in their workplace and work sites. Apart from that, it can be used as reference for people to do in future study.

This study has resulted that only Co-Worker Safety affects less significant the obedience of safety behavior among lift maintenance workers. The other four independent variables, Work Protection, Supervisor Safety, Management Safety Activities, and Safety Program and Policy Satisfaction, are, on the other hand, significantly related to compliance with safety conduct. From the result that has been conducted, the most influencing factor is Safety Program and Policies. In order to improve the safety program in the future, these steps below could be taken:-

i. Minimizing or eliminating hazards in the workplace by creating a plan to control them;
ii. Inspection are regularly conducted so that improvement towards safety of the workplace can be maintained;

iii. The importance of complying into safety guideline, SOP, training on safety behavior should be held continuously to give a better understanding;

iv. The supervisor should remind the employees continuously on the important of obeying safety guidelines and SOP; and

v. Investigation should be conducted to know the cause of accidents of every accident and injuries happened so it can be avoided in the future.

This, in turn, is likely to reduce the number of injuries and incidents at work (Hayes et, Al, 1998; Zohar 1980; Uryan, 2010; Jayesh, 2014). The second factor in influencing the obedience of safety behavior among the lift maintenance workers is Management Safety practices. Companies involved should established procedures to respond to the accidents and emergencies situations that could happen. This is to prevent and minimize the safety and health impacts associated with them. It should covered emergencies planning like listed below;

i. Emergency plan development

ii. The examination of these plans and equipment

iii. An individual training of executing emergency plan

iv. Advising people who are working or living near the installation about the procedures to do in an emergency

v. To ensure the workers to be familiarized the emergency services with the workplace so the companies could expect situation in an emergency

It is to suggest that an easy method should be designed to calculate the output of protection that leads to predictable results. In other words, to have a comprehensible mechanism for avoiding or minimizing the risk of accidents, injuries or deaths and not just for solving problems in the short term.

5.3 Significant Findings

This study has shown every variables to be significant to Compliance of Safety Behavior regardless the level of the significances accumulated. It shows the reliability of every variables have factors to be worked on by every level management, organization, and even the workers. In the analysis given, the study shows every facets that have been studied are to provide lift maintenance workers a better policies and regulations for them to be protected by their companies.

Government bodies such as Department of Safety and Health would review every of the factors studied to improvise regulations of the policies which should be their priority. This department is established to give Malaysia a better commitments and vision which could enhance preservation of Safety Culture that should be implemented. Government is the main party that any of organization should approach in order for them to have a better look in upgrading their workplace safety behavior. By this study, DOSH might have clearer point of view in lift maintenance workers' current state of them complying to Safety Behavior implemented.

Secondly, workers or employees are the reason this study is conducted, it is to give them a chance to voice out and be protected more than before. Workers are the main core in every of organization to be operated. Their well-being have to be investigate and be revised repeatedly in order to improve their productivity in executing their tasks and to reduce every physical injuries which could cost an organization financial defect. The workers could have a preferable and superior law and policies which could protect them in any situations relating to their workplaces and worksites.

Management is important in order for the company to operate smoothly. Any profits and liabilities might affect the credibility of a management. This is because every instructions and policies are made based on the management's effective implementation.

The study that has been conducted might benefit the management employees and the employer for them to upgrade their regulated guidelines to avoid any loss especially financially. This study has shown that Supervisors and Safety Program and Policies hold a crucial position determining the workers compliance in practicing safety behavior at the workplace and worksites. Thus, to improve their policies based on the guidelines given by DOSH, their effective initiative to implement a culture in their employees are important and the significance can be found in this study.

5.4 Summary

As a conclusion of the study that has been conducted, the management of lift maintenance workers could improve and enhance Co-worker Safety, Supervisor Safety, Management Safety Practices and not to forget safety program and policies to increase the safety culture in the workplace. The exposure of hazards mentioned that would affect workers mental and physical need the management to enforce the safety behavior by improving the understanding and by complying the safety behavior in workplace.

A consistent system of communication should be done actively to educate the workers on the importance or safety behavior at workplace or work site. This is because the importance of compliance of safety behavior should be understood to reduce the number of accidents and injuries and also to save their lives in emergency situation. Lifts maintenance workers are one of the groups that have been under appreciated to keep people safe by time to time commuting in their own building. A safe behavior should be practiced for them to ensure the safety of the others.

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