

**Study on Knowledge Management Practices Among Safety
Practitioners in FGV Group of Companies**

Shaharizan bin Yunus


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**Project Paper Submitted in Partial Fulfillment of the
Requirements for the Degree of Master in Management**

University Tun Abdul Razak

June 2022

DECLARATION

The author hereby declares that this project paper is the original study undertaken by him unless stated otherwise. The acknowledgement has been given to references quoted in the list of references. The views and analysis in this study are that of author's, based on the references made, and this does not constitute an invitation to use this study as a technical tool for management purpose.



Signature :

Name : Shaharizan bin Yunus

Date :

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SHAHARIZAN YUNUS

June, 2022

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Abstract of the project paper submitted to the Senate of University Tun Abdul Razak in partial fulfillment of the requirements for the Master in Management.

Study on Knowledge Management Practices Among Safety Practitioners in FGV Group of Companies

By
Shaharizan bin Yunus

June, 2022

Knowledge Management (KM) is proficiency in learning to generate, recognize, capture, organize, evaluate, share, and apply that knowledge. One of the KM practices is based on the model Ikujiro Nonaka and Hirotaka Takeuchi, 1995 named the SECI Model, which included practices of Socialization, Externalizations, Internalizations and Combination. The level of awareness and understanding of KM practices in the perspective of safety is still little among safety practitioners and employees in general. This can be seen although much safety-related training is given every year, there are still breaches of safety practices among the workers, which contribute to the statistics of accidents at work. Therefore, assessing the importance of KM practices to be learned and practiced by safety practitioners is crucial. This study aims to assess the level of practices of KM among Safety Practitioners in the FGV Group of companies to achieve the best safety and health organization goals. The Safety Management (SM) practices elements at the workplace are studied. A study was conducted by distributing online self-administered questionnaires to the targeted sampling respondent, 54 FGV safety practitioners. Descriptive analysis and regression analysis will be carried out to measure the one affects the other between KM and SM practices. This study will be beneficial in assessing the awareness among safety practitioners in FGV towards the importance of KM practices in assisting them in managing safety and health at the workplace.

Key Terms: *knowledge management, safety management, safety compliance*

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CHAPTER 1: INTRODUCTION

1.1 Background of Study

Knowledge Management (KM) is how organizations learn to generate, recognize, capture, organize, evaluate, share, and apply that knowledge (Girard, J.P et al., 2015). KM practices are based on the SECI Model (Nonaka & Takeuchi, 1995), which includes practices of:

- i. Socialization,
- ii. Externalization,
- iii. Combination, and
- iv. Internalization.

The importance of KM is a critical subject in today's competitive knowledge economy. Knowledge is vital to be used, and the transferal knowledge is purposely to avoid losing it. However, the Internet connection nowadays provides unlimited best available sources of information and knowledge to all users globally. Knowledge assets may be explicit or tacit (Nonaka & Takeuchi, 1995). Explicit knowledge is suitable for communication and uses in various forms. However, tacit knowledge may be resident in the safety practitioner's mind and may not have been expressed in other forms.

Understanding KM is dynamic from a safety perspective for learning purposes to keep lessons learned from the incidents and mitigation implemented to prevent recurrences case from happening recurrently (Gressgård, 2014). KM practices implementation strategies can reduce the rate of incidents and thereby improve organizational safety performance (Movahedi et al., 2015). This incident repetition occurrence can be mitigated by effectively implementing KM strategies in construction organizations (Hallowell, 2011). Safety violations and non-conformances are deliberate actions when employees are aware of the rules/regulations but choose not to adhere to them as intentional behaviour. In contrast, safety violations and non-conformances occur because of a lack of knowledge or awareness of the rules/regulations as unintentional behaviour (Dahl. O.E 2013).

One of the critical attributes of sustainable Safety Management (SM) success is a level of knowledge and continuous learning development in the organization that an embedded organizational and compliance culture. The information and training of the workers in the building process strongly contribute to reducing the seriousness and the number of accidents at work (Carlo Argiolas et al., 2000). In this study, Safety Management practices are measured limited to four elements, i.e. Management Commitment, Safety Compliance, Safety Awareness and Safety Performance.

As far as the explicit knowledge is concerned, we mean existing databases, regulations, guidelines, trade unions data, data supplied by producers, statistical data from national safety organizations, quality handbooks, and existing documents on safety. Tacit knowledge, in order to be shared, must be made clear by different instruments such as questionnaires, minutes of meetings, brainstorming records, observation of the company's usual procedures, technical reports on the works, written work instructions or documented remarks by the safety coordinator.

This study is a generative new idea for the area of concern to study how the KM practices will influence the safety practitioners in managing safety and health at the workplace aligned with the legal and statutory requirements, Occupational Safety and Health Management System (OSHMS) elements. A safety practitioner responsible for the laws' provisions needs to master a diversity of knowledge to enable them to be viable, efficient, and effective in carrying out the tasks assigned by the employer (OSHMP 2025, DOSH Malaysia).

FGV Holdings Berhad, with the vision of 'To be one of the World's Leading Integrated and Sustainable Agribusinesses', is Malaysia's most important Government Investment Link Company (GLIC), employing over 42,000 people worldwide. FGV has a vast and complex supply chain consisting of 197 estates and 68 mills across Malaysia. FGV's commitments on health, safety and the environment (HSE) are governed by a multi-tier top management structure:

- **The Group Management Committee (GMC)**, composed of senior management executives and chaired by the Group Chief Executive Officer (GCEO), is tasked with ensuring implementation of the Group Health and Safety Policy.

- **The Group Health, Safety and Environment Division (GHSED)**, the primary division that executes the group's HSE commitment in owned operations and supply chain. The Head of GHSED reports directly to the Group Chief Executive Officer (GCEO).
- **The Business Sector & Management of Subsidiary Companies**, to plan, monitoring, execute and comply all of HSE strategic plan.
- **The Safety and Health Committees at operational project**, to raise and discuss compliance issues, including addressing systemic issues and root causes of non-compliance on HSE matters where FGV always encourages their employee participation, consultation and communication on HSE matters.

1.2 Problem Statement

The level of awareness and understanding of KM practices in the perspective of safety is still little among safety practitioners and employees in general. This can be seen that although much safety-related training is given every year, there are still breaches of safety practices among the workers, which contribute to the statistics of accidents at work (DOSH, 2020).

Therefore, assessing the importance of KM practices to be learned and practiced by safety practitioners is crucial. This study wants to know whether KM practices can assist and influence the excellent achievement of SM practices among safety practitioners in the FGV Group of Companies.

1.3 Research Objectives

The research purpose of this study is threefold as follows:

- 1.3.1 To access the awareness level of KM practices among FGV's safety practitioners
- 1.3.2 To assess the influence of KM on SM practices among FGV's safety practitioners.
- 1.3.3 To assess current practices of the SECI Model in SM practices.

1.4 Research Questions

The research of this study addresses the following questions:

- 1.4.1 To what extent do the safety practitioners in FGV Group of Companies aware of the KM practices?
- 1.4.2 To what extent are the safety practitioners in FGV Group of Companies aware of the importance of KM practices in assisting them in managing safety and health at the workplace?
- 1.4.3 To what extent are the safety practitioners in FGV Group of Companies willing to improve the SM practices at the workplace by mastering the KM practices?

1.5 Significance of the Study

It is anticipated that the research will be beneficial to FGV's safety practitioners by achieving the following:

- 1.5.1 The study is expected to gather baseline data on the FGV's safety practitioners' awareness of KM.
- 1.5.2 The study will assess the level of awareness among FGV's safety practitioners towards the importance of KM in assisting them in managing safety and health at the workplace.
- 1.5.3 The study will assess the willingness level among FGV's safety practitioners to improve safety practices in the workplace by mastering the KM.

Government

The results of the study can help the government study the appropriate training modules that will enhance the capacity and efficiency of SHOs in the future. Occupational Safety and Health Management System at the national level through the Department of Occupational Safety and Health (DOSH) and the National Institute for Occupational Safety and Health (NIOSH) can further study KM subjects can take as one of the training modules for Safety and Health Officers (SHO certification course).

Public

This study can increase public awareness of the importance of KM practices in daily work activities. This study can provide initial knowledge and general information on KM practices.

Management of company

The results of this study will help the management of FGV to encourage its employees to implement KM practices in the workplace.

Academician

This topic could be an interesting follow-up study to do in the future. The findings of this research study serve as a reference basis and future comparative studies for academics.

1.6 The Organization of the Study

Chapter one will highlight the study background, research problem, objectives, questions and significance. It will give an overview of the research. Chapter two will review and discuss the literature review supporting this research's central issue. Chapter three will provide the overview and outline of the research method. Then chapter four will present the results and discussions of the research findings, and finally, chapter five will discuss the conclusions and recommendations of the overall research.

CHAPTER 2: LITERATURE REVIEW

2.1 Knowledge Management Model

Knowledge exists in various forms, applicable at different organizational levels and for many intended purposes. Knowledge can be thought of as a source (i.e. input); it may have been expressed in a working method, i.e. part of a processor; it may also be a product (i.e. output). Knowledge must be maintained and upgraded from time to time. (Nonaka & Takeuchi, 1995).

KM models have begun to evolve, and all models present different perspectives with distinctive concepts and elements. This KM model list is not intended to be either a complete list or a definitive shortlist. However, several models are studied to provide the broadest possible perspective on KM.

The von Krogh and Roos KM (1995) model distinguishes between personal and social knowledge. They take an epistemological approach to managing knowledge at the organizational level.

Nonaka and Takeuchi (1995) studied the success of Japanese companies in achieving creativity and innovation. The SECI Model by Nonaka and Takeuchi is rooted in holistically knowledge creation and management. A spectrum of tacit and explicit knowledge is introduced in KM spiral or conversion cycle.

The Choo KM model focuses on how information elements are selected and subsequently incorporated into organizational actions.

Weick (2001) proposed a theory of sensory manufacturing by explaining how chaos is transformed into a sane and orderly process in an organization through the shared interpretation of individuals.

Wiig (1993) describes the KM model with the principle that knowledge is useful and valuable. It must be compiled. Knowledge should be organized differently depending

on the application of the knowledge used.

The Boisot KM model is based on the key concept of “information is a good asset”. Boisot distinguishes information from data by emphasizing that information is what the observer will extract from the data as a function of his expectations or prior knowledge.

2.2 Knowledge Management (KM) Practices

KM can be formed from various processes such as face-to-face mentoring and coaching, learning from errors, briefing or training sessions and engagement and communication (McGraw & Harrison-Briggs, 1989). KM is found to be very important and an asset to an organization. Many studies have been conducted on KM, showing the benefits associated with KM have been noted, and one of them is that there is an increase in effective SM in the study by Gressgard, (2014).

In this study, KM as an independent variable was analyzed. KM encompasses data, information and knowledge have presented the differences between KM assets into two types of knowledge; explicit knowledge and tacit knowledge. (Nonaka and Takeuchi (1995). Tacit knowledge is expressed as experiential knowledge or 'know-how in an individual's mind and is not easy to say, capture or transfer to others. For example, a safety practitioner's experience and knowledge help the individual carry out his responsibilities easily, quickly and effectively compared to a safety practitioner who lacks experience and knowledge. Explicit knowledge is the knowledge that can and has been recorded or coded in a transferable form such as manuals, procedures, databases, or electronic media. (Nonaka & Takeuchi, 1995).

In the literature, authors such as N.T. Pham and F.W. Swierczek (2006) describe the mechanisms of knowledge processes. There are many different definitions of knowledge processes used. The five primary knowledge processes are defined as:

- i. Knowledge acquisition and adoption;
- ii. Knowledge generation and validation;
- iii. Knowledge sharing and transfer;
- iv. Knowledge retention and storage; and
- v. Knowledge utilization and application.

Therefore, the use of sufficient or insufficient KM depends on several determining factors, Valmohammadi, 2010 stated 12 determining factors in using KM, namely:

- i. Leadership management support,
- ii. Organizational culture,
- iii. Information technology,
- iv. Management strategy,
- v. Performance assessment,
- vi. Infrastructure management,
- vii. Processes and activities,
- viii. Rewarding and motivating,
- ix. Elimination of resource limitation,
- x. Training and retraining,
- xi. Human Resource Management, and
- xii. the benchmarking with the bests achievers.

2.3 Safety Management System (SMS) Elements

A Safety Management System (SMS) is an integrated process designed to control the risks and hazards. A good SMS should contain rules, strategies and procedures and confirm the organization's internal consistency (Griffin & Hu, (2013). Hence, the safety practitioners are responsible for evaluating and controlling the factors that lead to an accident in the organization. The final goal of SMS is to improve safety culture and reduce the accidents and risks At Low as Reasonably Practicable (ALARP) in terms of likelihood and severity. (Shiruyehzad & Dabestani, 2011).

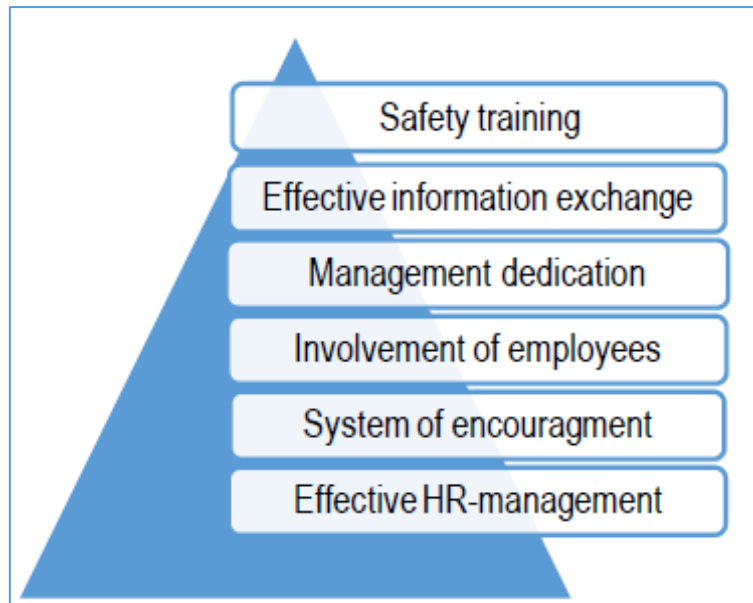


Figure 1: A pyramid of safety compliance measures.

Source: (Pi, Sh.-M., & Al-Zu'bi, Gh. (2020).

Numerous studies have proven that SMS have a positive relationship with safety performance, Bottani et al. (2009). According to Jazayeri & Dadi (2017), the benefits of a Safety Management System are:

- i. Reduce the number of accidents and minimize the risk of accidents at work.
- ii. Controlling workplace risk.
- iii. Increase employee morale and increase productivity by minimizing production disruptions.
- iv. Reduce employee absenteeism costs and employee insurance costs.
- v. Reduce the cost of legal litigation in court, and reduce investigation time for accidents.

According to ISO 45001:2018 Occupational Health and Safety Standard, elements of SMS contain six main elements, i.e. Leadership, Planning, Support, Operations, Evaluation and Improvement. The SMS aims to protect workers and suggests activities for controlling exposures to safety risks and minimizing impacts arising from operational activities.

2.4 Safety Management (SM) Practices

Indeed, lack of knowledge in safety and health is one of the causes of accidents involving injuries and damage in the workplace (Elkind, 1993). KM can influence SM performance persuasively (Champoux & Brun, 2003). A study from Gressgard, 2014 shows that KM is fundamental to fostering safety behaviours and culture. The interaction between knowledge management and safety compliance has been studied and scrutinized by Griffin & Neal (2000).

The concept of KM as an effective tool for safety compliance has evolved in the late 20th century, (Pi, Sh.-M., & Al-Zu'bi, Gh. (2020). Janz and Prasarnphanich (2003) state that a knowledge-centered culture is necessary to provide a high level of safety compliance. Griffin & Neal, (2000) have investigated the interaction between knowledge management and safety compliance. A variety of KM tools are essential to provide safety compliance measures such as training programs, safety inductions, safe work permits, work procedures or safe work instructions are held adequately and effectively in the workplace. The actions outlined above outline the need for knowledge management for industrial safety compliance (Ringel B & Ringel, 2010).

Employers should provide KM mechanisms to influence the development of safety compliance in the enterprise and change the reward system to encourage employees always to maintain safety compliance, (Pi, Sh.-M., & Al-Zu'bi, Gh. (2020). Company management needs to create and intensify mechanisms of employee involvement in workplace safety compliance. Employers need to improve HR standards to hire employees interested in organizational safety and culture and provide effective communication mechanisms, (Pi, Sh.-M., & Al-Zu'bi, Gh. (2020).

2.5 Impact on KM to SM

This theoretical framework is proposed to understand and evaluate the factors that can affect the practice of KM on the practice of SM in an organization. The framework considers the causes and effects of KM practice factors on SM practice factors among safety practitioners within the FGV Group of Companies.

Researcher Marta P.G (2017) mentioned the lack of KM practices in the construction industry in Mexico identified as one of the causes of accidents. This study also clarifies

the Safety Management System (SMS) elements required in each level of SM practice and whether KM practice is embedded in safety performance indicators.

Workplace safety and health require competent individuals and experts with a high level of professionalism, including the ability to plan, manage, operate, implement and evaluate workplace safety and health agendas.

Therefore, forming a group of competent safety practitioners and professionalism is important in carrying out their duties. In general, safety practitioners' role is to ensure improvement in the quality of work related to safety and health in the workplace. Therefore, management competencies and capabilities are important to develop. (OSHMP 2025, DOSH Malaysia, 2021).

The study's objective was to reveal whether there are effects and consequences between KM practices and SM practices to achieve better workplace safety and health performance. Studies can also provide organizations with guidelines for providing a safer work environment. The effects and consequences of KM practices on SM practices among safety practitioners in the FGV Group of Companies are the study subjects, and various factors influencing KM and SM can be identified.

2.5 Empirical Research

Increased knowledge results in better performance and fewer mistakes being made, thereby improving the organisation's health and safety (Shirouyehzad et al., 2017). KM practices affect SM practices in organisations (Fargnoli et al., 2011; Shirouyehzad et al., 2017). Researchers such as Gressgard L.J (2014) mention that mastery in KM is essential from the perspective of safety practitioners, especially for learning purposes, to avoid frequent mistakes.

Safety training is an essential safety management practice as a platform to gain safety knowledge, increase safety motivation and improve safety compliance standards. These findings provide valuable guidance to safety practitioners in identifying safety improvement mechanisms in the workplace (Dahl. O.E. 2013). There is very little research evidence linking safety management practices that are felt to contribute to

and influence the improvement of safety performance directly or indirectly.

Safety Management (SM) practices include the preparation of policies, strategies, procedures and activities implemented or followed by the management of an organization that targets employee safety. It is an essential element of mobilizing effective safety management in organizations, and implemented SM practices are designed to comply with existing legislation applicable to the organization (Johnson SE, 2007).

Researchers also noted that IT support is a crucial facilitator of knowledge acquisition, creation and sharing. Excellent and perfect IT facilities encourage firms to improve performance through innovation and organizational agility (Kamhawi, 2012). For example, it has been shown that technology enables the encoding of knowledge, i.e. transforming implicit knowledge into explicit (Nonaka & Takeuchi, 1995). This study also shows that human-oriented, technology-oriented, and process-oriented management KM practices can be associated with innovation (Henri T.I, 2016).

2.7 Conceptual Framework

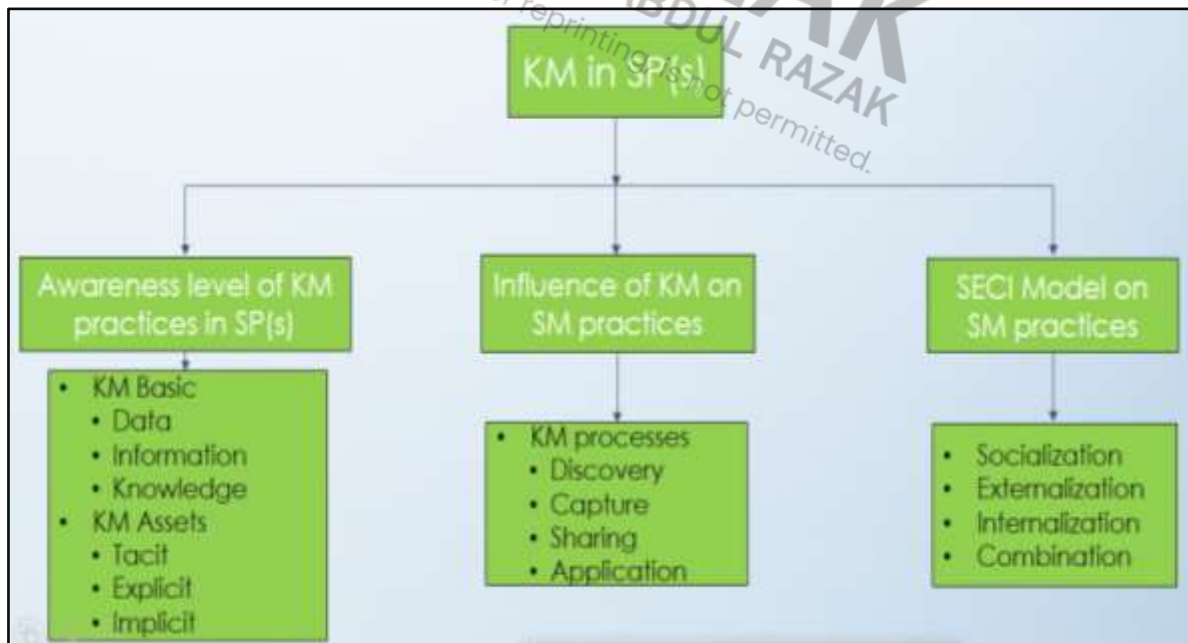


Figure 2: A proposed conceptual framework

2.8 Research Hypotheses

In this sub-chapter, variables are examined to ascertain the contribution or influence in explaining why the problem statement occurs and how it can be solved.

2.7.1 Hypothesis 1: Organization with good KM practices will reflect good SM practices and performance.

2.7.2 Hypothesis 2: Poor KM practices will reflect poor SM practices and performance.

2.9 Summary of Chapter 2

This chapter will consist of a comprehensive literature review to justify the formation of the proposed research framework and the development of study hypotheses.


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CHAPTER 3: RESEARCH METHODOLOGY

3.1 Research Design

This study explores the impact of KM practices on SM practices among security practitioners in the FGV Group of Companies. A quantitative approach was adopted to identify the effect of these two practice factors. Thus, this research study was conducted based on a survey method of questionnaires targeted at safety practitioners as the main subject of this study.

The survey study used a closed-ended questionnaire and online self-administration using the Google Form application was distributed to a targeted group of respondents among 54 FGV safety practitioners to collect data based on the proposed conceptual framework.

A basic descriptive profile is developed. Further Normality Tests and Regression analyses were conducted to test and measure the strength of cause and effect (impact) between KM on SM practices.

3.2 Population, Sample and Sampling Procedures

All FGV's safety practitioners, either registered as Safety and Health Officers (SHO) with DOSH Malaysia or not registered, participated in this study. The sample size covered 100% of FGV's safety practitioners based on their current employment. The researcher fully identifies all respondents as the FGV's safety practitioners are under the researcher's subordination reporting. All targeted FGV's safety practitioners sampling via online survey questionnaires. The survey questionnaires were divided into three sections i.e.

- i. Section A: Demographic Information (7 questions)
- ii. Section B: Knowledge Management Practices (18 questions)
- iii. Section C: Safety Management Practices (12 questions)

The responses in Sections B and C using the Likert Scale were rated on a 5-point scale ranging from Strongly Disagree (1) to Strongly Agree (5).

3.3 Data Collection Method

Survey research, closed and online self-administered questionnaires are distributed to a targeted 54 respondents as FGV's safety practitioners via the Google Form applications platform. The total of seven questionnaires, including the respondent's name (to avoid duplication of respondent) and rest about demographic information such as gender, age group, registration as a safety practitioner, educational level, years of experience in safety and English language proficiency. A total of 18 questionnaires measured the KM practices, and 12 questionnaires measured the SM practices among FGV's safety practitioners. These are one-time questionnaires and the time frame of this research for data collection is approximately one week. During this one week, 100% numbers of sampling are obtained and gathered for further analysis.

3.4 Independent Variables

Knowledge Management practices encompassed discovery, capture, sharing and application:

Q1: I have adequately attended safety and health training in 2021/2022.

Q2: I have gained safety and health knowledge throughout the course/meeting session.

Q3: I have applied what I have learnt in safety and health training with the routine job.

3.5 Mediating Variable

SECI Model by Nonaka & Takeuchi (1995):

3.5.1 Socialization

Socialization (tacit-to-tacit) consists of sharing knowledge in face-to-face, natural, and typically social interactions. Socialization consists of sharing experiences through observation, imitation, and practice:

Q4: I have shared experience throughout the attended safety and health

training/meeting.

Q5: I have gained an experience from other participants.

Q6: I have to go through discussion/brainstorming in attending safety and health training/meetings.

3.5.2 Externalization

The process of externalization (tacit-to-explicit) gives a visible form to tacit knowledge and converts it to explicit knowledge. In this mode, individuals can articulate the knowledge and know-how and, in some cases, the know-why and the care-why. written down, taped, drawn:

Q7: I have to record and transfer the knowledge learnt into written documents.

Q8: I have applied the safety knowledge I learned by sharing that knowledge with others in FGV.

Q9: I confirmed that the safety data, information and knowledge are stored in FGV, either printed or digital media.

Q10: I have to go through the one-to-one and face-to-face safety coaching and mentoring the approach in FGV.

3.5.3 Combination

The next stage of knowledge conversion in the Nonaka and Takeuchi (1995) SECI model in combination (explicit-to-explicit), is the process of recombining discrete pieces of explicit knowledge into a new form:

Q11: I have practiced collecting the safety data and using the information in FGV.

Q12: I have used the appropriate platform in FGV to deliberate any safety matters and assist in decision-making.

Q13: I have experienced a process of safety data, information and knowledge discovery, capture, analysis, storage, and sharing in FGV.

Q14: I have shared a real-life experience, such as being involved in a workplace accident, captured as a lesson learnt in FGV.

3.5.4 Internalization

Internalization (explicit-to-tacit) is strongly linked to learning by doing:

Q15: I have used the available tools for safety data, information, and knowledge management to implement and communicate in FGV.

Q16: I have gathered all safety records in terms of data, information and knowledge forms that are readily available for all employees in FGV.

Q17: I have practiced the assessment process of identifying critical areas of safety knowledge in FGV to avoid the cause of 'lack of safety awareness among workers.

Q18: I have transferred the safety knowledge through safety induction, briefing, tool-box talk, training sessions, and documented processes in FGV.

3.6. Dependent Variable

Four elements of Safety Management (SM) practices among FGV's safety practitioners:

3.6.1 Management Commitment

Q19: In FGV, safety matters are always to be equally important as production.

Q20: I have encountered the Management's willingness to compromise on safety to increase production.

Q21: All parties, including the contractor workers, strictly follow safety rules and procedures.

3.6.2 Safety Compliance

Q22: Adequate safety-related training has been given to all workers in FGV.

Q23: Employees in FGV are participated in developing HIRARC, SOPs, and Work Instructions.

Q24: All workplace incidents are thoroughly investigated.

3.6.3 Safety Awareness

Q25: The Management communicates all safety-related matters to the employees via

a notice board, e-mail, staff meetings, intranet and engagement sessions

Q26: All safety-related matters are discussed in the Safety and Health Committee meetings.

Q27: All workers have been adequately trained on safety rules and regulations, roles and responsibilities.

3.6.4 Safety Performance

Q28: Incidents and nonconformities in FGV are relatively at a high rate.

Q29: Corrective and preventive action is ineffective and does not follow the hierarchy of controls.

Q30: Continually improvement on the suitability, efficiency and effectiveness of the safety management practices are not well-reviewed by the Management in FGV.

3.7 Data Analysis Techniques

3.7.1 Descriptive Analysis

Demography profile is established from this analysis: Nominal such as gender, age group, registration as a safety practitioner, educational level, years of experience in safety and English language proficiency. Descriptive analysis is used.

3.7.2 Effect Size (Cohen's d)

Cohen's d is a standard measure for determining the size of the effect on the degree of significant difference between two variables (Cohen, 1988).

3.7.3 Normality Test

A normality test was conducted to determine data distribution. The normality test is essential because normality assumptions are the most vital criterion before proceeding with a parametric test (regression).

3.7.4 Regression Analysis

Regression analysis was conducted to measure the impact of Knowledge Management practices on Safety Management practices.

3.8 Summary of Chapter 3

Survey research, targeted and online self-administered questionnaires are distributed to 54 respondent FGV's safety practitioners via Google Form.



CHAPTER 4: RESULTS AND DISCUSSION

4.1 Introduction

Results and findings collected from the data analysis will be discussed in this chapter. Demographic profile will be elaborated more in section 4.2 while mean classification stated in 4.3 and descriptive analysis will be discussed in section 4.4. For sections 4.5 and 4.6, both of these sections will present level of KM and SM practices while the results based on normality test and regression analysis in 4.7 & 4.8 in order to study the impact of KM practices on SM practices among safety practitioners in FGV Group of Companies.

4.2 Demographic Profile

In the survey questionnaire distributed to respondents, each of them were asked on the questions. Table 1 demonstrates the demographic profile including gender, age, register, education, experience and English proficiency.

By looking at the gender, the male-dominated total sample comprised 47 (87%) of the total respondents, while 7 (13%) were female.

In terms of age, over half of the respondents, 29 (53.7%), were in the age range 25-39 years old, followed by 17 (31.5%) who were 40-55 years old, 7 (13%) were above 55 years old, and 1 (1.9%) were less than 25 years old.

It was reported that over three quarters, 43 (79.6%) of the total respondents were found to have registered as safety practitioners, while 11 (20.4%) did not as registered safety practitioners.

As far as respondents' education is concerned, about 26 (48.1%) were degree holders, followed by 15 (27.8%) were diploma holders, 9 (16.7%) were master holders, and 4 (7.4%) were SPM holders.

In the aspects of experience respondents, 26 (48.1%) of the respondents had

experienced between 6-10 years, followed by 17 (31.5%) over 10 years, and 11 (20.4%) were less than 5 years.

The study also found that most 35 (64.8%) respondents were intermediate in English proficiency, while 12 (22.2%) considered themselves a beginner, and 7 (13%) had advanced English.



Table 1: Demographic profile

Demographic Profile	n	%
Gender		
Male	47	87.0
Female	7	13.0
Age		
<25	1	1.9
25-39	29	53.7
40-55	17	31.5
>55	7	13.0
Registered SHO		
Yes	43	79.6
No	11	20.4
Education Level		
SPM	4	7.4
Diploma	15	27.8
Degree	26	48.1
Master	9	16.7
Years of Experience		
<5 Years	11	20.4
6-10 Years	26	48.1
> 10 Years	17	31.5
English Proficiency		
Beginner	12	22.2
Intermediate	35	64.8
Advanced	7	13.0

4.3 Mean Classification

Mean was categorized into three-level as shown in Table 3. As reported, the mean value between 1-2.33 was categorized as a low level while 2.34 to 3.67 was moderate and 3.68 to 5.00 were high. Kimi S.P et al. (2021).

Table 2: Mean classification

Mean	Interpretation
1 to 2.33	Low
2.34 to 3.67	Moderate
3.68 to 5.00	High

4.4 Descriptive Analysis

The study's results illustrated the mean and sd for KM and SM. The findings demonstrated mean and sd for KM were (3.90±0.32) while SM was (3.70±0.49).

Table 3: Mean and Standard Deviation

Variable	Mean	SD	Interpretation
KM	3.90	0.32	High
SM	3.70	0.49	High

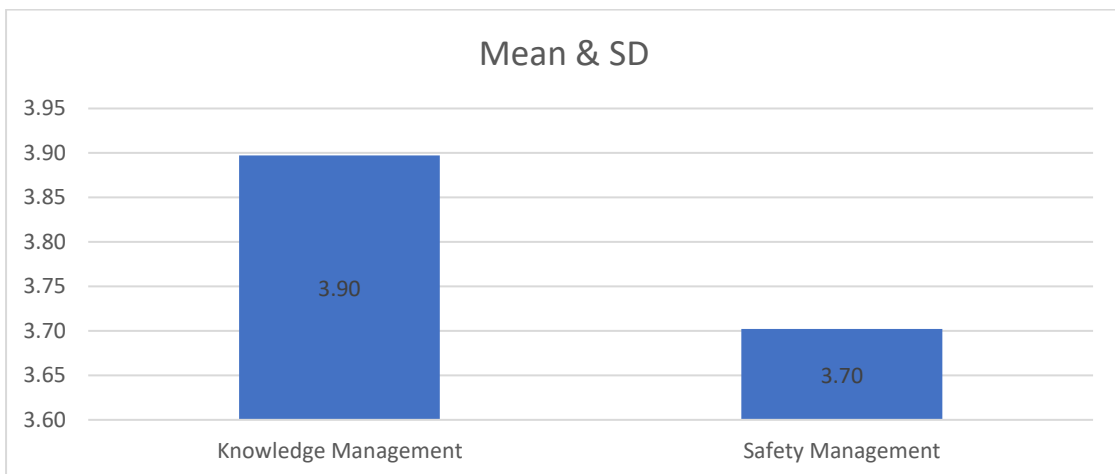


Figure 3: Mean and Standard Deviation

4.5 Level of Knowledge Management Practices

The findings show that over three-quarters of the respondents were at a high level of KM, while 12 (22.2%) were at a moderate level. None of the respondents was at a low level.

Table 4: Level of Knowledge Management Practices

Knowledge Management	Frequency	Percent
Low	0	0
Moderate	12	22.2
High	42	77.8
Total	54	100.0

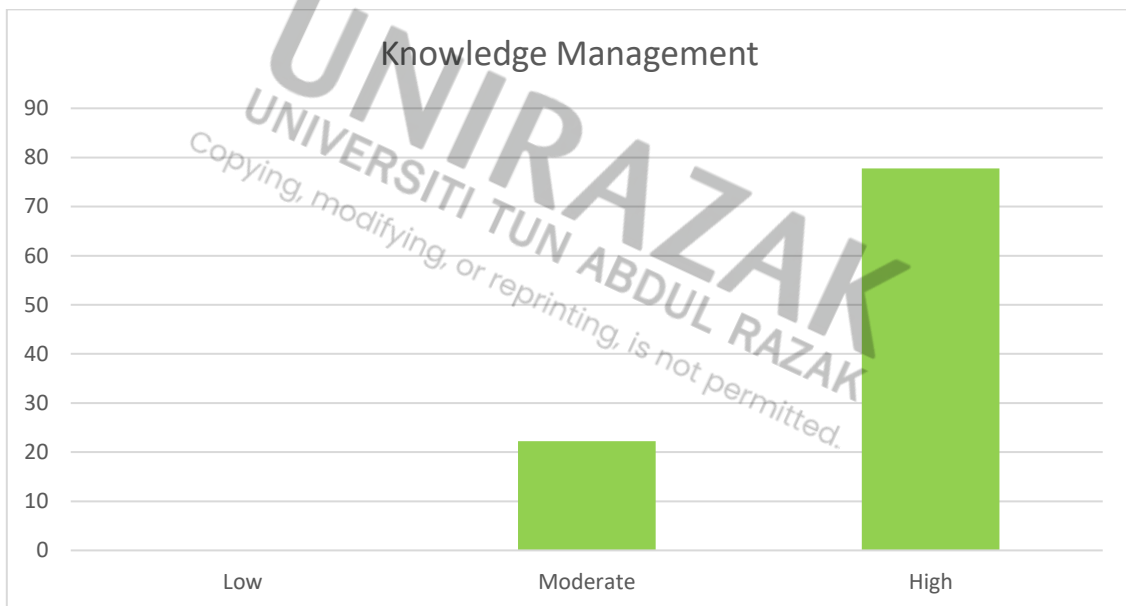


Figure 4: Level of Knowledge Management Practices

Table 5: Knowledge Management Practices Questionnaires

Q1 : I have attended safety and health training adequately in 2021/2022				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3 (5.6%)	29 (53.7%)	14 (25.9%)	8 (14.8%)	0
Q2 : I have gained safety and health knowledge throughout the				

course/meeting session				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
8 (14.8%)	40 (74.1%)	5 (9.3%)	1 (1.8%)	0
Q3 : I have applied what I have learnt in safety and health training with the routine job.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
12 (22.2%)	37 (68.5%)	5 (9.3%)	0	0

Table 6: Socialization Questionnaires

Q4 : I have shared experience throughout the attended safety and health training/meeting.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
8 (14.8%)	41 (75.9%)	5 (9.3%)	0	0
Q5 : I have gained an experience from other participants.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7 (13%)	39 (72.2%)	8 (14.8%)	0	0
Q6 : I have to go through discussion/brainstorming in attending safety and health training/meetings.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6 (11.1%)	42 (77.8%)	6 (11.1%)	0	0

Table 7: Externalization Questionnaires

Q7 : I have to record and transfer the knowledge learnt into written documents.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
2 (3.7%)	30 (55.6%)	21 (38.9%)	1 (1.8%)	0

Q8 : I have applied the safety knowledge I learned by sharing that knowledge with others in FGV.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9 (16.7%)	39 (72.2%)	6 (11.1%)	0	0
Q9 : I confirmed that the safety data, information and knowledge are stored in FGV, either printed or digital media.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
8 (14.8%)	42 (77.8%)	4 (7.4%)	0	0
Q10 : I have to go through the one-to-one and face-to-face safety coaching and mentoring approach in FGV.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1 (1.8%)	31 (57.4%)	19 (35.2%)	3 (5.6%)	0

Table 8: Combination Questionnaires

Q11 : I have practiced collecting the safety data and using the information in FGV.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3 (5.6%)	39 (72.2%)	12 (22.2%)	0	0
Q12 : I have used the appropriate platform in FGV to deliberate any safety matters and assist in the decision-making process.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5 (9.3%)	40 (74.1%)	9 (16.7%)	0	0
Q13 : I have experienced a process of safety data, information and knowledge discovery, capture, analysis, storage, and sharing in FGV				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
4 (7.5%)	41 (75.9%)	8 (14.8%)	1 (1.8%)	0

Q14 : I have shared a real-life experience, such as being involved in a workplace accident, captured as a lesson learnt in FGV.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5 (9.3%)	39 (72.2%)	9 (16.7%)	1 (1.8%)	0

Table 9: Internalization Questionnaires

Q15 : I have used the available tools for safety data, information, and knowledge management to implement and communicate in FGV				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6 (11.1%)	39 (72.2%)	9 (16.7%)	0	0
Q16 : I have gathered all safety records in terms of data, information and knowledge forms that are readily available for all employees in FGV.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
2 (3.7%)	42 (77.8%)	8 (14.8%)	2 (3.7%)	0
Q17 : I have practiced the assessment process of identifying critical areas of safety knowledge in FGV to avoid the cause of 'lack of safety awareness among workers.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
2 (3.7%)	41 (75.9%)	8 (16.7%)	2 (3.7%)	0
Q18 : I have transferred the safety knowledge through safety induction, briefing, tool-box talk, training session, and documented processes in FGV.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7 (12.9%)	44 (81.5%)	3 (5.6%)	0	0

4.6 Level of Safety Management Practices

The statistical findings revealed that 27 (50%) of the respondents were at a high

level of Safety Management; meanwhile, 26 (48.1%) were at a moderate level, and 1 (1.9%) were at a low level.

Table 10: Level of Safety Management Practices

Safety Management	Frequency	Percent
Low	1	1.9
Moderate	26	48.1
High	27	50.0
Total	54	100.0

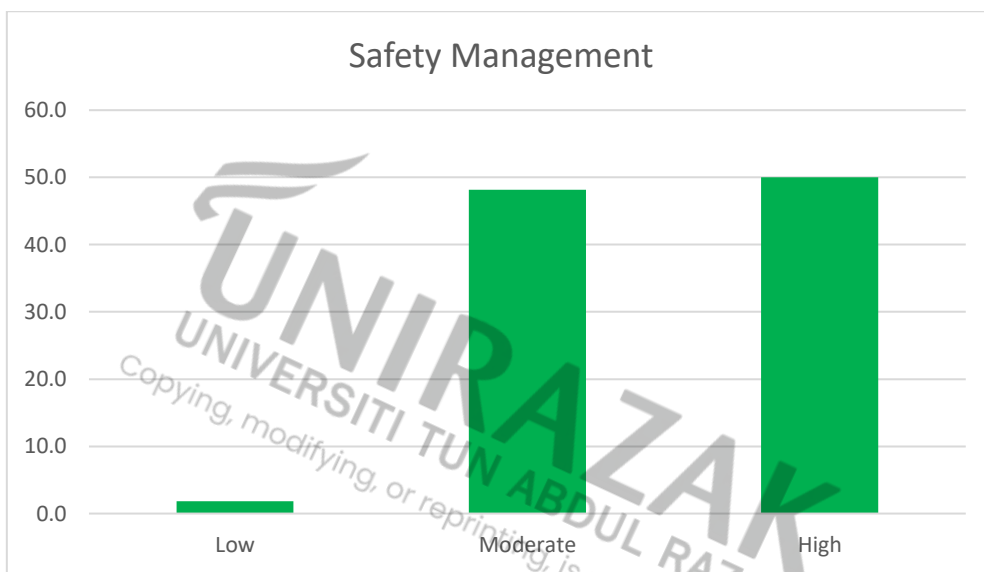


Figure 5: Level of Safety Management Practices

Table 11: Management Commitment Questionnaires

Q19 : In FGV, safety matters are always to be equally important as production.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
19 (35.2%)	24 (44.5%)	8 (14.8%)	2 (3.7%)	1 (1.8%)
Q20 : I have encountered the Management's willingness to compromise on safety to increase production.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

6 (11.1%)	29 (53.7%)	10 (18.5%)	7 (13%)	2 (3.7%)
Q21 : All parties, including the contractor workers, strictly follow safety rules and procedures.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
11 (20.4%)	22 (40.7%)	16 (29.7%)	4 (7.4%)	1 (1.8%)

Table 12: Safety Compliance Questionnaires

Q22 : Adequate safety-related training has been given to all workers in FGV				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6 (11.1%)	33 (61.1%)	12 (22.2%)	3 (5.6%)	0
Q23 : Employees in FGV are participated in developing HIRARC, SOPs, and Work Instruction				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7 (13%)	31 (57.4%)	10 (18.5%)	5 (9.3%)	1 (1.8%)
Q24 : All workplace incidents are thoroughly investigated				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
16 (29.6%)	32 (59.3%)	5 (9.3%)	1 (1.8%)	0

Table 13: Safety Awareness Questionnaires

Q25 : The Management communicates all safety-related matters to the employees via notice board, e-mail, staff meetings, intranet and engagement session				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
15 (27.8%)	29 (53.7%)	8 (14.8%)	2 (3.7%)	0
Q26 : All safety-related matters are discussed in the Safety and Health Committee meetings.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

19 (35.2%)	27 (50%)	6 (11.1%)	2 (3.7%)	0
Q27 : All workers have been adequately trained on safety rules and regulations, roles and responsibilities.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9 (16.7%)	30 (55.6%)	12 (22.2%)	3 (5.5%)	0

Table 14: Safety Performance Questionnaires

Q28 : Incidents and nonconformities in FGV are relatively at a high rate.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5 (9.3%)	23 (42.6%)	18 (33.3%)	8 (14.8%)	0
Q29 : Corrective and preventive action is ineffective and does not follow the hierarchy of control.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
4 (7.4%)	14 (25.9%)	10 (18.5%)	25 (46.4%)	1 (1.8%)
Q30 : Continually improvement on the suitability, efficiency and effectiveness of the safety management practices is not well-reviewed by the Management in FGV.				
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3 (5.6%)	19 (35.2%)	10 (18.5%)	20 (37%)	2 (3.7%)

4.7 Effect Size (Cohen's d)

Cohen's d is a standard measure for determining the size of the effect on the degree of significant difference between two variables (Cohen, 1988). The effect size value for KM and SM is 0.48, which is at the level of the medium effect size. This result indicates that the practical significance of the results of this research is at a moderate level. In this study, it was found that KM practices have a moderate relationship with SM practices.

Table 15: Effect sizes

Variable	Mean	SD	d
KM	3.90	0.32	0.48
SM	3.70	0.49	

Table 16: Cohen's Effect Size Conventions

Effect size	Cohen's d
Small	$d < 0.2$
Medium	$0.2 < d < 0.8$
Large	$d > 0.8$

4.8 Normality Test

A normality test was conducted to determine data distribution. The normality test is essential because normality assumptions are the most vital criterion before proceeding with a parametric test (regression). According to Kline (2011), the data is considered normal if the value of skewness and kurtosis is between -10 to +10. The findings show that the skewness value was between -0.41 and -0.44, while kurtosis was between +2 and -2. It indicates the data is approximately normal.

Table 17: Normality test

Variable	Skewness		Kurtosis	
	Stats	SE	Stats	SE
KM	-0.41	0.32	2.00	0.64
SM	-0.44	0.32	2.19	0.64

Statistics=Stats SE=Standard Error

4.9 Regression Analysis

Regression analysis was conducted to measure the impact of Knowledge Management on Safety Management. The regression model was found to have significant $DF_{1,52}=7.518$, $p<0.05$. The findings demonstrated that Knowledge

Management significantly impacts Safety Management [b=0.544, t=2.742, p<0.05]. R square was reported at 0.126 or 12.6%. Looking at the beta coefficient, in every 1 unit change in Knowledge Management, Safety Management was expected to change by 0.544 units.

Table 18: Regression analysis

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	Beta	SE	Beta		
(Constant)	1.584	0.775		2.044	0.046
Mean_KM	0.544	0.198	0.355	2.742	0.008

a. Dependent Variable: Mean_SM
 DF1,52=7.518,p<0.05
 R-Square=0.126

Standard Error=SE	t value=t	Significant=Sig
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CHAPTER 5: CONCLUSIONS, RECOMMENDATIONS, LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

5.1 Conclusion

The main objective of this study was to investigate the impact of KM practices on SM practices among safety practitioners in FGV Group of Companies. A survey questionnaire was conducted to a sample size 100% of 54 respondents. The aim of the structured questionnaire was to collect primary data from the sample.

Demographic and descriptive techniques were used for data analysis while The impact of KM practices on SM practices were measured using normality test and regression analysis to investigate relationships between variables in order to justify the hypotheses of study.

The KM model SECI by Nonaka & Takeuchi, 1995 is used because of its simplicity of the model. SECI model as the knowledge management practices cycle is correlated with safety management practices. KM draws upon many diverse fields, including the occupational safety and health discipline. Ruggles & Holthouse, (1999), identified that KM could attribute to other forms of knowledge such as generating new data, information and knowledge, assisting in the decision-making process, tools in developing business strategy, generating best practices and creating innovation.

Based on the analysis of the data using SPSS, the findings show that impact of KM practices on SM practices have a positive and little impact. The result of the study confirmed that KM practices will cause and impact the SM practices among FGV's safety practitioners at 12.6%.

5.2 Recommendation

The results from this study are of small but essential impact on improving safety management, especially for complex and large organizations such as FGV and

its group of companies. As a significant player in the agribusiness industry, FGV must demonstrate and exemplify good occupational safety and health practices and compliance and achieve high standards compared to other organizations. This study also proves that Security Management System is important to be practiced along with efficient and effective KM practices.

We can also expect that FGV has already created their own mature and robust SMS so that it can be an excellent example to others. In addition, several FGV Group Companies have already been certified in the ISO 45001: 2018 Occupational Health and Safety certification system. In the future, other researchers can extend this study to the national level according to their respective industry sectors and compare them.

5.3 Limitations and Suggestions for Future Research

First, researchers have faced some limitations in this study from the aspect of diversity in the KM model. The researcher only used the SECI Model by Nonaka & Takeuchi, 1995 in this study. There are many KM Models created by Beer (1984), Wiig (1993), Von Krogh & Roos (1995), Nonaka & Takeuchi (1995), Boisot (1998), and Choo (1998), Weick (2001) and Bennet & Bennet (2004). This variation of the KM Model presents different perspectives on the concepts and ideas of KM.

Second, elements of the occupational safety and health management system in the workplace are widespread, adopted and practiced by safety practitioners around the world. The researcher's focus in this study was limited to only the four main SMS elements that the researcher felt were most important to explore and study. Time constraints are one of the main reasons for the limitations of the scope of this study.

Thirdly, this research study was only conducted to one company only which means limited conclusions and generalizations could be made.

This research study was conducted without taking into considerations on the gender and personality of the safety practitioners. The perception of safety practitioners behaviors were not studied as gender and personality differences could also give a huge influence to KM and SM practices.

Future research should also consider extending study participants to non-safety practitioner staff, for example, from the upper management group, i.e. the CEO, to a group of subordinate employees. Researchers may have the opportunity to study different perspectives of job profiles in an organization.



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APPENDIX



Appendix 1:

Survey Form - Study on Knowledge Management Practices among Safety Practitioners in FGV Group of Companies.

UNIRAZAK MASTER IN MANAGEMENT PROGRAM
STUDY ON KNOWLEDGE MANAGEMENT PRACTICES AMONG SAFETY
PRACTITIONERS IN FGV GROUP OF COMPANIES

Dear respected FGV's Safety Practitioners,

You are invited to participate in this survey to assess the influence of Knowledge Management practices on the excellent achievement of Safety Management practices at FGV perspectives.

Please answer the questions below honestly. The collected data and information will help the researcher better understand this subject. Your response will be kept strictly confidential. The completed questionnaires will treat as confidential and for the educational purposes of this research. Thank you for all your time and cooperation.

With regards,

Shaharizan bin Yunus (Researcher)

Section A: Demographic Information

1. Name:

2. Gender:

3. Age group: < 25 years
25 - 39 years
40 - 55 years

> 55 years

4. Registered as Safety Practitioners? Yes / No

5. Educational level:

6. Years of experience in safety:

7. English language proficiency: Beginner / Intermediate / Advanced


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Section B: Knowledge Management Practices

Considering only the respondent perception, please choose the most appropriate answer:

1. Strongly disagree
 2. Disagree
 3. Moderate
 4. Agree
 5. Strongly agree
-

1. I have attended safety and health training adequately in 2021/2022.
2. I have gained safety and health knowledge throughout the course/meeting session.
3. I have applied what I have learnt in safety and health training with the routine job.
4. I have shared experience throughout the attended safety and health training/meeting.
5. I have gained an experience from other participants.
6. I have to go through discussion/brainstorming in attending safety and health training/meetings.
7. I have to record and transfer the knowledge learnt into written documents.
8. I have applied the safety knowledge I learned by sharing that knowledge with others in FGV.

9. I confirmed that the safety data, information and knowledge are stored in FGV, either printed or digital media.
 10. I have to go through the one-to-one and face-to-face safety coaching and mentoring approach in FGV.
 11. I have practiced collecting the safety data and using the information in FGV.
 12. I have used the appropriate platform in FGV to deliberate any safety matters and assist in the decision-making process.
 13. I have experienced a process of safety data, information and knowledge discovery, capture, analysis, storage, and sharing in FGV.
 14. I have shared a real-life experience, such as being involved in a workplace accident, captured as a lesson learnt in FGV.
 15. I have used the available tools for safety data, information, and knowledge management to implement and communicate in FGV.
 16. I have gathered all safety records in terms of data, information and knowledge forms that are readily available for all employees in FGV.
 17. I have practiced the assessment process of identifying critical areas of safety knowledge in FGV to avoid the cause of 'lack of safety awareness among workers.
 18. I have transferred the safety knowledge through safety induction, briefing, tool-box talk, training session, and documented processes in FGV.
-

Section C: Safety Management Practices

Considering only the respondent perception, please choose the most appropriate answer:

1. Strongly disagree
 2. Disagree
 3. Moderate
 4. Agree
 5. Strongly agree
-

1. In FGV, safety matters are always to be equally important as production.
2. I have encountered the Management's willingness to compromise on safety to increase production.
3. All parties, including the contractor workers, strictly follow safety rules and procedures.
4. Adequate safety-related training has been given to all workers in FGV.
5. Employees in FGV are participated in developing HIRARC, SOPs, and Work Instructions.
6. All workplace incidents are thoroughly investigated.
7. The Management communicates all safety-related matters to the employees via notice board, e-mail, staff meetings, intranet and engagement sessions.
8. All safety-related matters are discussed in the Safety and Health Committee meetings.
9. All workers have been adequately trained on safety rules and regulations, roles and responsibilities.

10. Incidents and nonconformities in FGV are relatively at a high rate.
11. Corrective and preventive action is ineffective and does not follow the hierarchy of controls.
12. Continually improvement on the suitability, efficiency and effectiveness of the safety management practices is not well-reviewed by the Management in FGV.

END


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APPROVAL PAGE

TITLE OF PROJECT PAPER:

STUDY ON KNOWLEDGE MANAGEMENT PRACTICES AMONG SAFETY PRACTITIONERS IN FGV GROUP OF COMPANIES

NAME OF AUTHOR : SHAHARIZAN BIN YUNUS

The undersigned certify that the above candidate has fulfilled the condition of the project paper prepared in partial fulfillment for the degree of Master in Management.

SUPERVISOR

Signature : _____

Name : Asst. Prof. Dr. Farhana Tahmida Newaz

Date :

ENDORSED BY:

Dean

Graduate School of Business

Date:

