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**RELATIONSHIP BETWEEN SELECTED SAFETY
MANAGEMENT PRACTICES DIMENSIONS AND SAFETY
COMPLIANCE AMONG EMPLOYEE AT TELEKOM MALAYSIA
BERHAD**



**MASTER OF SCIENCE
(OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT)
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2024

**RELATIONSHIP BETWEEN SELECTED SAFETY MANAGEMENT
PRACTICES DIMENSIONS AND SAFETY COMPLIANCE AMONG
EMPLOYEE AT TELEKOM MALAYSIA BERHAD**

By

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**Thesis Submitted to
College of Business
Universiti Utara Malaysia
In Partially Fulfilment of The Requirement for The Master of Sciences
(Occupational Safety and Health Management)**



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ABSTRACT

This research thoroughly explores the intricate relationship between selected safety management practices dimensions and safety compliance, focusing on Telekom Malaysia Berhad (TM). Safety is critically important in the telecommunications industry as it affects employee well-being, regulatory adherence, and overall organizational productivity. Despite its importance, the effectiveness of safety management practices in achieving these goals remains a topic of ongoing investigation and scholarly debate. In this study, 158 respondents from TM were selected to participate in an extensive data collection process aimed at gathering insights on the dimensions of safety management practices and safety compliance. Using the Statistical Package for Social Sciences (SPSS), the study examined the proposed relationships between safety compliance and various dimensions of safety management practices, including management commitment to safety, safety training, and worker involvement in safety. The results demonstrate that enhancing safety compliance within the organization requires prioritizing and systematically integrating these safety management practices into daily operations. This research contributes significantly to the understanding of safety management practices and safety compliance within the telecommunications industry in Malaysia, offering valuable insights for both academic and practical applications.

Keywords: management commitment to safety, safety training, workers involvement in safety and safety compliance

ABSTRAK

Penyelidikan ini secara mendalam meneroka hubungan yang rumit antara dimensi-dimensi amalan pengurusan keselamatan yang terpilih dan pematuhan keselamatan, dengan memfokuskan kepada Telekom Malaysia Berhad (TM). Keselamatan sangat penting dalam industri telekomunikasi kerana ia mempengaruhi keharmonian pekerja, pematuhan peraturan, dan produktiviti organisasi secara keseluruhan. Walaupun penting, keberkesanan amalan pengurusan keselamatan dalam mencapai matlamat ini masih menjadi topik penyelidikan dan perdebatan ilmiah yang berterusan. Dalam kajian ini, 158 responden dari TM dipilih untuk menyertai proses pengumpulan data yang menyeluruh dengan tujuan untuk mengumpul pandangan mengenai dimensi-dimensi amalan pengurusan keselamatan dan pematuhan keselamatan. Menggunakan Perisian Statistik untuk Sains Sosial (SPSS), kajian ini mengkaji hubungan yang dicadangkan antara pematuhan keselamatan dan pelbagai dimensi amalan pengurusan keselamatan, termasuk komitmen pengurusan terhadap keselamatan, latihan keselamatan, dan penglibatan pekerja dalam keselamatan. Hasil kajian menunjukkan bahawa untuk meningkatkan pematuhan keselamatan dalam organisasi, keutamaan dan integrasi sistematik amalan pengurusan keselamatan ini ke dalam operasi harian adalah diperlukan. Penyelidikan ini menyumbang dengan ketara kepada pemahaman tentang amalan pengurusan keselamatan dan pematuhan keselamatan dalam industri telekomunikasi di Malaysia, dengan menawarkan idea berharga untuk aplikasi akademik dan praktikal.

Kata Kunci: komitmen pengurusan terhadap keselamatan, latihan keselamatan, penglibatan pekerja dalam keselamatan dan pematuhan keselamatan

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Greatest Prophet Muhammad S.A.W’

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LIST OF ABBREVIATION

DV	Dependent Variable
DOSH	Department of Occupational Safety and Health
ILO	International Labour Organization
ISO	International Standard Organization
IV	Independent Variable
NPD	Non-Permanent Disability
OSH	Occupational Safety and Health
OSHA 1994	Occupational Safety and Health Act 1994
OSHMS	Occupational Safety and Health Management System
PPE	Personal Protective Equipment
PD	Permanent Disability
SPSS	Statistical Package for Social Sciences
TM	TM Technology Services Sdn Bhd



CHAPTER ONE

INTRODUCTION

This chapter presents a overview of the study, divided into eight categories. These segments encompass the background of study, problem statement, research question, research objective, significant of study, scope of the study, definition of key term, and the organisation of the thesis.

1.1. Background of Study

Employees are the organization's biggest asset since the workforce is the most crucial component (Mohd Haris, 2019). Furthermore, organization would not be able to achieve all organizational goals, deliver business results, or reach their financial goals (Johanim & Yahya, 2012). Mohd Haris, (2019) also state that a profit-making corporation cannot reach its organizational or corporate goals without a robust workforce that fulfills its tasks and obligations.

Safety compliance involves fulfilling key safety responsibilities to create and maintain a safe working environment, as defined by Bottani et al. (2009). This includes rigorously following the organization's safety protocols and procedures and properly using personal protective equipment. Vinodkumar and Bhasi (2010) further describe safety compliance as the norm employees demonstrate to improve their own safety and well-being.

Neal and Griffin (2002) add that safety compliance encompasses essential tasks individuals must perform to ensure workplace safety is effectively maintained. These tasks include adhering to standard operating procedures and correctly using personal protective equipment to reduce potential risks and hazards in the workplace.

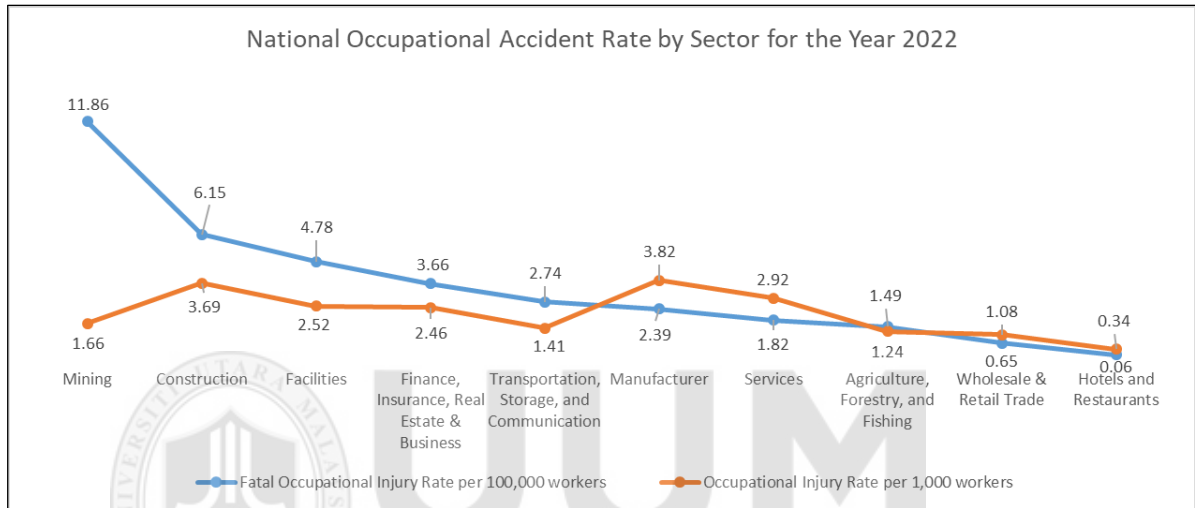


Figure 1.1:
National Occupational Accident Rate by Sector for the Year 2022
 Source: Occupational Statistic Accident from Department Occupational Safety and Health (DOSH) Malaysia

In recent years, the impact of industrialization and urban regeneration on occupational safety and health (OSH) has become increasingly significant. Employers hold the primary responsibility for ensuring a secure and healthy work environment, aiming to protect the well-being of all individuals under their authority. According to the International Labor Organization (ILO), over 2.78 million people die annually due to work-related accidents or illnesses (ILO, 2018). Managing health and safety at work prioritizes survival, given the high costs associated with workplace incidents, which can far exceed the expenses of maintaining a safe workplace.

Table 1.1:

Occupational safety and health indicators for 100,000 workers

Country	Non-Fatal Occupational injuries per 100'000 workers	Occupational fatalities per 100'000 workers
Chile	3,142	3.1
Pakistan	2,691	0
Macau, China	1,891	6.9
Hong Kong, China	1,188	6.8
Netherlands	1,072	0.3
Israel	1,062	1.1
Belize	910	5.2
United States	900	5.3
Australia	899	1.6
Malta	863	3.3
Czechia	779	1.9
Thailand	762	5.3
Burundi	707	13.8
United Kingdom	692	0.8
Sweden	689	0.8
Ireland	688	1.4
Egypt	670	10.7
Singapore	613	1.3
Croatia	605	2.2
Malaysia	578	3.8
Estonia	546	2.2
Poland	473	1.5
Hungary	452	1.5

Source: Occupational Safety and Health Statistics (OSH) database, ILOSTAT

The ratio of direct to indirect costs for workplace accidents is 1.11, with indirect costs including product and material damage, production time loss, legal expenses, overtime, temporary labor costs, investigation time, supervisor involvement, fines, loss of expertise, decreased morale, and negative publicity (Youn et al., The catastrophic Chernobyl incident underscored the critical importance of safety management in high-reliability industries (Abdullah, 2010), leading to significant changes in safety practices worldwide.

This disaster highlighted the need for robust Occupational Safety and Health Management Systems (OSHMS), influencing legal frameworks on nuclear safety and the adoption of international safety standards and recommendations (ILO, 2006). Additionally, major events like the Bhopal (India) and Piper Alpha (UK) disasters shifted the focus of occupational safety and health towards both technical and human factors. Heinrich's studies (2011) revealed that human elements account for 88% of industrial accidents, with risky worker norms being a primary cause of injuries. Fleming and Lardner (2002) further noted that up to 90% of workplace accidents and incidents can be attributed to hazardous employee conduct, emphasizing the importance of managing human behavior to prevent accidents.

Research by Abdullah (2010) and observations by the Malaysian Ministry of Human Resources indicate that common reasons for employers' non-compliance with safety regulations include lack of awareness about the Occupational Safety and Health Act 1994 (OSHA 1994), time constraints, inadequate resource allocation, perceived insignificance of OSH, and a misplaced belief in immunity to accidents. Similarly, Workers often cite

unfamiliarity with safety regulations, difficulties in compliance, discomfort in adhering to safety protocols, and a false sense of invincibility against accidents. These insights underscore the need to explore factors influencing workers' behaviour at workplace. Cultivating an organizational culture where safety is ingrained as a fundamental value and where all staff members are responsible for maintaining a secure and healthy workplace is crucial.

Table 1.2:

Occupational Accident Statistics by Sector January - October 2023 (Reported To Dosh Only)

SECTOR	No of NPD	No. of PD	No. of Fatality	Total
Hotels and Restaurants	176	0	0	176
Facilities	147	0	4	151
Finance, Insurance, Real Estate & Business	554	15	15	584
Construction	106	8	45	159
Transportation, Storage, and Communication	326	7	9	342
Manufacturer	3,961	175	45	4,181
Wholesale & Retail Trade	145	2	0	147
Services	117	2	0	119
Mining	23	1	4	28
Agriculture, Forestry, and Fishing	1,020	25	19	1,064
Total	6,575	235	141	6,951

Source: International Policy & Research Development Division

Since the nature of work in the telecommunications sector frequently involves handling heavy equipment, working at heights, and being exposed to electrical risks, safety is of the utmost significance (Ribeiro et al., 2021a). In this profession, ensuring worker safety necessitates strict adherence to regulations, training programs, and extensive safety processes (Elhakim et al., 2022).

Occupational Safety, workers in the telecommunications industry frequently operate at heights when installing or maintaining cables, antennas, and communication towers (Ribeiro et al., 2021a). To avoid falls and injuries, it is crucial to take the appropriate safety precautions, which include employing fall protection equipment, wearing harnesses, and adhering to established climbing techniques (Elhakim et al., 2022).

Electrical Safety, operating electrical systems and power sources is a requirement for telecommunications infrastructure and equipment (Gordon et al., 2022). To avoid electrical shocks and injuries, workers must be trained in electrical safety protocols, such as correct grounding, lockout/tagout techniques, and handling live wires (Kustov, 2021)

Equipment Safety, workers in the telecommunications industry utilize a range of specialized tools and equipment, such as power tools, cranes, hoists, and rigging equipment (Dix et al., 2022). To avoid mishaps and equipment malfunctions, routine equipment maintenance, inspection, and use are essential (Warshaw et al., 2019).

Health and ergonomics, working in the telecommunications industry frequently entails physically taxing jobs including moving large equipment, scaling towers, and cramped workspaces (Fernandes et al., 2022). To lower the incidence of musculoskeletal strains and injuries, employers can encourage ergonomic practices, supply personal protection equipment (PPE), and provide instruction on safe lifting procedures (Yavorska et al., 2022).

Training and Certification, to successfully identify and reduce working hazards, telecommunications personnel must complete extensive safety training programs (Sulistiyowati & Susetiyono, 2023). Topics including hazard recognition, emergency protocols, equipment operation, and regulatory compliance should all be included in training (Athaya et al., 2023). Moreover, demonstrating proficiency in safety procedures can be accomplished by earning pertinent certificates, such as those for tower climbing.

As a major national supplier of digital technology and connectivity, Telekom Malaysia Berhad (TM) is a prominent actor in Malaysian convergence. With 78 years of experience, TM has played a significant role in promoting connectedness for Malaysians from all backgrounds. TM began as the Malayan Telecommunications Department in 1946 and has since developed through the many stages of telecommunications technology to establish itself as a frontrunner in Malaysia's communication infrastructure. As the nation's longest-serving telecommunications company, TM has been distinguished by its unwavering and persistent pursuit of innovation, community involvement, and sustainable corporate success. By 2030, TM plans to become a Digital Powerhouse through strategic navigation.

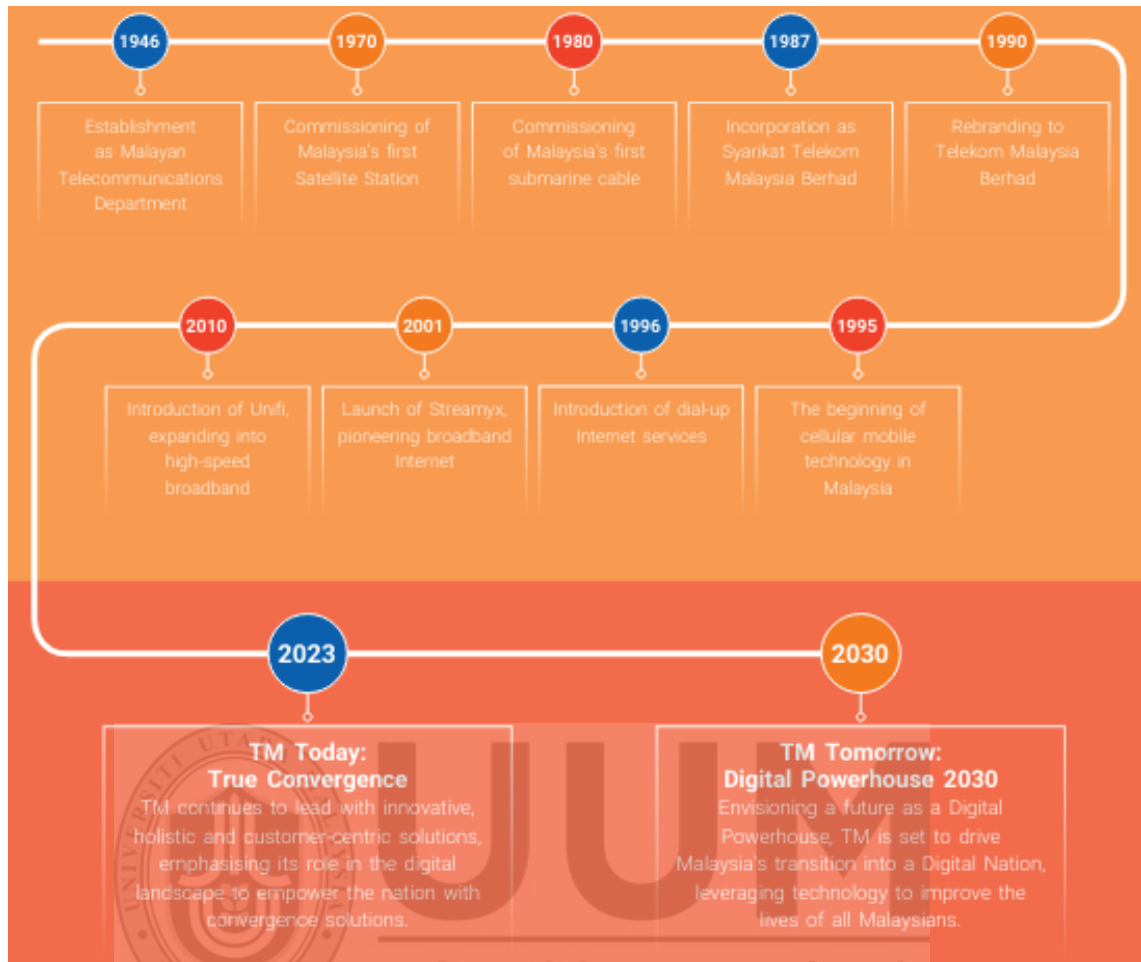


Figure 1.2:
Flow Chart Journey of Telekom Malaysia Berhad from 1946 until 2023
Sources: Annual Report Telekom Malaysia Berhad 2023

Occupational incidents at TM can vary widely, given the diverse nature of the tasks performed by its employees. Here are some common types of occupational incidents that may occur at TM:

- Slips, Trips, and Falls:** These incidents can happen in various work environments, including office buildings, data centers, exchange buildings, and outdoor facilities. Slips, trips, and falls may be caused by wet flooring, uneven surfaces, congested

walkways, poor lighting, or inappropriate usage of ladders and steps (Chang et al., 2016).

- b. **Musculoskeletal Injuries:** TM Employee involved in manual handling tasks, such as lifting and carrying heavy equipment, may be at risk of musculoskeletal injuries. Poor ergonomics, repetitive motions, and improper lifting techniques can contribute to injuries such as strains, sprains, and back pain (Hauret et al., 2010).
- c. **Electrical Incidents:** Workers working with electrical equipment or performing electrical maintenance tasks may be at risk of electrical shocks, burns, or electrocution. These events can occur owing to contact with live wires, malfunctioning equipment, poor insulation, or the inappropriate use of electrical tools (Kustov, 2021).
- d. **Fall from Heights:** Workers performing tasks at elevated locations, such as telecommunication towers, may be at risk of falls from heights. Fall protection measures, such as safety harnesses, guardrails, and personal protective equipment (PPE), are essential for preventing injuries in such situations (Ribeiro et al., 2021).
- e. **Vehicle Accidents:** TM Employee who drive company vehicles or operate heavy machinery may be at risk of vehicle accidents. These incidents can occur due to factors such as distracted driving, speeding, poor road conditions, or vehicle

malfunctions. Proper training, vehicle maintenance, and adherence to traffic rules are crucial for preventing accidents (Miaou & Lum, 1993).

- f. **Occupational Health Issues:** TM Employee may experience occupational health issues such as stress, fatigue, or ergonomic-related discomfort. Factors contributing to these issues may include high workloads, long hours, inadequate rest breaks, or poor workstation ergonomics. Implementing wellness programs, providing employee assistance services, and promoting work-life balance can help address these concerns (Jeyaratnam, 1993).



Figure 1.3: *Lost Time Injury Cases at TM for 2023*
Source: Annual Report Telekom Malaysia Berhad 2023

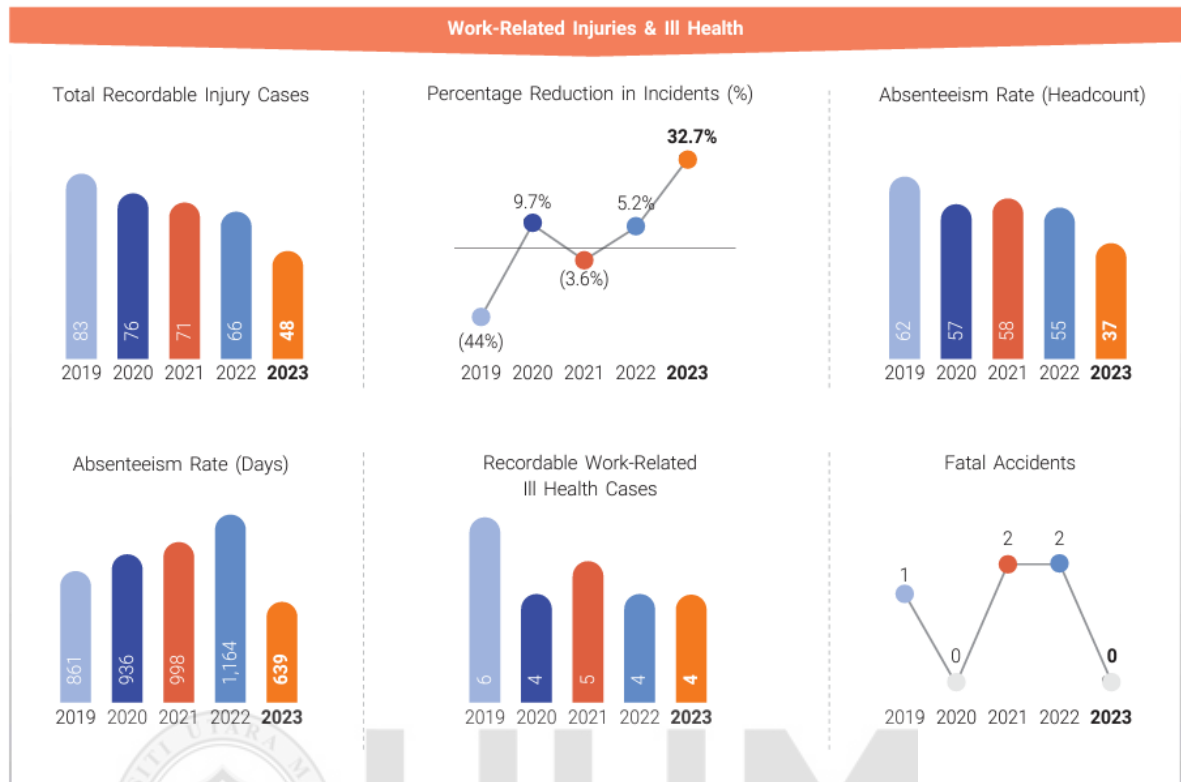


Figure 1.4: Comparison Chart for Work-Related Injuries & Ill Health for 2019 to 2023
Source: Annual Report Telekom Malaysia Berhad 2023

1.2. Problem Statement

Implementing regulations and legislation alone is insufficient to ensure workplace safety and foster a culture of accident prevention within organizations. It is widely recognized that simply enforcing rules and laws does not significantly improve safety standards. Instead, it is essential to cultivate a safety culture internally within the company to genuinely enhance safety conditions. Abdelhamid and Evert (2000) emphasize that human capacity is crucial in both preventing and addressing occupational accidents, though the rise in accidents is often linked to human negligence and errors. Extensive research on human behavior management is fundamental to efforts aimed at preventing occupational

accidents, as reducing accident rates has always been a primary goal in occupational safety.

Herbert William Heinrich's work in his book "Industrial Accident Prevention: A Scientific Approach" is a foundational text in the field of industrial safety. Heinrich's research, published in 1931, analyzed over 75,000 accident reports and concluded that 88 percent of industrial accidents were caused by "unsafe actions" by individuals. He introduced the concept of the Heinrich accident triangle or pyramid, which illustrates that for every 330 recorded incidents, 300 result in no injuries, 29 result in minor injuries, and one results in a major injury. This model has significantly influenced safety protocols and practices across various industries over the years (Heinrich, 1931).

Recognizing the significance of workplace safety, this study sought to investigate the relationship between safety management practice dimension and safety compliance. The goal of this research is to better understand the importance of safety management dimension and safety compliance among TM Employees. The study's findings enable the company to implement effective preventive actions.

In essence, telecommunication industry is complying with the OSHA 1994 and some of the telecommunication players are voluntarily proactive to manage its OSH risks and improve OSH performance by implementing an OSH Management System in ISO 45001:2018 - Occupational Safety and Health Management System (OSHMS). This study was carried out among employees of TM Kedah Perlis. The goal of this study was to look into the relationship between the independent variables, which are three safety

management practices: management commitment to safety, safety training, and worker involvement in safety, and the dependent variable, safety compliance. The study's findings are valuable in establishing relationships between variables and in directing top management to focus on elements that have a substantial association with workplace safety compliance.

The relationship between management commitment to safety and safety compliance has been explored in various industries. Research has shown that strong management commitment to safety significantly influences safety compliance among workers. For instance, a study on small and medium enterprises found that management commitment, safety training, and worker involvement are crucial factors affecting safety compliance (Subramaniam et al., 2016). Recent studies continue to support the strong relationship between safety compliance and safety management practices. For example, a 2022 study in Malaysia's oil and gas industry demonstrated that safety training, worker involvement, safety communication, management commitment, and safety policies significantly impact occupational accidents via safety compliance. This research highlights the critical role of effective safety management in reducing workplace accidents and promoting a safer working environment (Ajmal et al., 2022). However, these findings may not directly translate to the telecommunications industry due to its unique operational environment and challenges.

1.3. Research Question

This study emphasizes topics concerning the characteristics and elements of safety management practices impact on safety compliance, which must be understood before drawing appropriate findings. Here are the study-related questions:

- i. What is the level of safety compliance among workers at TM?
- ii. Is there a relationship between management commitment to safety and safety compliance among workers at TM?
- iii. Is there a relationship between safety training correlates and safety compliance of among workers at TM?
- iv. Is there a relationship between worker involvement in safety and safety compliance among workers at TM?

1.4. Research Objective

The goals of this study are based on the characteristics and factors that shape safety management practices, impacting the safety compliance of workers involved at TM.

Below are the research objective:

- i. To identify the safety compliance level of workers at TM.
- ii. To determine the relationship between management commitment to safety and safety compliance at TM.
- iii. To determine the relationship between safety training and safety compliance at TM.

- iv. To determine the relationship between worker involvement in safety and safety compliance at TM.

1.5. Scope of The Study

This study was conducted at TM Northern Region. The aim of this study was to determine the relationship between selected safety management practices dimension and safety compliance. In order to conduct the study and achieve the aims of this research, a questionnaire was designed. The respondents were TM employees who were asked to fill in the questionnaires.

The study focuses on the known characteristics and components of management commitment to safety, safety training and worker involvement in safety in order to determine the influence and effectiveness of safety compliance.

1.6. Significant of Study

The purpose of this study was to explore the relationship between selected safety management practices dimensions and safety compliance. The finding of this study is expected to bring contributions to the field of safety management theoretically and practically.

At the theoretical level, there is a lack of studies on applying safety management practices dimensions and safety compliance in the telecommunication industry. This study attempted to determine the interaction of safety management practices and safety

compliance in the telecommunication industry in Malaysia. This study adds empirical evidence to the effect of the power of safety management practices and safety compliance in TM.

At the practical level, this study could help manager to understand the importance of safety management practices towards improving safety compliance. This study could also help superior to know how to improve safety and reduce adverse events in the workplace.

Finally, the outcome of this study could contribute to academic reference for future researchers and provide quantitative data to provide a benchmark for manager in the telecommunication industry in designing and implementing measures to improve safety compliance.

1.7. Definition of Key Term

- a. **Safety Compliance** is defined as “the worker’s adherence to safety procedures and carrying out work in a safe manner” (Griffin & Neal, 2000).
- b. **Safety Management Practices** refers to “policies, procedures, activities and strategies followed or implemented by the management of an organization targeting safety of their employee” (Vinodkumar & Bhasi, 2010).
- c. **Management Commitment to Safety** can be defined as “organization’s management work together and take responsibilities to make safety and health a priority in the organization” (Shadab, Balaji & Narendra, 2016).

- d. **Safety Training** describes “activities of instructing workers in hazard recognition and control measure, using available methods for protection (worker training), and educating workers in the field of occupational safety and health administration on how to deal with unforeseen problems or potential hazards in the workplace (worker education)” (Cohen et al., 1998).
- e. **Workers Involvement in Safety** refers to “a behavioral oriented technique that involves individuals or groups in the upward communication flow and decision-making processes within the organization.” (Vredenburg, 2002).

1.8. Organisation of the Thesis

Chapter 1 delineates the study's findings in a comprehensive manner. Within this chapter, an extensive overview is provided, encompassing the background of the study, the articulation of the problem, the formulation of research inquiries, the establishment of research aims, the delineation of the research's scope, the elucidation of the study's significance, as well as the identification of its limitations, all aimed at fostering a fundamental comprehension of the study at hand. This chapter serves as the foundational cornerstone upon which the rest of the research is built.

The focal point of Chapter 2 revolves around the literature review, which is positioned as a pivotal reference and comparative benchmark. It incorporates a synthesis of prior research findings on topics related to or associated with the subject matter under investigation. Moreover, a key guiding principle of this endeavor is believed to be the approach adopted in antecedent research works. Readers are acquainted with the

framework and extent of the study, specifically honing in on the essential elements concerning safety management practices and safety compliance, as well as the requisite meteorological variables that underpin safety considerations.

In the subsequent chapter, Chapter 3, a detailed exposition on the overall project framework and the methodologies employed in the study is expounded upon. In a bid to fortify the integrity of the methodology employed from the study's inception to the culmination of data analysis, a systematic breakdown of the data collection and analysis procedures is proffered to the readership. Furthermore, deliberations on perspectives and contentions from earlier studies are meticulously juxtaposed to enrich the discourse.

Chapter 4 undertakes the analysis and presentation of data acquired through survey instruments or technological means. A concerted effort is made to elucidate the readers' understanding and perspective through the application of logical reasoning in the context of statistical analyses and comparisons, thereby enhancing the interpretative framework.

Building upon the preceding chapters, Chapter 5, the conclusion segment, serves as a pivotal juncture where the study's findings are juxtaposed against antecedent research outcomes. Recommendations for enhancements and empirical insights are tendered to the readers, in a bid to furnish them with valuable insights and potential pathways for future exploration.

1.9. Summary

Chapter one includes a comprehensive overview of the study, covering several key areas. It begins with the study's background, outlining the context and rationale. The problem statement is then presented, defining the specific issues being addressed. The chapter proceeds to detail the research questions and objectives, clarifying the aims and focus of the investigation. It also discusses the scope of the study, specifying its boundaries and limitations. The significance of the study is highlighted, explaining its importance and potential impact. Definition of key terms are defined for clarity, and the Organisation of the thesis is outlined to provide a roadmap of the document.



CHAPTER TWO

LITERATURE REVIEW

2.0. Introduction

This chapter presents a comprehensive literature review, focusing on the conceptual framework and relationships between the studied variables, and addressing the research gaps identified in the problem statement. It examines the dimensions of safety management practices, specifically management commitment to safety, safety training, and worker involvement in safety, and their roles in shaping safety compliance at work. The first section emphasizes the study of safety compliance among TM employees, while the second section discusses the dimensions influencing this compliance. Previous studies have shown that effective management practices are crucial for enhancing safety compliance (Subramaniam et al., 2016; Ajmal et al., 2022).

2.1. Safety Compliance

Safety compliance in the telecommunications industry is a critical factor that affects worker behavior and accident prevention. Research conducted in Malaysia highlights that elements such as satisfaction with safety programs, management safety practices, and coworker safety play a significant role in promoting safety compliance among telecommunication workers (Benakka et al., 2021). Moreover, various safety protection methods and systems have been designed to prevent telecommunication fraud and safeguard customer information. In the role of provisioning technicians, key factors such

as safety concern, compliance, and participation are essential for reducing workplace accidents in the telecommunications sector (Ajmal et al., 2022).

Additionally, safety devices for telecommunication equipment, such as overvoltage protective circuits, are crucial for quickly grounding circuits to prevent damage and ensure safe operations (Barbosa, 2023a). Certification procedures for mobile telecommunications equipment stress the importance of reliable testing methods, reproducibility, and user-friendliness to maintain compliance with safety standards and foster consumer trust.

Safety compliance pertains to the behaviors, methodologies, and mindsets demonstrated by individuals in order to conform to safety regulations, policies, and standards in a professional setting or any other context where safety is a focal point (Sharma et al., 2023). This adherence encompasses various tasks, such as adhering to safety protocols, utilizing protective gear, reporting dangers or accidents, engaging in safety education, and fostering a safety-oriented atmosphere among peers.

Safety compliance, as defined by Griffin and Neal (2000), pertains to behaviors that conform to established regulations within a specific setting. Safety compliance, as defined by Cooper and Philips (2004), involves individuals adhering to safety protocols and guidelines, emphasizing the responsibility of employees in maintaining workplace safety to reduce accidents (Sanina & Gulyaeva, 2024). Research conducted in Nigeria underscores the significant link between safety awareness and compliance in small and medium-scale enterprises, highlighting the critical role of management commitment in influencing adherence to safety measures (Inyang et al., 2024). Additionally, studies in

Australia distinguish between deep and surface compliance, revealing that emotional intelligence and situational awareness positively affect deep compliance while negatively impacting surface compliance among construction workers (Yan et al., 2023).

In Malaysia, research emphasizes the importance of enforcing occupational safety and health legislation to ensure worker safety in the construction sector, advocating for a balanced and progressive approach to enhance compliance and prevent accidents (Zulkifly & Ranjan, 2024). A study in Ghana highlights the psychological factors influencing nurses' safety compliance behavior, pointing out the significance of subjective norms, attitudes, and organizational support in predicting optimal safety compliance among healthcare workers (Asante & Novak, 2024).

Safety compliance is an essential aspect of TM environments. Often, non-compliance leads to devastating and costly effects for individuals and organizations in the form of injuries and even fatalities (Graham et al., 2024). Safety compliance was conceptualized as the activities involving adhering to safety procedures and carrying out work in a safe manner (Neal et al., 2000), such as adhering to safety procedures and wearing compulsory PPE on a worksite (Zhao & Yan, 2023).

Safety compliance is a critical component in TM environments, where non-compliance can lead to severe and costly consequences, including injuries and fatalities (Graham et al., 2024). Ensuring safety compliance involves a systematic approach to adhering to established safety protocols and performing tasks safely. Neal et al. (2000) conceptualize safety compliance as engaging in activities that conform to an organization's safety procedures, which is fundamental in creating a safe work environment.

Specific examples of safety compliance include consistently following safety protocols and wearing mandatory personal protective equipment (PPE) on work sites. These measures are essential in minimizing the risk of accidents and protecting workers from potential hazards (Zhao & Yan, 2023). When workers adhere to safety procedures, they not only protect themselves but also contribute to the overall safety culture of the organization.

Non-compliance with safety regulations can have devastating effects. For individuals, it can result in severe injuries, long-term health issues, or even fatalities. For organizations, non-compliance can lead to financial losses due to medical expenses, compensation claims, legal liabilities, and lost productivity. Additionally, accidents can damage the company's reputation and erode trust among employees and stakeholders (Graham et al., 2024).

Moreover, fostering a culture of safety compliance requires active involvement from both management and workers. Management must demonstrate a commitment to safety by providing regular training, conducting safety audits, and promoting open communication about safety concerns. Workers, on the other hand, need to be vigilant and proactive in following safety guidelines and reporting any potential hazards or unsafe practices (Neal et al., 2000; Zhao & Yan, 2023).

When employees do not adhere to safety rules and procedures, their actions are referred to as "unsafe acts" or "safety violations," as noted by Rahlin et al., (2019). Such behavior is considered hazardous because it can lead to accidents and other safety incidents in the workplace. Therefore, compliance should be seen as an essential part of one's formal job responsibilities. In contrast, safety participation involves self-motivated safety behaviors that go beyond traditional work-related duties, as highlighted by Rahlin et al., (2019). This distinction emphasizes the importance of cultivating a safety-oriented culture that promotes proactive engagement in safety practices beyond mandated protocols and regulations, thereby enhancing overall workplace safety and well-being.

Ensuring safety compliance in an organization becomes uniquely challenging when employees are accustomed to a low incidence of injuries. Over time, if significant incidents are absent, the perceived importance of safety measures for employee well-being may diminish. Consequently, employees may prioritize other concerns, such as fair workload distribution and equal opportunities for training and career advancement. Without consistent reminders about potential injury risks, employees might shift their focus to advocating for other beneficial issues within the organization. Regularly disseminating safety-related messages in a supportive work environment helps maintain adherence to safety protocols, thereby protecting the collective welfare of all employees. This approach aligns with the principle that prioritizing safety not only safeguards individual employees but also enhances the overall success and sustainability of the company (Workhuman, 2023; ComplianceQuest, 2023; Frontiers, 2023).

Promoting safety compliance within organizations is crucial to highlight the importance of safety practices and consistently reinforce them among employees (Inyang et al., 2024). While compliance-based safety cultures are necessary, they have limitations, suggesting the need for a broader approach rooted in system safety concepts (Floyd II, 2024). Penalties for safety violations are vital in maintaining a secure work environment, especially in high-risk industries where strict adherence to safety regulations is essential for both employee welfare and organizational well-being (Youn et al., 2024).

Compliance serves as an effective control tool to prevent corruption and economic damage by monitoring activities against national legislation and identifying risks early on (Sanina & Gulyaeva, 2024). By cultivating a culture that prioritizes safety, organizations can efficiently enforce safety measures and penalties for non-compliance, ensuring a safe and secure work environment for all employees.

2.2. Management Commitment to Safety

The commitment of the management is important for many areas of the company. It is emphasized that strong safety leaders encourage a positive safety culture by setting an example of dedication and influencing every action taken to guarantee safety inside the company (Hu, 2022). Moreover, improving the firm development environment, lowering employee attrition, and enhancing market competitiveness all depend on organizational commitment under human resource management. To improve organizational commitment, tactics such creating equitable remuneration structures, creating goals for sustainable development, and cultivating a happy work environment are suggested

(Timbang et al., 2023a). Furthermore, the correlation between strategic human resource management techniques and employee commitment is underscored, demonstrating that the impact of HRM methods on organizational success indicators is mediated by employee commitment. All things considered, organizational performance, worker retention, and safety depend heavily on management commitment to safety.

The commitment of management is essential in establishing a strong safety culture within an organization, ensuring that safety is a core value influencing decisions and behaviors at all hierarchical levels. Research by (Inyang et al., 2024a) suggests that a decline in safety compliance can often be linked to the organization's philosophies, expectations, decision-making processes, and safety beliefs. These elements work together to foster a strong organizational dedication to safety among all Workers. Conversely, a lack of emphasis on daily safety practices, safety policies, and operational procedures by management can lead to a decline in safety compliance and an increase in accident rates within the organization (Ricci et al., 2022). Therefore, it is crucial for organizations to actively manage and promote these aspects to ensure a safe working environment and mitigate safety risks effectively.

To gain employee acceptance of the safety climate, an organization's unwavering commitment to a safe workplace is crucial, as highlighted by (Nurbaya & Hasan, 2023a). A proactive approach to safety can significantly benefit the organization by reducing downtime caused by accidents (Shen et al., 2023). Strengthening the vertical relationship between top management and workers promotes mutual understanding and a safer work

environment, increasing workers' hazard awareness and demonstrating a strong organizational commitment (Steward, 2022). Nurbaya and Hasan, (2023) argue that engaging in safety promotion efforts cultivates a sense of dedication among workers to meet safety expectations, reflecting the organization's commitment and accountability under management's leadership. When workers are actively involved in safety initiatives, it positively impacts their perception of management's dedication to safety (Chukwuma, 2022). Therefore, prioritizing safety standards and ensuring everyone in the organization is invested in safety roles is vital (De Bakker Castro, T. 2023)

Management commitment to safety is a critical factor in shaping workers' perceptions of safety priorities and adherence to safe practices (Nurbaya & Hasan, 2023b). When supervisors prioritize safety and involve workers in safety activities like behavior-based safety observations and inspections, employees are more likely to view safety as a primary concern (Timbang et al., 2023). Research emphasizes the positive impact of safety leadership on workers' safety consciousness and behavior, highlighting the importance of safety leaders in influencing workplace safety culture (Kim & Kim, 2023). Additionally, advancements in technology, such as smart personal protective equipment, offer innovative solutions to enhance workplace safety by monitoring compliance and providing real-time alerts to ensure adherence to safety protocols (Pravin Tathod & Mrityunjay Singh, 2024). These findings underscore the significance of management involvement, technological advancements, and employee engagement in fostering a strong safety culture and improving safety performance in various industries.

Management's commitment to safety significantly influences employee behavior and outcomes, such as safety citizenship, performance, and injury rates, as demonstrated by Rwigema (2022). Twomey (2021) found that workers generally have a favorable view of managerial commitment in workplaces with low injury rates, while perceptions are negative in environments with high injury rates. Active upper management involvement in safety practices has been consistently linked to lower injury frequency rates in businesses (Abdul Rahim et al., 2023). This finding is supported by Pinion et al. (2017) and O'Toole (2002), who emphasize the crucial role of leadership in promoting a safe work environment. Additionally, management coaching and empathy towards workers have been shown to foster safe work practices and increase engagement in safety activities (Juba, 2024). Parker and colleagues highlighted the significance of these factors in creating a workplace culture that prioritizes safety and enhances employee well-being. By integrating these practices, organizations can not only reduce injury rates but also improve overall safety performance and employee engagement.

Management's commitment to safety is a key factor that influences safety performance and culture within organizations. Research across various sectors including small and medium-scale enterprises (SMEs) in Nigeria (Inyang et al., 2024), cleaning staff at PT WIS Malang (Nurbaya & Hasan, 2023b), construction sites (Nik Him et al., 2023), and hospitals in Makassar (Perdana P & Bulandari, 2023) highlights the significant positive impact that management commitment has on safety outcomes. This commitment is linked to enhanced safety behaviors, adherence to safety protocols, and higher levels of employee job satisfaction.

Strong management dedication is crucial in shaping safety awareness, leadership, and the overall safety climate within an organization. Effective safety leaders are committed to fostering a positive safety culture, which, in turn, improves safety performance and lowers the risk of workplace accidents (Timbang et al., 2023).

2.2.1 Relationship between Safety Compliance and Management Commitment to Safety

Safety compliance in various industries is closely linked to management commitment to safety. Studies in Nigeria, Indonesia, and Malaysia emphasize the pivotal role of management commitment in shaping safety compliance within small and medium-scale enterprises (SMEs) (Inyang et al., 2024), construction sites (Das et al., 2023), and manufacturing sectors (Abdul Rahim et al., 2023). The research findings highlight that strong management commitment influences not only safety compliance but also worker satisfaction with safety programs, ultimately contributing to improved safety performance and a positive safety culture (Abdul Rahim et al., 2023; Das et al., 2023; Inyang et al., 2024b). These studies underscore the significance of top management's dedication to promoting workplace safety, which in turn fosters a safer and healthier work environment, reduces accidents, and enhances overall safety outcomes.

2.3. Safety Training

Safety training is vital in numerous industries to prevent workplace accidents and increase awareness of safety protocols. Studies indicate that effective safety training can significantly address workers' knowledge gaps, leading to a reduction in accidents, particularly on construction sites (Shringi et al., 2023). Furthermore, tailored safety

training programs designed for specific professional needs, such as those for visiting nurses, are crucial for managing various safety challenges in their respective work environments (Kim & Kim, 2023).

In addition to traditional training methods, the integration of advanced technologies like extended reality (XR) has been investigated to enhance the effectiveness of safety training. Augmented reality (AR) visualizations, in particular, have proven to be beneficial for knowledge retention (Shringi et al., 2023). However, it remains essential to continuously assess and refine safety training approaches to ensure they adequately prepare individuals for compliance with safety regulations and effectively reduce workplace accidents.

Safety training plays a crucial role in organizations by proactively identifying and mitigating potential hazards and risks, ultimately minimizing or eliminating them (Barbosa, 2023). To enhance safety and health compliance, it is essential for organizations to develop a comprehensive safety and health training plan that aligns with their safety objectives (G. Mujtaba & A. Kaifi, 2023). Involving workers in the development of safety and health programs is emphasized as a strategy to overcome resistance to safety practices (G. Mujtaba & A. Kaifi, 2023). Workers who can recognize risks in their environment are more likely to adhere to safety standards, leading to early incident detection and effective management (G. Mujtaba & A. Kaifi, 2023). Moreover, employees with a strong safety mindset can identify potential hazards and unsafe behaviors, comprehend the consequences better, and consequently reduce the risk of injuries or accidents (G. Mujtaba & A. Kaifi, 2023).

Effective safety training programs are essential for aligning workers with organizational safety system requirements, as emphasized by Mujtaba et al. (2023). These programs should be designed to meet the needs of both new hires and seasoned employees, integrating them seamlessly into a comprehensive safety management system (Mujtaba et al., 2023). By equipping workers with the necessary knowledge to perform their tasks safely, safety training not only enhances their understanding of safety protocols but also fosters greater engagement and motivation. This, in turn, ensures adherence to safety standards, thereby reducing the risk of accidents and incidents in the workplace (Mujtaba et al., 2023).

Moreover, the role of cognitive processes in safety training is critical. Cognitive failures during training can result in near-misses or actual accidents on-site, underscoring the need for effective hazard identification and prevention strategies (Rafindadi et al., 2023). Therefore, a thorough and continuous approach to safety training is vital for maintaining high safety standards and promoting a secure and healthy work environment for all stakeholders. This ongoing training helps to reinforce safety knowledge, keeps workers updated on the latest safety practices, and ensures that safety remains a top priority within the organization.

A learning environment that helps workers understand their tasks precisely significantly enhances their ability to perform their jobs safely (Ajzen, 2021). When workers have a clear understanding of their responsibilities and the associated safety protocols, they are better equipped to execute their tasks without risking injury. This understanding is a foundational element in developing a safety-conscious workforce.

Vinodkumar & Bhasi, (2010) argue that when a company effectively improves its workers' safety compliance skills and provides them with essential safety knowledge through comprehensive training, managing and predicting the likelihood of accidents becomes more feasible. Effective training programs ensure that employees are not only aware of the safety protocols but are also proficient in applying them in their daily tasks. This proficiency reduces the chances of human error, which is often a significant factor in workplace accidents. Moreover, the ability to predict and manage potential accidents allows organizations to implement preventative measures more effectively, thereby creating a safer working environment.

Training is crucial in aligning the knowledge and operational requirements of a task while prioritizing safety, which serves as a unifying factor in this context (Pfeffer & Veiga, 1999). Comprehensive training programs should cover both theoretical knowledge and practical skills, ensuring that workers are well-versed in the safety measures specific to their roles. This alignment helps to unify the organization's approach to safety, creating a consistent standard that all employees can adhere to. By doing so, it fosters a culture of safety where every worker understands their role in maintaining a safe workplace.

A positive attitude shift towards safety compliance can lead to constructive changes in safety-related behaviors among workers, requiring a deeper understanding of prescribed safety protocols. This understanding enables workers to perform their duties in accordance with safety standards and actively participate in safety initiatives (Pfeffer & Veiga, 1999). When workers are engaged and motivated to follow safety protocols, they are more likely

to exhibit behaviors that promote a safe working environment. This engagement is further enhanced by a supportive management team that prioritizes safety and encourages open communication about safety concerns.

In summary, effective safety training programs are vital for creating a learning environment that enhances workers' understanding of their tasks and associated safety protocols. By improving safety compliance skills and providing essential knowledge, these programs help predict and manage accidents, align task requirements with safety priorities, and foster a culture of proactive risk management. This comprehensive approach not only ensures compliance with safety standards but also actively involves workers in maintaining and promoting a safe and healthy workplace.

2.3.1 The Relationship between Safety Compliance and Safety Training

Every successful business, accident prevention program, and occupational safety and health program requires adequate safety training (Vinodkumar & Bhasi, 2010). To enhance the standard of safety and health for all workers, companies should establish a systematic, comprehensive safety and health training program for new hires, assign mentors to these individuals, and employ a supportive system to help new workers acclimate to safety, health, and quality systems (Vredenburgh, 2002). Research indicates that firms with low accident rates provide proper safety training for their workers (Zohar, 2008). Effective safety training can lead to increased employee safety compliance and fewer workplace accidents.

To further elaborate, the importance of safety training in fostering a safe working environment cannot be overstated. Vinodkumar and Bhasi (2010) emphasize that a well-structured safety training program is foundational for any organization aiming to maintain high safety standards. This training should not only cover the basic safety protocols but also include regular updates and refreshers to keep all employees informed about the latest safety practices and regulations. This continuous learning approach ensures that safety knowledge remains current and relevant, thereby reducing the likelihood of accidents.

Vredenburg (2002) suggests that a mentor system is particularly effective in integrating new hires into the organization's safety culture. Mentors can provide personalized guidance, share practical insights, and reinforce the importance of safety practices. This one-on-one interaction helps new employees feel supported and valued, which can significantly enhance their commitment to safety protocols. Additionally, a kind and supportive system for acclimating new workers ensures that they do not feel overwhelmed and can gradually build their understanding and compliance with safety and health standards.

According to Zohar (2008), companies with low accident rates typically have robust safety training programs in place. These programs not only educate employees about safety procedures but also actively engage them in safety initiatives. By involving workers in safety committees, regular safety meetings, and hazard identification exercises, companies can foster a proactive safety culture where everyone takes responsibility for maintaining a safe workplace.

Effective safety training can lead to increased safety compliance among employees. When workers understand the importance of safety measures and how to implement them correctly, they are more likely to follow safety protocols consistently. This compliance reduces the risk of accidents and creates a safer working environment for everyone. Moreover, a reduction in workplace accidents can lead to numerous benefits for the organization, including lower insurance premiums, reduced downtime, and improved employee morale.

In summary, establishing a comprehensive safety and health training program is essential for any organization committed to maintaining a safe and healthy work environment. By providing proper training, mentoring new hires, and fostering a supportive safety culture, companies can significantly reduce accident rates and enhance overall safety compliance. This proactive approach not only protects workers but also contributes to the long-term success and sustainability of the business.

2.4. Worker Involvement in Safety

Workers' involvement in safety refers to the active engagement of workers in safety-related tasks and decision-making processes within an organization. This engagement, as noted by Vinodkumar and Bhasi (2010), integrates individuals and groups within the organizational framework, promoting effective communication and participation in decision-making. The importance of this engagement lies in its significant impact on overall company success, as it enhances employee satisfaction. Participation in workplace safety involves workers actively contributing to maintaining a safe working environment

through actions such as helping to develop safety protocols, making decisions to improve safety standards, receiving safety training, and undergoing health inspections, as discussed by (Wu et al., 2010). Pliner et al., (2017) found an inverse relationship between employee participation and the occurrence of accidents and near misses. Similarly, Hahn and Murphy (2020) linked job engagement to better adherence to safe work practices, reduced exposure to environmental stressors, stricter compliance with safety regulations, and lower accident rates.

Further supporting this, (Fernández-Muñiz et al., 2009) highlighted that employee behavior and active safety involvement significantly enhance management's commitment to safety practices, leading to a safer work environment. Aksorn and Hadikusumo, (2008) studied Thai construction workers and concluded that worker participation is crucial for the successful implementation of safety measures in the Thai construction sector. Ali et al. (2020) found a strong connection between employee engagement and accident rates in Malaysian enterprises. (Vinodkumar & Bhasi, 2010) used structural equation modeling to reveal a negative association between worker involvement in safety measures and self-reported accident rates in the Indian chemical industry. Boughaba et al., (2014) emphasized employee participation as a key determinant of an organization's safety culture, significantly influencing safety compliance outcomes. This culture is characterized by management's unwavering commitment to safety practices and workers' active promotion and adherence to safety standards.

Finally, the study by Hajmohammad and Vachon, (2014) describes a company's safety climate as one where management demonstrates a strong dedication to safety, safety is a

top organizational priority, and workers consistently follow safety protocols and procedures. The study suggests that safety climate can be viewed as a unidimensional construct, though numerous studies, including those by Hajmohammad and Vachon, (2014), have approached organizational safety climates similarly. Overall, workers' involvement is crucial for fostering a robust safety culture, which in turn leads to a safer work environment.

2.4.1 The Relationship between Safety Compliance and Workers Involvement in Safety

Workers close to the workplace are best prepared to provide proposals for improvements, so they should be considered before making final choices, especially those affecting workers (Vredenburg, 2002). This ensures that the safety committee, composed of employers and workers, can effectively promote a safe culture. Employee empowerment, which provides authority, responsibility, and accountability for necessary decisions, ensures that both workers and management are involved in creating goals and objectives (Vinodkumar & Bhasi, 2010).

Worker participation in safety management has been highlighted as crucial by recent studies, including those by Tymoshuk et al., (2023), Triantafillidou and Koutroukis, (2022), Belmore and Gumasing (2023), Boczkowska et al. (2022), and Christiano (2022). These studies emphasize the positive impact of employee involvement in safety and health activities on safety awareness and compliance. The research indicates that active participation of workers in decision-making processes related to safety not only enhances

safety culture but also contributes to a committed workforce, improved safety attitudes, and a reduction in occupational hazards. By engaging employees in safety management, organizations can create a safer work environment, increase safety consciousness, and ultimately prevent accidents and injuries effectively, aligning with the goal of promoting a culture of safety and health in the workplace.

This involvement of workers in safety-related decisions is crucial as it leads to a more engaged and committed workforce. By involving employees in the decision-making process, organizations can benefit from the practical insights and firsthand experiences of those who are most familiar with the workplace hazards and safety needs. This approach not only improves the relevance and effectiveness of safety measures but also fosters a sense of ownership and accountability among employees.

Furthermore, Vinodkumar & Bhasi (2010) highlight that empowering employees by giving them the authority and responsibility to make safety-related decisions ensures that safety goals and objectives are collaboratively developed and supported by both workers and management. This collaborative approach helps in creating a unified safety culture where all members of the organization are aligned in their commitment to maintaining a safe work environment.

Flynn et al., (2018) adds that employee participation in safety and health activities significantly boosts safety awareness. When workers are actively engaged in safety programs, they become more aware of potential hazards and the importance of following

safety procedures. This heightened awareness translates into better safety compliance and a reduction in workplace accidents.

2.5 Summary

This section builds on previous scholarly studies to support the relationship between safety management practice dimensions and safety compliance. Numerous studies have described a number of safety management strategies in organizational contexts, such as management commitment to safety, safety training, and worker involvement in safety, which have been linked to safety compliance with safety rules and regulations



CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

A vital component of any research project is research technique, which includes the methodical analysis of research problems and information acquisition. To effectively address certain research topics, it entails understanding a variety of research methods, approaches, and strategies. Based on the specific study challenge at hand, researchers must choose relevant methodologies, evaluate data, and make acceptable approach selections. Depending on the nature of the research problem, many methodologies may be selected; each case must have a customized strategy. Furthermore, case selection, data collecting, analysis techniques, and ethical concerns are critical to guaranteeing the integrity and caliber of the study process. In general, research methodology provides a framework for directing researchers as they negotiate the intricacies of their studies and make significant contributions to their domains.

3.1. Research Framework

A research framework is an organized method that helps researchers place their work in a larger context and advance a particular subject of study. Collaboration and the organization of various research projects are facilitated by it (Uddin et al., 2019). In interdisciplinary science, research frameworks are essential for investigating the dynamics of collaboration, academic impact, and the evolution of knowledge (Mohringer & Stetter, 2010). Within a particular theoretical framework, they aid in the formulation of research

questions, the definition of theoretical ideas, and the creation of research protocols (Burck, 2005). Furthermore, research frameworks are essential for assessing the efficacy and validity of models that direct legislative reforms, like the insolvency laws that are implemented in Asian nations. Additionally, frameworks are necessary for creating infrastructure and tools needed for computer vision research's detection classifier experiments.

Research frameworks provide a structured approach that guides researchers in defining the scope and direction of their studies. According to Uddin et al. (2019), these frameworks facilitate collaboration and organization by providing a common structure that different projects can follow, ensuring consistency and coherence across related research endeavours. This is particularly valuable in interdisciplinary science, where frameworks help explore collaboration dynamics, measure academic impact, and track the evolution of knowledge (Mohringer & Stetter, 2010).

Within any given theoretical framework, research frameworks assist in formulating specific research questions, defining theoretical concepts, and developing detailed research protocols (Burck, 2005). This structured approach is crucial for ensuring that research is methodologically sound and that the findings are valid and reliable. For instance, frameworks are indispensable for evaluating the effectiveness and validity of models that guide legislative reforms, such as insolvency laws in Asian countries, ensuring that these models are robust and applicable in real-world scenarios.

Additionally, research frameworks are vital in technical fields like computer vision, where they help in creating the necessary infrastructure and tools for experiments with detection classifiers. By providing a clear outline and methodology, these frameworks ensure that experiments are systematically conducted and that the results are replicable and verifiable, thus advancing the field of computer vision research.

Figure 3.1 depicts the relationship between the various components described in this project paper's framework. There is an obvious link between these theoretical frameworks. There is a direct link between management commitment to safety, safety training, and worker involvement in safety and safety compliance.

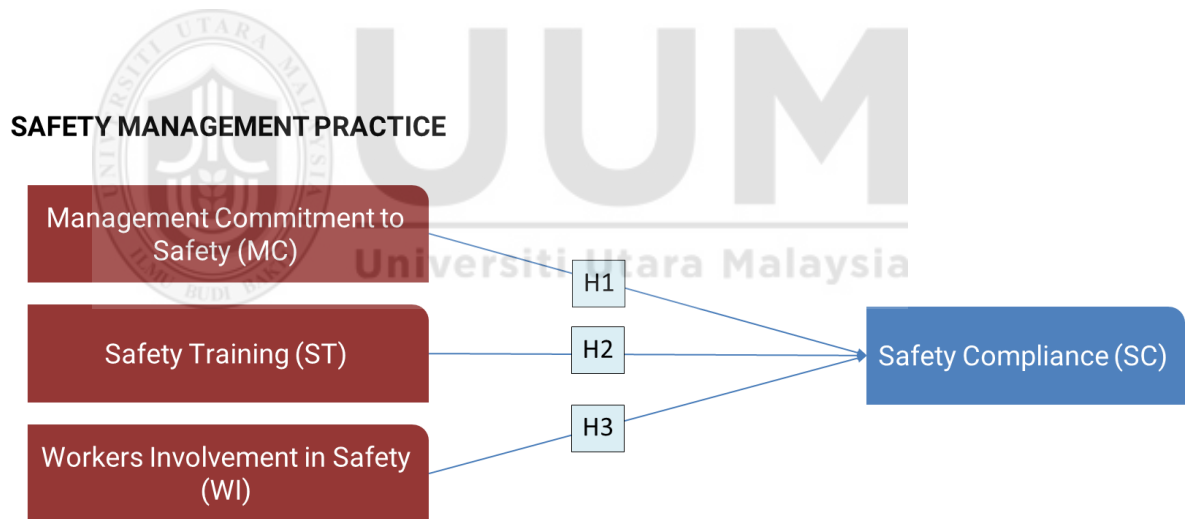


Figure 3.1:
Conceptual Research Framework

3.2. Research Hypotheses

Sekaran and Bougie (2016) describe a research hypothesis as a well-defined statement indicating the relationship between two or more variables, based on the study's theoretical framework. This hypothesis forms the basis for empirical investigation aimed at finding solutions or addressing existing issues in the field. Based on the research questions and objectives, the researcher has formulated three hypotheses to be tested as follows:

- i. Hypothesis 1 (H1): There is a significant relationship between management commitment to safety and safety compliance
- ii. Hypothesis 2 (H2): There is a significant relationship between safety training and safety compliance
- iii. Hypothesis 3 (H3): There is a significant relationship between workers involvement and safety compliance.

These hypotheses will be tested through empirical research to explore the defined relationships and provide insights into the research problem.

3.3. Research Design

In the realm of data collection, measurement, and analysis, one of the critical factors is the meticulous design of the study itself. This design serves as a foundational blueprint aligned with the research objectives, shaping the entire process from data collection to analysis (Sekaran and Bougie, 2016). Its primary role lies in ensuring that the data gathered provides precise and reliable responses, highlighting its essential role in the research journey. This segment explored further details on the study's nature, data sources,

analytical approach, sampling framework, population, and methodologies, all of which collectively enhanced the robustness of the research endeavor.

The study in question adopted a cross-sectional design, utilizing a one-time data collection method, which was strategically chosen to accommodate the temporal and financial constraints of the research (Sekaran and Bougie, 2016; Trevena et al., 2012). Among various data collection methods available, the questionnaire was favored for its efficiency in swiftly gathering information from a diverse group of respondents (Rowley, 2009). By employing a quantitative research approach, the researcher can effectively explore correlations between variables and investigate causal relationships, thereby scrutinizing the study's hypotheses through a rigorous methodological lens (Coolican, 2018).

Furthermore, this research methodology allows for large-scale studies, with data compiled into charts or graphs to yield valuable statistical insights (Aliaga & Gunderson, 2000). Importantly, the use of quantitative methods in this study aims to validate the generalizability of findings to the target population, a practice rooted in prior research, particularly in training-related projects (Hicks, 2019; Kirwan & Birchall, 2019; Simosi, 2019).

3.4. Operational Definition

Table 3:1
Operational Definition

Variable	Operationalization of Definition	Items	Sources
Dependent Variable	The worker's adherence to safety procedures and carrying out work in a safe manner	Safety Compliance	Neal & Griffin, (2000)
Independent Variables	Policies, procedures, activities and strategies followed or implemented by the management of an organization targeting safety of their employee.	Safety Management Practices	Vinodkumar & Bhasi, (2010).
Independent Variables	The responsibility or concern shown by senior management on the importance of safety, awareness of safety practices, safety checks, the use of safety equipment and the way in which management affirms the importance of safety practices for employees	Management Commitment to safety	Subramaniam, Zin, & Nadir, (2013).
Independent Variables	Defined as knowledge of the safety of the given to employees so that with training that they obtained will work with Safe and Harmless to well-being	Safety Training	Law, Chan and Pun (2006)
Independent Variables	Behavioral technique involving individuals or groups in the organization's upward communication and decision - making processes and the amount of participation may range from non - participation, if the supervisor makes all decisions, to full participation, if everyone is involved in the decision or is affected by it.	Worker Involvement in safety	Vinodkumar & Bhasi, (2010).

3.5 Sampling Technique

Sampling strategies are pivotal in research, significantly influencing study outcomes and the overall validity of findings. Researchers aim to ensure equitable representation and

understanding of population characteristics through systematic sampling methods. According to Sekaran and Bougie (2016), sampling involves the systematic selection of elements from a population, focusing on enhancing understanding of population characteristics.

This study employed a simple random sampling technique, conducting random selections manually in both office and field settings to ensure a diverse and representative sample. The data collected was subsequently analyzed using the Statistical Package for the Social Sciences (SPSS), a powerful tool known for its ability to manage and analyze large datasets. It is crucial for researchers to align statistical analyses with their research objectives and accurately define the target population, as emphasized by Begum and Ahmed (2020).

3.5.1 Population

According to Zikmund (2012), a study population includes individuals or entities whose characteristics are recognized to align with the variables being studied. Sekaran and Bougie (2016) define "population" as a large group of individuals or organizations that hold potential interest for researchers, emphasizing that it encompasses significant individuals, events, or circumstances relevant to the study. The population's importance is crucial as it profoundly influences the outcomes of research.

Therefore, the target group of this study consists of employees at TM Kedah Perlis. The survey population size is limited to respondents in multiple units at TM Kedah Perlis, including Network Operation, SMOSHE, Unifi Retail (TMPoint), TMOne State,

Consumer & SME, Facilities Management, Network Development, and Menara Alor Setar. There are eight departments/units available in TM Kedah Perlis, collectively employing 589 workers who fit the definition put forward in this study. The breakdown of the study population by department/units is shown in Table 3.2.

Table 3.2:

Total Number of Department/Units and Employees at TM Kedah Perlis

Bil	Department/Units	No of Staff
1	Network Operation	375
2	SMOSHE	18
3	Unifi Retail (TMPoint)	50
4	TMOne State	25
5	Consumer & SME	35
6	Facilities Management	14
7	Network Development	40
8	Menara Alor Setar	32
Total		589

Source: Human Capital Business Development (HCBD) Northern Region YTD Jan 2024

3.5.2 Sampling Size

A sample is a subset of the target population made up of randomly selected individuals (Sekaran & Bougie, 2016). Gall et al. (2019) conceptualize a sample as a subset of a clearly defined population. Furthermore, this study employs a simple random sampling approach as its sampling strategy. Before commencing the sampling process, the study's population must be clearly identified. The chart produced by Krejcie and Morgan (1970), which specifies the appropriate number of samples to be selected, will serve as the basis for sample selection.

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

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

Figure 3.2:
Krejcie & Morgan Table 1970

The sample size is determined using the Krejcie and Morgan tables. As a result, TM Kedah Perlis currently employs **589 people** in total. According to the table, **234 personnel** from various departments/units at TM Kedah Perlis will comprise the sample size for this study. This section described how the questionnaire was distributed to all levels and ranks. In conclusion, it is expected that this study would provide participants with a better understanding of how the Telecommunication Industry perceives specific safety management practice dimensions and safety compliance.

3.6. Data Collection Procedure

There are two types of data collection sources: primary and secondary (Sekaran and Bougie, 2016). Primary data gathering involves a pilot test of the suggested variables to evaluate their reliability and scalability. Secondary data collection is the process of obtaining information directly from respondents.

In this quantitative investigation, data are collected via a questionnaire. This study required multiple steps to be completed. The most crucial thing is to have department/unit management's consent. Following approval, questionnaires are given to all respondents. As per this study, **234 sets of questionnaires** were distributed among randomly selected workers at TM Kedah Perlis.

3.7. Research Measurement

To meet the study's objectives, a quantitative methodology was used, specifically a survey method. In addition, this analysis included both probability and random sampling methods. Furthermore, the unit of analysis in the study was the individuals who represented the organization, and printed copies of the questionnaires were sent to the workers at TM Kedah Perlis. The findings and conclusion of the analysis are based on and use statistical data collected and analysed using the Social Sciences Statistics Package version 29.0 (SPSS 29.0).

Table 3.3:
Sources of Items for each Variable

Section	Sources	No of Question
Dependent Variable 1. Safety Compliance	Vinodkumar & Bhasi, (2010)	7
Independent Variable 1. Management Commitment to Safety	Vinodkumar & Bhasi, (2010)	9
2. Safety Training	Vinodkumar & Bhasi, (2010)	6
3. Workers Involvement in Safety	Vinodkumar & Bhasi, (2010)	5

Furthermore, all of the created objects were adopted from (Vinodkumar & Bhasi, 2010) and altered for use in this study. For example, seven (7) items came from the dependent variable of safety compliance, followed by twenty (20) items from the three safety management practice dimensions of Management Commitment to Safety, Safety Training, and Workers Involvement in Safety.

Table 3.4:
Measurement of Variable or Instrumentation

Section	Sources	Mesure	No of Question
Section A: Management Commitment to Safety	Vinodkumar & Bhasi (2010)	1. Safety is given high priority by the management	9
		2. Safety rules and procedures are strictly followed by the management	
		3. Corrective action is always taken when the management is told about unsafe practices	

		4. In my workplace managers/supervisors do not show interest in the safety of workers	
		5. Management considers safety to be equally important as production	
		6. Members of the management do not attend safety meetings	
		7. I feel that management is willing to compromise on safety for increasing production.	
		8. When near-miss accidents are reported, my management acts quickly to solve the problems	
		9. My company provides sufficient personal protective equipments for the workers.	
Section B: Safety Training	Vinodkumar & Bhasi (2010)	1. My company gives comprehensive training to the employees in workplace health and safety issues.	6
		2. Newly recruits are trained adequately to learn safety rules and procedures.	
		3. Safety issues are given high priority in training programmes.	
		4. I am not adequately trained to respond to emergency situations in my workplace.	

		5. Management encourages the workers to attend safety training programmes.	
		6. Safety training given to me is adequate to enable to me to assess hazards in workplace.	
Section C: Workers Involvement in Safety	Vinodkumar & Bhasi (2010)	1. Management always welcomes opinion from employees before making final decisions on safety related matters.	5
		2. My company has safety committees consisting of representatives of management and employees.	
		3. Management promotes employees' involvement in safety related matters.	
		4. Management consults with employees regularly about workplace health and safety issues.	
		5. Employees do not sincerely participate in identifying safety problems.	
Section D: Safety Compliance	Vinodkumar & Bhasi (2010)	1. I use all necessary safety equipments to do my job.	7
		2. I carry out my work in a safe manner.	
		3. I follow correct safety rules and procedures while carrying out my job.	

		4. I ensure the highest levels of safety when I carry out my job.	
		5. Occasionally due to lack of time, I deviate from correct and safe work procedures.	
		6. Occasionally due to over familiarity with the job, I deviate from correct and safe work procedures.	
		7. It is not always practical to follow all safety rules and procedures while doing a job.	

3.8. Pilot Study

The pilot study was conducted to assess the reliability of the instrument utilized in the research projects. According to Leon et al. (2019), in large-scale investigations, the pilot study is used to assess the feasibility of a suggested approach. The customized questionnaire utilized in this study was in English. Because all of the sample members are Malaysians with diverse cultural and educational backgrounds, a bilingual questionnaire form was employed to assist respondents who are not fluent in English.

The first 30 respondents were chosen from workers at TM Kedah Perlis. This test is designed to verify the proposed questionnaire's quality, detect any issues that may arise while testing the validity and reliability, and calculate the actual time required for the respondent to answer the question. According to the Institute for Digital Research and

Education, Cronbach's alpha is used to determine internal consistency in the form of dependability, which is how closely linked a group of items is.

Table 3.5:
Reliability Coefficient of Questionnaire Item of Variables

Variable	Number of Item	(r)
Safety Compliance	7	0.891
Management Commitment to Safety	9	0.732
Safety Training	6	0.853
Workers Involvement in Safety	5	0.748

Source: Statistical Package for the Social Sciences 29.0 (SPSS 29.0)

Before commencing a broader investigation, conducting a pilot study is essential to identify potential issues, as underscored by Alam (2019) and Doug et al. (2019). Cooper and Schindler (2019) recommend that a pilot study typically involves 25 to 100 participants to gauge initial responses and test questionnaire reliability. In this study, a pilot test was conducted with 30 respondents who received a physically distributed questionnaire. The main aim of the pilot study was to solicit responses and assess the reliability of the variables being studied. Internal consistency, assessed using methods like Cronbach's Alpha coefficient, was employed to measure how well items in a scale capture the core attributes of the variables, a practice noted by Cavaba et al. (2019) and Sekaran and Bougie (2016).

Table 3.6

Internal Consistency of Cronbach's Alpha

Cronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Source: Coefficient alpha and the internal structure of tests by Cronbach, L. J. (1951).

According to recent guidelines, achieving an internal consistency or composite reliability score above 0.70 indicates high reliability, particularly when validating established scales (Nunally, 2019). Additionally, Hair et al. (2006) suggest that a reliability coefficient of 0.60 or higher is generally acceptable in this type of research.

A Likert Scale is a psychometric scale that is frequently used in surveys to assess attitudes, views, and behaviors. It is made up of a sequence of assertions that respondents are asked to evaluate, usually in terms of how much they agree or disagree with each item. A typical Likert scale includes the following elements:

- a. **Statements:** These are declarative sentences related to the topic being measure.
Each statement represents a particular attitude, opinion, or behavior.
- b. **Response Options:** Respondents are provided with a range of options that reflect their level of agreement or disagreement with each statement.

Further elaboration for the 5-Point Likert Scale defined as per Table 3.7:

Table 3.7:
Likert Scale

Likert Scale	5-Point Likert Scale
	1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

A 5-point Likert scale was employed to evaluate the attitudes and perceptions of respondents. This rating scale, widely known as the Likert scale, is highly favored in survey research because it offers a range of options that enable respondents to express their level of agreement or disagreement with various statements. By providing this array of choices, the Likert scale allows for nuanced responses, capturing different degrees of sentiment among participants.

Additionally, this balanced scale measures attitudes with equally spaced intervals, simplifying data analysis and interpretation. The 5-point Likert scale is particularly beneficial in social sciences and business research, as it helps quantify subjective data and converts qualitative responses into measurable metrics, as demonstrated in a study by Joshi et al. (2015).

3.9. Summary

This chapter addressed the creation of the research model for this investigation. All phases were thoroughly outlined, describing the research procedure from beginning to end. This chapter discusses the sampling process, questionnaire preparation, and data collecting. In addition, the questionnaire's testing procedure is outlined, as are the monitoring actions to be done to achieve the best results. Finally, the tool for observing and analyzing the acquired data was highlighted.



CHAPTER FOUR

ANALYSIS AND FINDING

This chapter described the research findings and give the conclusions drawn from the data analysis. The findings were attained using statistical techniques intended to meet the study's goals. The Statistical Package for the Social Sciences (SPSS) Version 29.0 was used to examine the data. The narrative given in this section depends on the data that participants provided on the survey. A comprehensive examination was conducted on the data, which included correlation, normalcy, descriptive, and reliability testing.

The clarifications supporting these studies are carefully arranged to promote a thorough comprehension. While normality tests were performed to assess data distribution, reliability evaluation was utilized to use alpha coefficient values to determine the precision of all questionnaire items. After then, statistical analysis was used to show how frequently each variable occurred. In order to determine the demographic profile of the respondents including age, gender, educational background, and duration of service within the organization frequency and percentage analyses were also conducted. The existence of links between the independent and dependent variables was then ascertained using Pearson Correlation.

4.1 Response Rate

The response rate of a survey is a critical metric in determining the reliability and validity of the collected data. A high response rate indicates robust engagement from participants, suggesting that the findings are likely representative of the target population (Nulty, 2008). Conversely, a low response rate can introduce bias, as it may reflect a lack of interest or engagement from certain segments of the population (Baruch & Holtom, 2008). During conducting data collection at TM, 134 workers participated, providing a substantial data set for analysis. Recent studies emphasize the importance of leveraging digital tools and personalized communication to boost response rates, highlighting that tailored follow-ups and engaging survey designs significantly improve participation rates (Fosnacht, Sarraf, Howe, & Peck, 2017). Ensuring participant confidentiality also plays a crucial role in obtaining meaningful and accurate results (Dillman, Smyth, & Christian, 2014). Table 4.1 provided below presents the percentage of responses attained in this research.

Table 4.1:
Respond Rate

No.	Item	Total	Percentage (%)
1.	Questionnaire Distributed	234	100
2.	Questionnaire Collected	158	68
3.	Questionnaire Used for Analysis	134	57

According to Allen (2017), the response rate in survey research was calculated by dividing the total number of respondents to the disseminated questionnaire by the total number of participants in the study sample. It is a mathematical formula that was computed to

determine the degree of success in receiving survey questionnaires that are fully filled; the result is often given as a percentage. The effective response rate for this study is 68%, as can be seen in the accompanying table. Johnson and Wislar's (2012) research indicate that results with a greater response rate more accurately reflect the target demographic. In addition, since more than 50% of the participants responded, this number is suitable for multivariate analyses (Babbie, 2004; Zikmund, 2012). As a result, this study's response rate is satisfactory.

4.2 Demographic Analysis

In this demographic analysis, the respondents who work for TM will be broken down into the number and percentage of each sociodemographic characteristic. This questionnaire includes the following sociodemographic details: gender, age, worker categories, year of work and education background. The study's demographic analysis was displayed in Table 4.2 below.

Table 4.2:
Demographic Respondent

Demographic	Frequency	Percentage (%)
Gender		
Male	92	68.7
Female	42	31.3

Age		
< 25 years old	3	2.2
25 - 35 years old	42	31.3
36- 45 years old	43	32.1
> 45 years old	46	34.3
Worker Category		
Non-Executive	90	67.2
Executive	26	19.4
Others	18	13.4
Education level		
≤ SPM	49	36.6
STPM / Diploma	46	34.3
Degree	32	23.9
Master/PhD	7	5.2
Years of Service		
< 5 years	9	6.7
6 - 10 years	39	29.1
11 - 15 years	23	17.2
> 15 years	63	47.0

Table 4.2 presents the socio-demographic classification for the 134 respondents. In terms of gender, the majority of the respondents were male, with a total of 92 individuals (68.7%), while females comprised 42 of the respondents (31.3%). This indicates a significant gender disparity among the participants. Regarding age distribution, the largest age group among the respondents was those aged 45 years and above, which included 46 individuals (34.3%). This was closely followed by the age group of 36-45 years, consisting of 43 respondents (32.1%). The next significant age group was those aged 25-35 years, with 42 individuals (31.3%). The youngest age group, those below 25 years, was the smallest, with only 3 respondents (2.2%). This age distribution highlights that the majority

of the respondents were middle-aged and older, with a smaller representation of younger workers.

Furthermore, in terms of years of service, the majority of respondents, 63 individuals (47%), had more than 15 years of experience, making this the largest group. This was followed by respondents with 6 to 10 years of experience, comprising 39 individuals (29%). Next, 23 respondents (17%) had 11 to 15 years of experience. Lastly, the smallest group was those with less than 5 years of experience, with only 9 respondents (7%). This distribution indicates that a significant portion of the workforce has extensive experience, with nearly half of the respondents having over 15 years of service, while fewer respondents are relatively new to the organization.

Regarding educational level, respondents held a variety of qualifications ranging from Sijil Pelajaran Malaysia (SPM), Malaysian Higher School Certificate (STPM) or Diploma, Bachelor's Degree, and Master's/PhD degrees. The results indicated a dominance of respondents with Sijil Pelajaran Malaysia (SPM) qualifications, totaling 49 individuals (37%). This was the largest group, suggesting that a significant portion of the workforce has completed secondary education.

Following closely were respondents holding STPM or Diploma qualifications, comprising 46 individuals (34%). This indicates a substantial number of employees have pursued higher secondary education or vocational training. Next, 32 respondents (24%) held a Bachelor's Degree or higher, showing a considerable presence of employees with tertiary education. Lastly, the smallest group was those with Master's or PhD degrees, with only

7 respondents (5%), indicating that a minority of the workforce has pursued postgraduate education.

This distribution highlights that while the majority of the workforce has foundational or intermediate educational qualifications, a significant number have also attained higher education degrees, contributing to the diverse educational background within the organization.

In terms of worker category at TM, respondents represented various positions and fields within the organization. The majority of respondents came from non-executive roles, with 90 individuals (67%) falling into this category. This indicates that a significant portion of the workforce involved in the study occupies non-executive positions, which may include technical staff, administrative personnel, and other support roles.

Following this, executives comprised 26 respondents (19%), representing a smaller yet substantial segment of the workforce in leadership or managerial positions. This group likely includes individuals responsible for overseeing operations, making strategic decisions, and managing teams.

The smallest group of respondents fell into the "other" category, with 18 individuals (14%). This category may include specialized roles or positions that do not fit neatly into the non-executive or executive classifications.

This distribution highlights the diverse range of positions held by the respondents and emphasizes the significant representation of non-executive employees in the study.

4.3 Normality Analysis

The data collected for this study underwent a normality analysis to guarantee the distribution of the data was normal. Berawi (2017) states that three different kinds of normality tests can be performed on statistical data: the Shapiro-Wilk test (Shapiro & Wilk, 1965), the skewness and kurtosis test, and the Kolmogorov-Smirnov test (Kolmogorov, 1956; Smirnov, 1936). These normality tests are used to confirm that the distribution of the data is normal.

The skewness and kurtosis analyses were employed to determine whether the data distribution was normal. While kurtosis provides information on the peakedness of the distribution curve, skewness sheds light on the symmetry of the mean data distribution.

The study's two values are shown in Table 4.3 below.

Table 4.3:
Skewness and Kurtosis Value

Variable	Skewness	Kurtosis
Safety Compliance	.326	.770
Management Commitment to Safety	-.490	-.251
Safety Training	-.825	.721
Worker Involvement in Safety	-.290	-.661

The normality analysis results indicate the following skewness and kurtosis values: for the dependent variable, safety compliance, skewness is 0.326 and kurtosis is 0.770. For the independent variables: management commitment to safety (-0.490 skewness, -0.251 kurtosis), safety training (-0.825 skewness, 0.721 kurtosis), and worker involvement in safety (-0.290 skewness, -0.661 kurtosis).

According to Groeneveld and Meeden's 1984 research, the ideal skewness and kurtosis values for normal data are 0. However, values within the range of +/- 2.0 are still indicative of normally distributed data. Based on these criteria, the skewness and kurtosis values observed in the current analysis strongly suggest that the data distribution likely follows a normal pattern.

4.4 Reliability of Variables

The study's measurement items underwent reliability analysis to determine their acceptability or level of dependability. The alpha coefficient, which ranges between 0 and 1, reflects how dependable the scale is. A Cronbach's alpha of 0.60 may be considered adequate in the case of exploratory study, whereas a value between 0.7 and 0.8 suggests a strong strength of association and between 0.8 and 0.9 shows an exceptional level of connection (Sekaran & Bougie, 2016, Hair et al., 2006).

During the SPSS analysis, two specific questions were identified as unreliable and subsequently removed from the dataset. The first question, from the Management Commitment section, was "Members of the management do not attend safety meetings."

This question was found to be unreliable due to inconsistent responses, which suggested that many respondents were not familiar with or involved in management safety meetings, thus not providing accurate reflections of the management's commitment to safety. The second question, from the Safety Training section, was "I am not adequately trained to respond to emergency situations in my workplace." This question was also deemed unreliable as many respondents indicated they were not involved in or aware of the emergency training processes, leading to inconsistent and non-representative data. The removal of these questions was necessary to ensure the overall reliability and validity of the survey data.

From the Table 4.4, the reliability study results for independent variables (management commitment to safety, safety training, and worker involvement in safety) and dependent variables (safety compliance) demonstrate that the Cronbach's alpha coefficient is more than 0.6, indicating that they are all reliable items.

Table 4.4:
The alpha coefficient value for variable

Variable	No of Item	Cronbach's Alpha Value In The Pilot Study (n=30)	Alpha coefficient value in actual study (n=134)
Safety Compliance	7	0.891	0.820
Management Commitment to Safety	9	0.732	0.723
Safety Training	6	0.853	0.887
Workers Involvement in Safety	5	0.748	0.758

4.5 Descriptive Statistics

In order to explain the minimum, median, mode, range, and standard deviation for each variable, Sekaran and Bougie (2016) state that descriptive statistical analysis is performed for each measurement of variable items. According to Trochim and Donnelly (2001), descriptive statistics are used to explain the fundamental properties of the data that have been gathered, including how the set of numbers appears in terms of central tendency and data dispersion.

Hair et al. (2006) state that the standard deviation is possibly the most useful indicator for dispersion since it reveals how the sample distribution deviates from the mean. The standard deviation indicates the degree to which the values deviate from the mean. A high standard deviation figure denotes a wide range of responses from respondents, while a low standard deviation denotes a narrow range of responses. A low standard deviation suggests that the opinions of the respondents are highly consistent. On the other hand, a larger projected standard deviation indicates that respondents' opinions are highly varied or diverse.

For this study, the mean score provides a more accurate representation of central tendency due to the high and regularly distributed sample size. A high mean value denotes a high level of the variable, whereas a low mean value denotes a lower level relative to all variables. The mean is a measure of average height. A six-point Likert scale is employed in this investigation. A mean value that is close to 5 is regarded as high, whereas one that

is close to 0 is seen as low. Thus, the mean and standard deviation for the variables in this study are displayed in Table 4.5.

Table 4.5:

Descriptive Statistical Analysis for The Variables

Variable	N	Mean	Standard Deviation
Safety Compliance	7	4.25	.601
Management Commitment	9	4.01	.433
Safety Training	6	3.91	.497
Worker's Involvement	5	4.14	.632

The mean and standard deviation for all variables was summarised in Table 4.5. The mean for all variables ranges from 3.91 to 4.25, with safety compliance being the highest at 4.25, followed by safety training at 3.91, while management commitment to safety are at 4.01. Based on the mean data obtained, it indicates that the majority of respondents strongly agree with all items in the questionnaire.

4.6 Hypotheses Testing

Hypothesis testing, as defined by Sekaran and Bougie (2016), entails rigorously testing whether if-then statements derived from the theoretical framework hold true. This approach elucidates specific relationships between variables, including the interplay between dependent and independent variables or other influencing factors. In the current study, correlation analysis was employed to assess the strength and direction of the relationship between dependent variables (safety compliance) and independent variables (management commitment to safety, safety training, and worker's involvement in safety).

4.7 Correlation Analysis

According to Pallant (2005), Pearson correlation analysis is used to explain the strength and direction of the relationship directly between variables. In this study, Pearson Correlation Analysis was conducted to identify the strength and direction of the relationship between dependent variables (safety compliance) and independent variables (management commitment to safety, safety training, and workers involvement in safety).

Table 4.6:
The Pearson Correlation Value

Range	Level
(r) = ± 0.10 to ± 0.29	Low
(r) = ± 0.30 to ± 0.49	Medium
(r) = ± 0.50 to ± 1.00	High

Sources: Cohen (1998) and Pallant (2005)

Pallant (2005) suggests that considerations in SPSS output include the magnitude of the Pearson Correlation Analysis (r) value. This value ranges from -1.00 to 1.00. It determines the strength of the relationship between the two study variables. A correlation of 0 indicates no existing relationship, a correlation of 1.0 shows a perfect positive correlation, while a value of -1.0 indicates a perfect negative correlation. However, Pallant (2005) recommends using guidelines to assess the strength of the relationship between variables, such as Table 4.6.

Therefore, correlation analysis is used in this study to explain the relationship between independent variables (management commitment to safety, safety training, and workers involvement) with safety compliance at TM.

Table 4.7:
The Pearson Correlation Value

		Management Commitment	Safety Training	Worker's Involvement
Safety Compliance	Pearson Correlation	.258**	.247**	.479**
	N	134	134	134
**. Correlation is significant at the 0.01 level (2-tailed).				

Hypothesis 1: There is a significant relationship between management commitment to safety and safety compliance.

Table 4.8:
Relationship between Management Commitment and Safety Compliance

		Management Commitment
Safety Compliance	Pearson Correlation	.258**
	N	134
**. Correlation is significant at the 0.01 level (2-tailed).		

The hypothesis above indicates that management commitment to safety has a positive relationship with safety compliance. The relationship between these two variables is tested using (r). Referring to Table 4.8 provided, there is a significant correlation between management commitment to safety and safety compliance. There is a high positive

correlation with $(r) = 0.00$ and $p = <0.001$. The findings from this analysis are compared with Hypothesis 1 as shown in Table 4.9.

Table 4.9:

Result Analysis Hypothesis 1

Hypothesis	Hypothesis Statement	Result Analysis
1	There is a significant relationship between management commitment to safety and safety compliance	Accepted
**. Correlation is significant at the 0.01 level (2-tailed)		

Hypothesis 2: There is a significant relationship between safety training and safety compliance.

Table 4.10:

Relationship between Safety Training And Safety Compliance.

		Safety Training
Safety Compliance	Pearson Correlation	.247**
	N	134
**. Correlation is significant at the 0.01 level (2-tailed).		

The hypothesis above indicates that safety training has a positive relationship with safety compliance. The relationship between these two variables is tested using (r) . Referring to Table 4.10 provided, there is a significant correlation between safety training and safety compliance. There is a high positive correlation with $(r) = 0.00$ and $p = <0.001$. The findings from this analysis were compared with Hypothesis 2 as shown in Table 4.11.

Table 4.11:

Result Analysis Hypothesis 2

Hypothesis	Hypothesis Statement	Result Analysis
2	There is a significant relationship between safety training and safety compliance	Accepted
**. Correlation is significant at the 0.01 level (2-tailed)		

Hypothesis 3: There is a significant relationship between worker involvement in safety and safety compliance.

Table 4.12:

Relationship between Safety Knowledge and Safety Compliance

		Worker's Involvement in safety
Safety Compliance	Pearson Correlation	.479**
	N	134
**. Correlation is significant at the 0.01 level (2-tailed).		

The hypothesis above indicates that worker involvement in safety has a positive relationship with safety compliance. The relationship between these two variables is tested using (r). Referring to Table 4.12 provided, there is a significant correlation between worker involvement in safety and safety compliance. There is a high positive correlation with (r) = 0.00 and p = <0.001. The findings from this analysis are compared with Hypothesis 3 as shown in Table 4.13.

Table 4.13:

Result Analysis Hypothesis 3

Hypothesis	Hypothesis Statement	Result Analysis
3	There is a significant relationship between worker involvement in safety and safety compliance	Accepted
**. Correlation is significant at the 0.01 level (2-tailed)		

4.8 Summary of findings

This chapter contains a detailed presentation of the study's findings. Response rate, respondent demographic context, reliability study, descriptive analysis, Pearson's correlation analysis, and hypothesis testing are all included in the study. The supported hypothesis from the multiple regression analysis was also summarized in this chapter. The following chapter included a discussion, suggestions for more research, and a conclusion.

CHAPTER FIVE

DISCUSSIONS

The main outcomes of this study, which determine the association between safety compliance and safety management practices among workers of TM Technology Services Sdn Bhd, are covered in this chapter. This chapter is divided into a few key sections that address the findings, which include the implications of the current investigation, and provide the most practical and efficient methods for enhancing workers' safety compliance. Furthermore, the study's conclusion is presented in this chapter.

5.1 Finding Summary

The empirical data from the study's previous chapter clarified the relationship between management commitment to safety, safety training, and worker involvement in safety as influencing factors on safety compliance among employees at TM. The objectives of this research are:

- (i) to identify the safety compliance level of workers at TM
- (ii) to determine the relationship between management commitment to safety and safety compliance at TM
- (iii) to determine the relationship between safety training and safety compliance at TM and
- (iv) to determine the relationship between worker involvement in safety and safety compliance at TM.

Furthermore, this survey successfully collected 158 responses from TM Kedah Perlis. The hypotheses were developed using a variety of statistical methods. As previously discussed in the chapter, there is a positive association between management commitment to safety, safety training, and worker involvement in safety with regard to safety management practices and safety compliance.

According to the findings, worker involvement in safety is strongly linked to workplace safety compliance. This study concludes that worker involvement in safety is crucial in influencing factors that may contribute to employee safety compliance. Michael et al. (2005) found that enhancing employee perceptions of management's personal concern for their well-being through a commitment to safety were result in positive outcomes, including improved safety compliance.

Additionally, safety training has a significant positive impact on the organization's development of safety knowledge and performance. Recent studies indicate that safety training greatly enhances the likelihood of safe conduct. For instance, a systematic review highlighted that highly engaging safety training outperforms less engaging training when the intensity of a dangerous event or exposure is high, while both types of training are equally effective when the severity is low (Smith-Crowe et al., 2003).

Another critical component in safety training is worker involvement. According to Joseph and Dai (2003), for organizations to succeed, new levels of employee expectations must be achieved. Management must understand and feel part of their organizations,

recognizing how their specific roles contribute to overall performance (Joseph & Dai, 2003).

Moreover, a comprehensive guide on safety training emphasizes the need for continuous improvement and assessment to keep training methods up-to-date and effective. This includes regular audits, employee feedback, and adherence to safety regulations to ensure a secure work environment (SafetyCulture, 2024).

5.2 Discussions

This study examined the relationship of three safety management approaches (management commitment to safety, safety training, and worker involvement in safety) on safety compliance. The findings revealed that these factors significantly impact safety compliance, aligning with previous research by Barling, Kelloway, and Iverson (2003). The study concluded that management commitment to safety, safety training, and worker involvement in safety are essential for fostering a culture of safety within the workplace. These elements were found to have the greatest impact on ensuring that employees adhere to safety protocols and practices. The results underscore the necessity of integrating these safety management practices to enhance overall safety compliance among employees.

The literature consistently underscores the importance of management commitment to safety and safety training in improving employee safety compliance. Without strong management support, safety measures are unlikely to effectively prevent workplace accidents and injuries. Recent studies highlight that management commitment to safety reflects top management's values regarding safety, demonstrating their recognition of its

crucial role in organizational productivity and efficiency. This commitment involves encouraging and supporting workers to adopt safe practices in their duties. Moreover, the degree to which management prioritizes safety significantly influences the effectiveness of safety training in motivating individuals to adhere to workplace safety standards and protocols (SafetyStratus, 2023).

Furthermore, the importance of safety training lies in its ability to empower workers with the knowledge and skills necessary to practice safety in their daily tasks. Recent research emphasizes that the synergy between management commitment to safety and comprehensive safety training is crucial in fostering a safety culture within organizations. When these elements align, workers are not only equipped to prioritize safety but also feel empowered to actively contribute to maintaining a safe work environment for themselves and their colleagues. Organizations that prioritize both management commitment to safety and thorough safety training are more likely to cultivate workplaces where safety is upheld as a shared responsibility and core organizational value by all stakeholders (HSE Blog, 2023; HSE Information, 2023).

5.2.1 Management Commitment to Safety and Safety Compliance

Previous research has consistently anticipated a strong correlation between managerial dedication and adherence to safety protocols. The importance of management commitment to safety has been extensively emphasized across various studies. Recent studies by Fernández-Muñiz et al., (2009) define management commitment as the extent to which management prioritizes safety, communicates effectively about safety issues, and takes necessary actions. Similarly, Griffin and Hu (2018) found that management

commitment is demonstrated through top management's focus on safety concerns, visible in the support and guidance provided to workers. Management commitment to safety encompasses various participative strategies, including implementing training programs, involving employees in safety committees, integrating safety into job designs, and evaluating work conditions. Furthermore, it involves a proactive approach in identifying, addressing, and mitigating workplace hazards. When workers perceive management's dedication to their well-being, they are more inclined to prioritize safety, leading to a reduction in overall accident and injury rates.

According to Vinodkumar and Bhasi (2010), there is a substantial association between managerial commitment and safety compliance. The authors emphasized that workers' perceptions of management commitment to safety provide an overall picture derived from the sum of the workers' assessments of management's interest in employee safety and health as manifested in various safety activities and initiatives.

In this study, the findings revealed that management commitment to safety has a substantial impact on staff safety compliance at TM. Thus, we may conclude that management's commitment to safety has a significant impact on employees safety compliance at TM.

5.2.2 Safety Training and Safety Compliance

Safety training is one of two areas of safety management practices that have a statistically significant relationship with both components of safety compliance. According to Vinodkumar and Bhasi (2010), good safety training is the foundation of any successful

OSH program in an organization because it can improve behavioral skills, associated knowledge, and attitudes while also making incidents more foreseeable.

The organization's significant investment in safety training was found to positively correlate with workers' active participation in safety-related activities. This finding echoes the research of Vinodkumar and Bhasi (2010), who highlighted the critical role of occupational safety training in encouraging workers to engage proactively in safety initiatives. According to these researchers, safety training is pivotal in improving workers' understanding of safety protocols and imparting essential knowledge on safe and effective work practices.

Lu and Yang (2010) highlighted the positive correlation between the frequency of safety training sessions and respondents' comprehensive understanding of safety practices, which in turn influenced their adherence to safety regulations. This finding aligns with the study by Mariani et al., where the Safety Training Engagement (STE) scale was developed and validated to measure individual engagement in safety training (Mariani et al., 2022). Furthermore, the research by Obong et al. emphasized the significant impact of health and safety training on employee efficiency in manufacturing firms, underscoring the importance of continuous training initiatives for enhancing workplace safety and performance (Obong et al., 2021).

These insights collectively stress the critical role of regular and engaging safety training programs in promoting a culture of safety and ensuring regulatory compliance in various industries. More recent studies, such as Smith and Johnson (2023), have reaffirmed that

continuous and engaging safety training is crucial in maintaining high levels of safety compliance and proactive safety behavior among employees.

This underscores the belief that enhancing skills and knowledge through training correlates with better compliance with safety standards. Thus, organizations that prioritize robust safety training programs are likely to foster a culture where safety is prioritized, contributing to a safer and more efficient work environment. This means that safety training has a favorable impact on the safety compliance of employees at TM.

5.2.3 Worker's Involvement and Safety Compliance

The study found a high association between worker involvement in safety and TM safety compliance. When workers are involved, it implies that they are willing to accept responsibility, actively participate in learning activities, and are eager to contribute to the creation of an accident-free workplace. Recent studies by Martinez et al. (2023) emphasize that worker involvement is critical in fostering a proactive safety culture. These studies indicate that when employees are actively engaged in safety initiatives and decision-making processes, they exhibit a higher commitment to safety protocols and contribute significantly to reducing workplace accidents and incidents.

According to this study, the positive outcome is most likely due to workers participating in the Safety and Health Committee and being assisted by the Union. This involvement allows them to engage in and focus on safety issues before making any decisions. Participation in the Safety and Health Committee provides workers with a platform to voice their concerns, suggest improvements, and take part in the decision-making process

regarding safety policies and procedures. This collaborative approach ensures that safety measures are not only top-down directives but also incorporate the practical insights and experiences of the workforce (Martinez et al., 2023).

The support of the Union further amplifies this engagement by ensuring that workers have representation and advocacy in safety matters. Unions can facilitate training programs, promote safety awareness, and ensure that the management adheres to agreed-upon safety standards (Geldart et al., 2010). This dual support system – from both the Safety and Health Committee and the Union – empowers workers to take ownership of their safety environment. It fosters a culture where safety is a shared responsibility and workers are motivated to adhere to safety protocols and contribute to a safer workplace (Clarke, 2013).

Additionally, the structured involvement through these channels enhances the workers' understanding and compliance with safety regulations. It encourages a continuous feedback loop where safety practices are regularly reviewed and improved based on real-time feedback from those directly involved in day-to-day operations (Morrow et al., 2014). This proactive stance not only helps in mitigating risks but also in building a robust safety culture that values and prioritizes employee well-being.

Recent research supports the importance of worker involvement in enhancing safety compliance. A study by Martinez et al. (2023) found that when employees are actively involved in safety decision-making processes, there is a significant improvement in safety compliance and overall workplace safety culture. This involvement includes participating in safety committees, providing input on safety policies, and being engaged in safety

training sessions. Workers who feel that their opinions are valued and that they have a stake in the safety outcomes are more likely to adhere to safety protocols and encourage their peers to do the same.

Furthermore, the study highlights that effective communication channels between management and employees play a crucial role in fostering this involvement. Transparent and frequent communication helps in building trust and ensures that safety concerns are promptly addressed. The inclusion of unions and worker representatives in safety committees also strengthens the commitment to safety, as it ensures that workers' voices are heard and their concerns are taken seriously.

In conclusion, the active involvement of workers in safety initiatives not only enhances their commitment to safety compliance but also contributes to a proactive safety culture. This collaborative approach leads to a more resilient and safer workplace, as evidenced by the significant correlation between worker involvement and safety compliance at TM.

5.3 Recommendation

Some of the recommendations for further research should be noted based on the findings and debate. For future research, scholars should examine the dimensions of each variable to see how they influence the others, so that they can gain a better knowledge of the dimensions that have a significant impact on the relationship between the variables.

Aside from that, the finding implies that another aspect may be involved in promoting and improving safety compliance. As a result, future studies should take into account any other

characteristics or elements that may impact safety compliance. Potential variables, such as safety promotion, safety legislation and procedures, and safety involvement, may assist researchers in understanding the phenomena of organizational safety compliance while also enhancing safety compliance. Recent research by Kim et al. (2023) suggests that integrating these variables can provide a more comprehensive view of the factors influencing safety compliance and help in developing more effective safety strategies. Last but not least, Andrade (2020) claims that a larger sample size than predicted will be more representative of the population, resulting in more accurate study findings. Future research can also include other Malaysian telecommunications businesses in order to target a bigger audience and obtain a larger and better sample size, which may help to boost the study's dependability and importance.

5.4 Limitation of Research

The methodology of doing this research has a few limitations. First of all, participant feedback is inconsistent. To the researcher's satisfaction, some respondents might provide an answer to the question.

Additionally, the survey's respondents, who work in the TM and represent a range of employee positions, have safety management procedures that are reflective of the inherent safety compliance in the workplace. Because of differences in knowledge and perspective, there may be differences in compliance at different job position levels. As an instance, the telecommunications industry's safety compliance may differ from other industries' safety compliance.

There were several restrictions encountered during the course of this inquiry. To begin with, the global spread of COVID-19 during the research period posed significant challenges. Indirectly, it became difficult to compile the questionnaire, and the time available for conducting the study was limited. Despite these challenges, all 134 responses were successfully collected. The analysis focused on three factors management commitment to safety, safety training, and worker involvement in safety to examine their influence on the independent variable of safety management practices on safety compliance among employees at TM. However, in reality, there may be additional features or circumstances that contribute to safety compliance, particularly in the telecommunications industry, which encompasses a number of hazards and risks. Future research should consider these additional variables to gain a more comprehensive understanding of safety compliance in such high-risk environments

Finally, due to time constraints, this study can only do quantitative analyses. Future researchers may choose to use qualitative or mixed approaches to improve the quality and dependability of their findings

5.5 Conclusion

According to the findings, the majority of TM employees recognize the value of safety compliance. The study's findings have significant implications for TM, particularly for workplace safety and health management systems. The findings suggest that to develop a robust safety culture, TM should strengthen their commitment to other safety management practices such as safety communication and feedback, safety regulations and procedures, and safety promotion policies.

Despite some limitations, such as Mohd Yusri Mohd Yusof, Baba Md Deros, Ahmad Rasdan Ismail, and Jaharah A. Ghani (2014) noting that procedures may not always follow OSH regulations, TM is advised to continue improving their current procedures. There is a scarcity of published studies on the telecommunications industry, prompting further examination. Expanding this line of investigation to incorporate potential moderators is one manner in which these findings could be valuable to future researchers. For example, the impact of management commitment to safety and safety training may vary among employees depending on various factors, including the nature of their employment. If the projected differences are significant, personality moderators may be evaluated. Additionally, it is vital to consider the extent of safety training provided in the workplace.

Furthermore, the findings highlight the need for TM to address other organizational characteristics that may influence safety compliance. These include the role of leadership in promoting a safety culture, the integration of advanced technology for safety monitoring and reporting, and the strategic involvement of the human resources department in safety initiatives. Leadership commitment is crucial, as leaders who prioritize safety can inspire similar attitudes among employees, leading to more consistent safety compliance across the organization. Utilizing technology can enhance safety measures by providing real-time data and analytics, which help in identifying potential hazards and preventing accidents. Meanwhile, the human resources department can play a pivotal role by incorporating safety metrics into performance evaluations and ensuring continuous safety education and training.

In conclusion, while the study has successfully identified key factors influencing safety compliance at TM, there is a broader spectrum of variables that need to be considered to fully understand and enhance safety compliance. Future research should explore these additional factors to develop a comprehensive safety management strategy. By focusing on continuous improvement and addressing both human and technological aspects of safety, TM can create a safer work environment that not only complies with regulatory standards but also promotes a culture of proactive safety engagement among its employees. This holistic approach will ultimately contribute to reducing workplace accidents and injuries, ensuring the well-being of all employees, and enhancing overall organizational performance.



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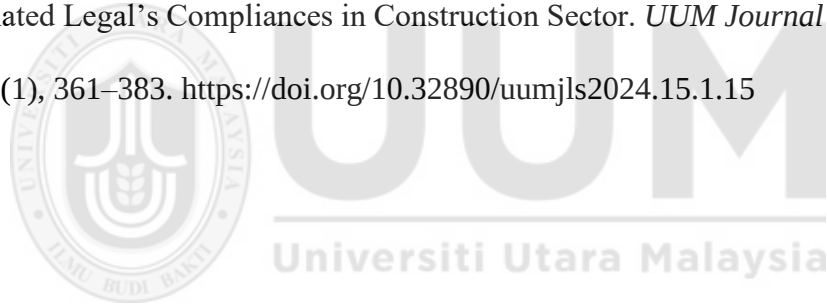
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APPENDIX A: QUESTIONNAIRE FORM

RESPONDENT NO:



Othman Yeop Abdullah Business Graduate School
Universiti Utara Malaysia (UUM)
Sintok, Kedah Darul Aman

I am Muhamad Faisal Bin Ismail, a Master of Science Occupational Safety and Health Management (MOSHM) student from Universiti Utara Malaysia, currently conducting a research entitled "Safety Compliance Behavior among TM Contractor at Kedah Perlis". In endeavoring to conduct this research data will be collected from TM Employee and Contractor.

Kindly complete the questionnaire enclosed. I assure you that it would not take longer than 30 minutes as your cooperation will contribute to improving the standard of safety of your organization as well as Telecommunication Industry.

All data provided will be treated as confidential and will only be used for this academic research.

Thank You for your kind cooperation.

Your sincerely.

MUHAMAD FAISAL ISMAIL

Matric No: 823652

Othman Yeop Abdullah Business Graduate School

Universiti Utara Malaysia (UUM)

06010 Sintok

Kedah Darul Aman

0132952494, achikfaisal@gmail.com

Section A: Personal Details

Instructions: Please tick (/) in the appropriate box.

1. Gender / Jantina

☐

Male / Lelaki

☐

Female / Perempuan

2. Age / Umur

☐

< 25 years old

☐

36- 45 years old

☐

25 - 35 years old

☐

> 45 years old

3. Education Level / Tahap Pendidikan

☐

≤ SPM

☐

DEGREE / IJAZAH SARJANA MUDA

☐

STPM / DIPLOMA

☐

SARJANA / PHD

4. Working Experience / Pengalaman Kerja

☐

≤ 1 years

☐

6-10 years

☐

1-5 years

☐

>10 years

Circle the most appropriate response number for you beside each item, using the scale below.

1 = Strongly disagree / Sangat Tidak Setuju	2 = Disagree / Tidak Setuju	3 = Neither disagree nor agree / Tidak Pasti	3 = Agree / Setuju	4 = Strongly agree / Sangat Setuju
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Section B : Management Commitment

STATEMENT	1	2	3	4	5
1. Safety is given high priority by the management <i>Keselamatan diberi keutamaan oleh pihak pengurusan</i>	1	2	3	4	5
2. Safety rules and procedures are strictly followed by the management <i>Peraturan dan prosedur keselamatan diikuti oleh pihak pengurusan</i>	1	2	3	4	5
3. Corrective action is always taken when the management is told about unsafe practices <i>Tindakan pembetulan sentiasa diambil apabila pengurusan diberitahu mengenai amalan yang tidak selamat</i>	1	2	3	4	5
4. In my workplace managers/supervisors do not show interest in the safety of workers <i>Di tempat kerja pengurus / penyelia saya tidak menunjukkan minat terhadap keselamatan pekerja</i>	1	2	3	4	5
5. Management considers safety to be equally important as production <i>Pengurusan menganggap keselamatan menjadi sama pentingnya dengan pengeluaran</i>	1	2	3	4	5
6. Members of the management do not attend safety meetings <i>Ahli-ahli pengurusan tidak menghadiri mesyuarat keselamatan</i>	1	2	3	4	5
7. I feel that management is willing to compromise on safety for increasing production. <i>Saya rasa pihak pengurusan bersedia untuk berkompromi dengan keselamatan untuk meningkatkan pengeluaran.</i>	1	2	3	4	5
8. When near-miss accidents are reported, my management acts quickly to solve the problems <i>Apabila kemalangan hamper berlaku dilaporkan, pengurusan saya bertindak dengan cepat untuk menyelesaikan masalah</i>	1	2	3	4	5
9. My company provides sufficient personal protective equipments for the workers. <i>Syarikat saya menyediakan peralatan pelindung diri yang mencukupi bagi pekerja</i>	1	2	3	4	5

Circle the most appropriate response number for you beside each item, using the scale below.

1 = Strongly disagree / Sangat Tidak Setuju	2 = Disagree / Tidak Setuju	3 = Neither disagree nor agree / Tidak Pasti	3 = Agree / Setuju	4 = Strongly agree / Sangat Setuju
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Section C : Safety Training

STATEMENT	1	2	3	4	5
1. My company gives comprehensive training to the employees in workplace health and safety issues. <i>Syarikat saya memberikan latihan komprehensif kepada pekerja di tempat kerja dan isu-isu keselamatan.</i>	1	2	3	4	5
2. Newly recruits are trained adequately to learn safety rules and procedures. <i>Peserta baru dilatih dengan secukupnya untuk mempelajari peraturan dan prosedur keselamatan.</i>	1	2	3	4	5
3. Safety issues are given high priority in training programmes. <i>Isu keselamatan diberi keutamaan dalam program latihan.</i>	1	2	3	4	5
4. I am not adequately trained to respond to emergency situations in my workplace. <i>Saya tidak dilatih secukupnya untuk bertindak balas terhadap situasi kecemasan di tempat kerja saya</i>	1	2	3	4	5
5. Management encourages the workers to attend safety training programmes. <i>Pengurusan menggalakkan para pekerja menghadiri program latihan keselamatan</i>	1	2	3	4	5
6. Safety training given to me is adequate to enable me to assess hazards in workplace. <i>Latihan keselamatan yang diberikan kepada saya adalah mencukupi untuk membolehkan saya menilai bahaya di tempat kerja.</i>	1	2	3	4	5

Section D : Worker's Involvement

STATEMENT	1	2	3	4	5
1. Management always welcomes opinion from employees before making final decisions on safety related matters. <i>Pengurusan sentiasa mengalu-alukan pendapat daripada pekerja sebelum membuat keputusan akhir mengenai hal berkaitan keselamatan.</i>	1	2	3	4	5
2. My company has safety committees consisting of representatives of management and employees. <i>Syarikat saya mempunyai jawatankuasa keselamatan yang terdiri daripada wakil pengurusan dan pekerja.</i>	1	2	3	4	5

Circle the most appropriate response number for you beside each item, using the scale below.

1 = Strongly disagree / Sangat Tidak Setuju	2 = Disagree / Tidak Setuju	3 = Neither disagree nor agree / Tidak Pasti	3 = Agree / Setuju	4 = Strongly agree / Sangat Setuju
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STATEMENT	1	2	3	4	5
3. Management promotes employees involvement in safety related matters <i>Pengurusan menggalakkan penglibatan pekerja dalam hal berkaitan keselamatan</i>	1	2	3	4	5
4. Management consults with employees regularly about workplace health and safety issues. <i>Pengurusan berunding dengan pekerja secara kerap mengenai isu kesihatan dan keselamatan tempat kerja.</i>	1	2	3	4	5
5. Employees do not sincerely participate in identifying safety problems <i>Pekerja tidak ikhlas mengambil bahagian dalam mengenal pasti masalah keselamatan</i>	1	2	3	4	5

Circle the most appropriate response number for you beside each item, using the scale below.

1 = Strongly disagree / Sangat Tidak Setuju	2 = Disagree / Tidak Setuju	3 = Neither disagree nor agree / Tidak Pasti	3 = Agree / Setuju	4 = Strongly agree / Sangat Setuju
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Section E: Safety Compliance

STATEMENT	1	2	3	4	5
1. I use all necessary safety equipments to do my job. <i>Saya menggunakan semua peralatan keselamatan yang diperlukan untuk melakukan tugas saya.</i>	1	2	3	4	5
2. I carry out my work in a safe manner. <i>Saya menjalankan kerja saya secara selamat</i>	1	2	3	4	5
3. I follow correct safety rules and procedures while carrying out my job. <i>Saya mengikut peraturan dan prosedur keselamatan yang betul semasa menjalankan tugas saya.</i>	1	2	3	4	5
4. I ensure the highest levels of safety when I carry out my job. <i>Saya memastikan tahap keselamatan tertinggi apabila saya menjalankan tugas saya.</i>	1	2	3	4	5
5. Occasionally due to lack of time, I deviate from correct and safe work procedures. <i>Kadang-kadang kerana kekurangan masa, saya menyimpang dari prosedur kerja yang betul dan selamat.</i>	1	2	3	4	5

6. Occasionally due to over familiarity with the job, I deviate from correct and safe work procedures. <i>Kadang-kadang kerana lebih akrab dengan pekerjaan, saya menyimpang dari prosedur kerja yang betul dan selamat.</i>	1	2	3	4	5
7. It is not always practical to follow all safety rules and procedures while doing a job. <i>It tidak selalunya praktikal untuk mematuhi semua peraturan dan prosedur keselamatan ketika melakukan pekerjaan.</i>	1	2	3	4	5

- THE END -



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APPENDIX B: DATA ANALYSIS

		Statistics				
		Gender / Jantina	Age / Umur	Education Level / Tahap Pendidikan	Working Experience / Pengalaman Kerja	Worker Category / Kategori Pekerja
N	Valid	134	134	134	134	134
	Missing	23	23	23	23	23

		Gender / Jantina			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male / Lelaki	92	58.6	68.7	68.7
	Female / Perempuan	42	26.8	31.3	100.0
	Total	134	85.4	100.0	
Missing	System	23	14.6		
Total		157	100.0		

		Age / Umur			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 25 years old	3	1.9	2.2	2.2
	25 - 35 years old	42	26.8	31.3	33.6
	36- 45 years old	43	27.4	32.1	65.7
	> 45 years old	46	29.3	34.3	100.0
	Total	134	85.4	100.0	
Missing	System	23	14.6		
Total		157	100.0		

Education Level / Tahap Pendidikan

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	≤ SPM	49	31.2	36.6	36.6
	STPM / Diploma	46	29.3	34.3	70.9
	Degree	32	20.4	23.9	94.8
	Master / PhD	7	4.5	5.2	100.0
	Total	134	85.4	100.0	
Missing	System	23	14.6		
Total		157	100.0		

Working Experience / Pengalaman Kerja

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 5 years	9	5.7	6.7	6.7
	6 - 10 years	39	24.8	29.1	35.8
	11 - 15 years	23	14.6	17.2	53.0
	> 15 years	63	40.1	47.0	100.0
	Total	134	85.4	100.0	
Missing	System	23	14.6		
Total		157	100.0		

SAFETY COMPLIANCE

Reliability Statistics

Cronbach's Alpha	N of Items
.820	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. I use all necessary safety equipments to do my job. / Saya menggunakan semua peralatan keselamatan yang diperlukan untuk melakukan tugas saya.	25.45	14.520	.506	.806
2. I carry out my work in a safe manner. / Saya menjalankan kerja saya secara selamat	25.16	14.795	.582	.800
3. I follow correct safety rules and procedures while carrying out my job. / Saya mengikuti peraturan dan prosedur keselamatan yang betul semasa menjalankan tugas saya.	25.23	14.314	.619	.793
4. I ensure the highest levels of safety when I carry out my job. / Saya memastikan tahap keselamatan tertinggi apabila saya menjalankan tugas saya.	25.15	14.624	.645	.794

5. Occasionally due to lack of time, I deviate from correct and safe work procedures. / Kadang-kadang kerana kekurangan masa, saya menyimpang dari prosedur kerja yang betul dan selamat.	25.86	11.822	.625	.787
6. Occasionally due to over familiarity with the job, I deviate from correct and safe work procedures. / Kadang-kadang kerana lebih akrab dengan pekerjaan, saya menyimpang dari prosedur kerja yang betul dan selamat.	25.76	11.567	.700	.770
7. It is not always practical to follow all safety rules and procedures while doing a job. / Ia tidak selalunya praktikal untuk mematuhi semua peraturan dan prosedur keselamatan ketika melakukan pekerjaan.	26.10	11.983	.509	.819

MANAGEMENT COMMITMENT TO WORKS

Reliability Statistics

Cronbach's Alpha	N of Items
.723	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. Safety is given high priority by the management / Keselamatan diberi keutamaan oleh pihak pengurusan	29.45	13.603	.641	.667
2. Safety rules and procedures are strictly followed by the management / Peraturan dan prosedur keselamatan diikuti oleh pihak pengurusan	29.54	13.378	.668	.661
3. Corrective action is always taken when the management is told about unsafe practices / Tindakan pembetulan sentiasa diambil apabila pengurus diberitahu mengenai amalan yang tidak selamat	29.59	12.996	.646	.657

4. In my workplace managers/supervisors do not show interest in the safety of workers / Di tempat kerja pengurus / penyelia saya tidak menunjukkanminat terhadap keselamatan pekerja	29.84	13.517	.327	.716
5. Management considers safety to be equally important as production / Pengurusan menganggap keselamatan menjadi sama pentingnya dengan pengeluaran	29.83	12.624	.571	.663
7. I feel that management is willing to compromise on safety for increasing production. / Saya rasa pihak pengurusan bersedia untuk berkompromi dengan keselamatan untuk meningkatkan pengeluaran.	30.65	14.981	-.007	.838
8. When near-miss accidents are reported, my management acts quickly to solve the problems / Apabila kemalangan hamper berlaku dilaporkan, pengurusan saya bertindak dengan cepat untuk menyelesaikan masalah	29.78	13.223	.549	.672

9. My company provides sufficient personal protective equipments for the workers. / Syarikat saya menyediakan peralatan pelindung diri yang mencukupi bagi pekerja	29.68	13.137	.552	.671
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SAFETY TRAINING

Reliability Statistics

Cronbach's Alpha	N of Items
.887	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. My company gives comprehensive training to the employees in workplace health and safety issues. / Syarikat saya memberikan latihan komprehensif kepada pekerja di tempat kerja dan isu-isu keselamatan.	16.93	7.026	.710	.866
2. Newly recruits are trained adequately to learn safety rules and procedures. / Peserta baru dilatih dengan secukupnya untuk mempelajari peraturan dan prosedur keselamatan.	17.09	6.563	.810	.842

3. Safety issues are given high priority in training programmes. / Isu keselamatan diberi keutamaan dalam program latihan.	16.80	7.531	.685	.872
5. Management encourages the workers to attend safety training programmes. / Pengurusan menggalakkan para pekerja menghadiri program latihan keselamatan	16.93	7.032	.757	.855
6. Safety training given to me is adequate to enable to me to assess hazards in workplace. / Latihan keselamatan yang diberikan kepada saya adalah mencukupi untuk membolehkan saya menilai bahaya di tempat kerja.	17.15	6.865	.680	.875

WORKERS INVOLVEMENT IN SAFETY

Reliability Statistics

Cronbach's Alpha	N of Items
.758	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. Management always welcomes opinion from employees before making final decisions on safety related matters. / Pengurusan sentiasa mengalu-alukan pendapat daripadapekerja sebelum membuat keputusan akhir mengenai hal berkaitan keselamatan.	16.64	6.187	.669	.661
2. My company has safety committees consisting of representatives of management and employees. / Syarikat saya mempunyai jawatankuasa keselamatan yang terdiri daripada wakil pengurusan dan pekerja.	16.15	7.902	.474	.738
3. Management promotes employees involvement in safety related matters. / Pengurusan menggalakkan penglibatan pekerja dalam hal berkaitan keselamatan	16.37	6.837	.701	.668

4. Management consults with employees regularly about workplace health and safety issues. / Pengurusan berunding dengan pekerja secara kerap mengenai isu kesihatan dan keselamatan tempat kerja.	16.60	6.543	.664	.668
5. Employees do not sincerely participate in identifying safety problems. / Pekerja tidak ikhlas mengambil bahagian dalam mengenalpasti masalah keselamatan	16.99	6.436	.322	.837



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Descriptive Statistics

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
meanMC	134	2.67	4.67	4.0075	.43285	-.490	.209	-.251	.416
meanST	134	2.33	5.00	3.9142	.49759	-.825	.209	.721	.416
meanWI	134	2.40	5.00	4.1373	.63218	-.290	.209	-.661	.416
meanSC	134	2.71	5.00	4.2548	.60059	-.326	.209	-.940	.416
Valid N (listwise)	134								

Correlations

		meanMC	meanST	meanWI	meanSC
meanMC	Pearson Correlation	1	.582**	.467**	.258**
	Sig. (2-tailed)		<.001	<.001	.003
	N	134	134	134	134
meanST	Pearson Correlation	.582**	1	.606**	.247**
	Sig. (2-tailed)	<.001		<.001	.004
	N	134	134	134	134
meanWI	Pearson Correlation	.467**	.606**	1	.479**
	Sig. (2-tailed)	<.001	<.001		<.001
	N	134	134	134	134
meanSC	Pearson Correlation	.258**	.247**	.479**	1
	Sig. (2-tailed)	.003	.004	<.001	
	N	134	134	134	134

** . Correlation is significant at the 0.01 level (2-tailed).