THE CONNECTION BETWEEN SAFETY COMPLIANCE BEHAVIOUR, SAFETY COMMUNICATION AND SAFETY STANDARD AND PROCEDURE: AN INVESTIGATION AMONG WORKERS IN MALAYSIAN SME'S

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ABSTRACT

Small and medium enterprises are in the midst of enhancing Malaysia's GDP in recent years, despite the uncertain world economic conditions. In 2019, it is expected that 41 per cent of the country's GDP is contributed by SMEs, especially SMEs based on halal products and services. Around 70% from 19 million of the employment in Malaysia have formed in the SME firms, with not less than 5% of them employed by SME's manufacturing companies. On the contrary, statistics on occupational accidents in Malaysia do not record significant alterations in aggregate. Nevertheless, the manufacturing sector remains a major contributor to the highest pace of industrial accidents in Malaysia. Based on reports announced by the authorities' agencies, more than half of occupational accidents in Malaysia are due to employee negligence and unsafe behaviour while working. This study focused on identifying the link between safety rules and procedures; and safety communication in determining the workers' safety compliance behaviour. A study utilizing a questionnaire was carried out involving 382 respondents from 50 small and medium manufacturing companies in Kedah, Malaysia. Then, the data were analysed using SPSS that involved data screening and hypothesis testing. The findings demonstrate that safety communication and safety rules and the procedure substantially correlated with safety compliance behaviour. The result of this study would provide the small and medium manufacturing companies with supplementary information on workplace safety, thus creating a safer and healthier working environment.

Keywords: SME, Manufacturing, Safety Communication, Safety Compliance Behavior.

INTRODUCTION

Malaysia's small and medium enterprises (SMEs) are one of the major contributors to the nation's economic system. The definition of SMEs, as understood in Malaysia, is a company with less than 200 staff or sales revenues not more than RM50 million. The accomplishment of SMEs' gross domestic product (GDP) exceeds the Malaysian GDP with a 5.2% upraised in

comparison to the Malaysian GDP at 4.2% in 2016 (DOSM, 2017). In 2018, local SMEs' contribute 38% to the Malaysian GDP (Zainuddin, 2019). This index indicates the significance of SMEs in driving the local business. In current terms, SMEs' GDP recorded an amount of RM463.2 billion, an increment of RM34.2 billion than 2015 in sales. In the manufacturing sector, SMEs' value-added registered a growth of 4.8% (6.0% in 2015) contributed by food, beverages, and tobacco subsector, which increased 2.8% (2.6% in 2015) (DOSM, 2017). The Malaysian SME sector is regarded as the economic backbone contributing to the industrial output (35.9%), exports (17.8%), providing about 65% of the total employment in Malaysia, creating millions of jobs annually in addition to generating more than a thousand goods for the local and global markets. Numerous elements play a vital role in Malaysian SMEs progress such as financing availability, the introduction of new technology, international marketing fair, implementation of trade directories and online promotion portals (SME Corporation Malaysia, 2015).

In this modern world, safety performance becomes one of the main indicators in the company's competitiveness. This performance can be measured through industrial accident rates or compensation value (Health & Safety Executive, 2001). The fatality rate of industrial accidents in the Malaysia manufacturing industry is higher than any other economic segment (Nee, 2014). In 2018, over 64% of industrial accidents reported to the Department of Occupational Safety and Health (DOSH), Malaysia, occurred in the manufacturing sector (DOSH, 2019), with 62 workers were killed in industrial accidents in that year (DOSH, 2019). The high cases of accidents have given it a poor image of the sector and it has been discussed by several researchers about the major contributor to this situation for over twenty years (Ali et al., 2009; Ali et al., 2017; Nee, 2014). Even though the Malaysian government gazetted the Occupational Safety and Health Act (OSHA) in 1994, which to promote occupational safety and health management practices through self-regulation, but still, the industrial accident rates among manufacturing workers is high and been considered as an outbreak that needs to be managed. It is a prerequisite activity by all employers and their employees to treat the safety as "*A way of life*" or daily custom while performing their work.

The focus of this research is to verify the correlation between elements that may lead to the development of positive safety compliance behaviour among workers in Malaysian SME's sector. The following discussion focuses on the literature review, the methodologies, the data analysis techniques that lead to the main findings, discussion of the result and overall conclusions are drawn.

LITERATURE REVIEW

Industrial accidents are so devastating and it may cause loss to both, the employers and employees. As mention above, organisational safety performance depends on the company industrial accident rates. Prior study has proven the worker unsafety behaviour is the leading factor in workplace accidents (Chong & Thuan, 2014; Zakaria et al., 2012). Unsafe behaviour has been referred to as "*Dangerous acts that often result in injuries*" (Galloway, 2015). In another hand, safety behaviour can be referred to as behaviour associated with safety. Sometime people might refer it to behavioural based safety (BBS), is the concept that involved "*Application of the science of behaviour change to combat safety problems*" (Cambridge Centre of Behavioural Studied, n. d.) or "*A process that creates a safety partnership between management and employees that continually focuses people's attentions and actions on theirs, and others, daily safety behaviour*" (Cooper, 2009).

The previous finding proved that the industrial accidents can be cut through an effective precautionary method such as safety training, open communication and feedback, and safety policies (Brisk, 2016; Zakaria et al., 2012). In order to create a safer work environment, the attitude of the workers needs to be changed. These changes can be made through adopting the best safety practices in work such as good housekeeping, obedience on safety regulation, and active participation among organisation member on safety (Brisk, 2016). By understanding the needs and the importance of safety and health management, the employer can strategically allocate their resources on the improvement of organisational safety performance. According to Neal et al. (2000); the components of performance indicated the employee's behaviour at work. Safety behaviour has been referred to as compliance behaviour by workers. Compliance behaviours were defined as "*The core safety activities that need to be carried out by individuals to maintain workplace safety*" (Neal et al., 2000). In this study, safety compliance behaviour has been defined as compliance behaviour by the worker for maintaining safety in the workplace.

Past researchers have identified a few characteristics that influence workers' safety compliance behaviour, including management commitment, communication, strategy development and implementation, resources, and empowerment, which widely used to measure safety performance at the workplace (Morgan et al., 2011; Smith & Dejoy, 2014; Vinodkumar & Bhasi, 2010; Wu et al., 2011). A study conducted by Smith & Dejoy (2014) found a significant link between safety climate and safety compliance and safety participation. In addition, the result also supported the importance of safety compliance and safety participation involved in the reduction of occupational accidents. Vinodkumar & Bhasi (2010) found that safety knowledge and safety motivation had a significant link with safety compliance behaviour. Similarly, Pedersen & Kines (2011) conducted a study to examine the correlation between safety motivation and safety performance (safety compliance and safety participation) indicated that safety motivation positively affected safety performance.

In the Malaysian context, finding from Ali et al. (2009) investigation showed that feedback and employee participation were significant predictors of injury rates. Khoo et al. (2011) studied the effect of safety management practices on safety performance in Malaysia agreed that there is a positive connection between safety management practices and safety performance of employees and the need for safety management practices among the workforce. Subramaniam et al. (2016) found that management commitment, safety training and safety rules and procedure were significantly influenced the workers' safety compliance behaviour among SME's employees. Hassan & Loong (2017) explained that there was a positive relationship between management commitment, safety training, safety communication and feedback, supervisory roles and employees' involvement in compliance behaviour among nurses. In summary, the above studies found that several factors associated with safety compliance behaviour, which positively related in order to minimize the accidents and injury rates in the workplace. In spite of various factors been investigated, this study only focused on the association between safety rules and procedure, and safety communication that researchers believed has a predominant effect on workers' safety compliance behaviour.

The Relationship between Safety Communication and Safety Compliance Behaviour

Safety communication is defined as the process of promoting mutual understanding and two-way communication between the employer and employees on the organisation's safety and goal requirements (Hassan et al., 2017). Communication permits people, tasks, processes, and systems interact cooperatively and purposely in achieving organisational goals (positive safety

performance). Findings from previous studies showed that there are a few factors that can affect an organisation's safety performance, and effective communication is one of the critical factors (Abdullah et al., 2009; Hofmann et al., 2017; Jin et al., 2015; Kouabenan et al., 2015). Effective communication is an integral part of achieving an injury-free workplace. Most injuries occurred due to risky behaviours, yet employees often are reluctant to provide safety-related feedback to co-workers (Lee, 2018).

Throughout the open communication, the management can identify workplace hazards and correct the errors at work with the efficient communication and feedback system within the organisation (Vredenburgh, 2002; Pandey & Garnett, 2006). Previous studies revealed the link between safety communication and feedback, and safety performance (Mearns et al., 2003; Ali et al., 2009; Cigularov et al., 2010) In most cases, the supervisor has more responsibility to inform employees of the health and safety practices and policies and make sure employees receive complete information on this topic (Kouabenane et al., 2015). Tang et al. (2008) for example, found that effective communication between supervisors and team members in the manufacturing industry has a significant link with safety performance. Effective communication also has a positive and significant result in reducing accident rates (Hofmann et al., 2017). Similarly, Ali et al. (2009) revealed that communication and feedback has a significant influence on reducing the injury rate in Malaysia's industrial sector.

In conclusion, safety communication was found to be a mechanism in improving safety performance, lower accident rates and recognize potential safety issues in the workplace. An organisation can boost its safety performance by providing sound guidelines to improve safety-related communication. By providing and receiving safety feedback more effectively, including corrective feedback (for at-risk behaviour) and praise the workplace can be safer. This study aims to examine the relationship between safety communications on worker safety compliance behaviour among employees.

The Relationship between Safety Compliance Behaviour and Safety rules and procedure

Safety rules and procedure is referred as the extent to which organisations create clear missions, assign clear roles and responsibilities, set up standards for monitoring employee behaviours and also instituting systems for correcting workers' unsafe behaviours (Lu & Yang, 2011). By implementing the safety rules and procedure in the workplace, the employer will show their commitment to safety (Fernández-Muñiz et al., 2007). According to Vinodkumar & Bhasi (2010), employee compliance with safety rules and procedure is a substantial element of best safety management practice in an organisation. Therefore, the objectives of safety rules and procedure are to ensure employee behave correctly according to all orders and compliance in the workplace.

Previous studies have shown the significant connection between safety rules and procedure and safety performance (Feng et al., 2014; Vinodkumar & Bhasi, 2010; Wachter & Yorio, 2014). For instance, a study by Laurance (2005) revealed that workplace accidents can be caused by a failure to comply with safety rules and procedure. Similarly, Mearns et al. (2003) conducted a study that stated a positive association between safety rules and procedure and safety performance in the oil and gas industry (Pfeifer & Wagner, 2014; Prabawani, 2013; Anyebe & Anyebe, 2014; Mpofu & Sauti, 2014; Fasoranti & Akindele, 2015; Phirak, 2016; Morrow, 2016; Esiagu et al., 2016; Danbaba et al., 2016; Nguyen, 2018; Ghalke et al., 2018; Gnanakumar, 2018). A study by Leggat, et al. (2011) found that high performing work systems among workers were based on the proactive implementation of safety rules and procedure by the

top management. Dahl & Olsen (2013) informed that all employees should know the important safety rules and procedure to them, and how it so influential in their safety-related behaviours. Wu et al. (2015) found that adherence to safety rules and procedure as a significant factor for improving safety performance indicators. Fang et al. (2015) argued that obeying safety rules and procedure was a key to improving safety performance indicators in the construction industry (Wojtczuk-Turek, 2017).

In summary, safety rules and procedure have a consequential contact with safety performance that depends on the worker's acquiescence with workplace safety rules and procedure. As stated previously, this main objective of this study is to identify the link between safety rules and procedure on worker safety compliance behaviour among employees.

RESEARCH FRAMEWORK AND HYPOTHESES

This study intends to determine the link between safety communication and safety rules and procedure on workers' safety compliance behaviour. As an effort to conduct the study and attain the aims of this investigation, a framework was developed. Figure 1 shows the hypothesized research model as below.

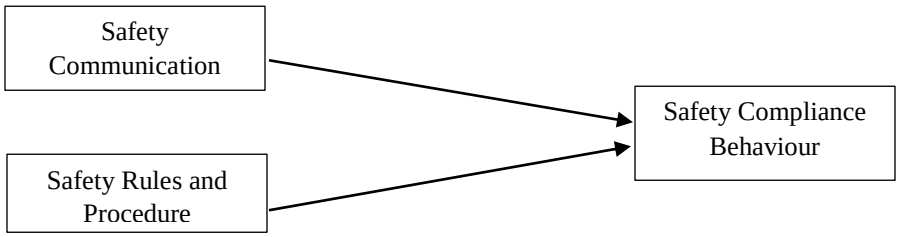

FIGURE 1
THE ASSOCIATION BETWEEN SAFETY COMMUNICATION, SAFETY RULES AND PROCEDURE AND SAFETY COMPLIANCE BEHAVIOUR.

Based on the above framework, the researchers proposed the following hypothesis in order to achieve the research aims.

H1 *Safety communication relates to worker safety compliance behaviour.*

H2 *Safety rules and procedure has links with worker safety compliance behaviour.*

RESEARCH METHODOLOGY

Research Design

This cross-sectional research involved a one-shot data collection process which was more suitable for this study rather than a longitudinal study due to the limitation in terms of time and money (Sekaran & Bougie, 2016; Zikmund et al., 2013). The questionnaire is the most applicable methods in data collection process because it's easier to collect the data in a large pool of respondents in a short period (Rowley, 2014).

This research applied a questionnaire as an instrument for data collection. The instrument was adapted from a previous study and consisted of demographic questions, communication, safety, safety rules and procedure, and safety compliance behaviour items. Overall, there are 17 items were adapted from Vinodkumar & Bhasi (2010).

The Likert scale with five-point response was used in this study, ranging from "*Strongly disagrees*" to "*Strongly agree*". The questionnaire was developed in Malay and back-translated into English before administering it to the respondents. This was to minimize translation errors in the Bahasa Malaysia version, which were distributed. Questionnaire in Malay is a better choice to increase the respondent's understanding of the questions that been asked in this study.

Population and Sample Size

The main population is manufacturing workers working in SME's company located in a northern state of Peninsular Malaysia. The unit of analysis is individual. Each company was selected using purposive sampling. The list of companies is from SME Business Directory, SMECorp. Due to no specific resources that can prove the total number of employees working in SME's manufacturing companies in Malaysia, the researcher decided to distribute 500 copies of questionnaire to targeted sample, with an intention to get better response rates. The company then contacted through telephone in order to get their approval before the actual data collection presented. Upon approval, the researchers with the help from research assistants went to the selected company to disseminate the questionnaire personally to the targeted respondents. After the completion of the data collection process, a total of 382 usable questionnaires were collected, representing 76.4% of the target sample.

Data Analysis Techniques

Data analysis stage provides information about the statistical result which helps the researcher to analyse the findings from research hypotheses testing. The data were coded and keyed into the Statistical Package for Social Science (SPSS) software version 22.0. This process consisted of three stages: data filtering, demographic profiling, and hypothesis testing. In hypothesis testing, the study employed correlation and regression analyses that investigated the interaction between the dependent and independent variables. Then, the data were analysed to test the reliability of each variable. The alpha values of the current research were stated as follows: safety communication (α=0.715), safety rules and procedure (α=0.783) and safety compliance behaviour (α=0.828).

DATA ANALYSIS

Profile of Respondents

The respondents consist of 137 men and 245 women. Most of the respondents are married (81.5%) and 44.2% age between 20 to 30 years old. In terms of the salary range, the majority (85.9%) reported earned below RM1000 per month. Only 25.7% indicated that they had to work in shifts.

Results of the Data Analysis

Table 1 represents the model summary. The *R* value is 0.676, showing a strong linear relationship between variables. The R^2 value is 0.457. This value indicates that 45.7% of the variation in safety compliance behaviour was explained by the relationship with the independent variables.

Table 1
Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	0.676	0.457	0.454	5.97293

Table 2 displays the regression for significant factors correlated with safety compliance behaviour.

Table 2
Regression Analysis Result

		Unstandardised Coefficients		**Standardised Model Coefficients**		
Model		**B**	**Std. Error**	**B**	***T***	**Sig**
1	(Constant)	32.647	2.621		12.458	0.000
	Safety communication	0.676	0.074	0.425	9.097	0.000

This study indicated that both the independent variables have a significant and positive relationship with safety compliance behaviour. The finding is parallel with the result of past studies that proved a significant relationship between safety communication and employees' compliance behaviour (Ghahramani & Khalkhali, 2015; Oah et al., 2018; Zwetsloot et al., 2017).

The results of the descriptive analysis found that the majority of respondents agreed that the management of their company always communicated openly when dealing with safety issues in their place. Respondents also reported that their employer is willing to hear comments or views from employees regarding safety aspects during work. The majority of respondents also stated, they agreed that compliance with safety rules and procedure was their priority during work. They believed that by using the PPE and following the standard operation procedures (SOP's), reduces the risk of accidents to themselves. This study found that the workers (respondents) safety is dependent on their behaviour. This behaviour is influenced by their management through effective and open communication. Moreover, workers show that they have a strong grasp on the importance of safety rules and procedure in their work.

CONCLUSION

As expected by researchers, data analysis has proven significant relationships between safety communication, safety rules and procedure, and safety compliance behaviour among workers in the small and medium manufacturing companies. The present study supports the aforementioned argument about the significant link between these variables. These findings confirmed that safety communication and safety rules and the procedure is a crucial element in predicting safety compliance behaviour among workers, which at the end will affect the organisational safety performance.

The positive and constructive safety communication structure within the organisation involved both parties, i.e. the management and their employees. Open communication methods are the gist that gives an opportunity to the management on what they want from their employees regarding workplace safety. Workers involvement and acceptation in safety communication will help the organisation obtain co-operation and support as well as keep a positive safety culture in the organisation.

A safety rules and procedure is a written document which its intentions to inform the workers about do's and don'ts in doing their job. A clear statement in each documented safety rules and procedure will give the employees general information about work safety standard procedure. It helps to furnish workers knowledge on hazard identification and prevention. This document also can be used as a holy manuscript to guide the workers in preventing risky behaviours and avoid an accident from happening. All the statement in the safety rules and procedure should be understood, implemented and maintained at all levels of the organization. It's a prime responsibility of line management from the most senior executive level to first-line supervisory level to enforced safety and health standard and procedures in the workplace.

Despite this affirmative evidences, the current investigation suggests that other important organisation factors remain to be identified. The future investigator is advice to scrutinise and review other organizational factors that can influence workers safety compliance behaviours, such as trust, work environment, and management participation in safety. Although these findings add new knowledge regarding this issue, this study still has several flops. For example, the location of the study that only involved the northern state in Peninsular Malaysia which limits the generalization of findings across the sector. Second, this study should use mix method techniques in the data collection process. An interview, for example, can improve the quality and rigorousness response on the data collected. To overcome this limitation, the future researcher should try to use deferent kind of method and multiple the investigation factors. It is hoped that the current survey will generate new discussion among researchers and will contribute to the safety performance knowledge enrichment.

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