

THE IMPACT OF SAFETY MANAGEMENT PRACTICES ON SAFETY COMPLIANCE IN A SELECTED GARMENT MANUFACTURING ORGANIZATION IN SRI LANKA

Thathsarani, E.P.¹ and Alim, S.²

^{1,2} *The open University of Sri Lanka*

[¹eptha@ou.ac.lk](mailto:eptha@ou.ac.lk)

[²asuma@ou.ac.lk](mailto:asuma@ou.ac.lk)

Abstract

The study attempts to clarify the impact of safety management practices on safety compliance in a selected garment manufacturing firm in Sri Lanka because there is an empirical and theoretical gap and lacking literature on the topic. To find out the results, primary data were collected using a questionnaire. A survey was used for obtaining the responses. The population of the study is all the machine operators (653) in the firms and 196 sample machine operators were selected based on Krejcie & Morgon table randomly among the population. Data analysis was done by using descriptive statistic software SPSS version 23.0 and also consisted of univariate and bivariate analyses to test the hypothesis of the study. According to hypotheses testing, it shows that the dependent variable, which is safety management practices has a positive impact on safety compliance. Therefore, decision-making parties should concern above results and implement proper safety management practices within every organization to reduce workplace accidents and injuries and reduce costs associated with workers' safety where organizations can properly implement safety compliance within their organizations.

Keywords: Garment Manufacturing Firm, Safety Management Practices, Safety Compliance

Introduction

Every organization is succeeding through the efforts made by the human resource owned by it. Therefore, human resource is the most important resource an organization can own. Occupational safety and health can be achieved through safety compliance and it is a human resource function that is very important for any manufacturing or service organization. Safety compliance is defined as adhering to safety procedures and carrying out work in a safe manner (Neal et al., 2000). Further studies have indicated the significant role safety compliance plays in reducing workplace accidents and injuries (Clarke, 2006; Neal & Griffin, 2006). Also, following safety compliance can motivate employees to achieve a competitive advantage for the organization.

Safety management practices (SMP) are defined as approaches, policies, strategies, procedures, and activities implemented by the management of an organization to prevent occupational accidents and injuries at work (Vinodkumar & Bhasi, 2010). SMP can be used to maintain a safe working environment within an organization.

The review of safety-management literature found that many studies had focused on the occupational accident challenges that high-hazard firms, such as the oil and gas, construction, and manufacturing industries, are confronting. Literature indicates that occupational accidents and injuries can be avoided if employees comply with safety standards, procedures, and regulations at work (Mearns, Flin, Gordon, & Leming, 2001). Also, it demonstrates a direct relationship between safety management practices and safety compliance (Cabrera et al., 2007; Razuri et al., 2007; Ali et al., 2009; Geldert et al., 2010; Vinodkumar and Bhasi, 2010; Huang et al., 2012).

In recent years the garment sector has been facing challenges regarding compliance with the international standard to ensure workplace safety and better working conditions for the millions of garment workers due to several factors, including image smearing due to industrial accidents, political turmoil, energy crises, physical distribution and discriminatory treatment by some major global buyers. The reluctant attitude of the stakeholders toward the structural and workplace safety compliance issues resulted in different occupational disasters in RMG (Ready Made Garment) factories in Bangladesh (Barua & Ansary, 2016).

A few studies on SMP have been conducted in Sri Lankan contexts in relation to other factors including employee work performance and job satisfaction (Kularathna & Perera, 2016; Mihiravi & Perera, 2016; Perera 2019). The study aims at filling this gap by exploring the impact of safety management practices and safety compliance. Accordingly, the problem of the study, “Does safety management practices impact safety compliance in selected garment manufacturing Firms in Sri Lanka?”

The following research questions are to be investigated within the study to investigate the problem of the study.

1. What are the determinants of safety management practices in the selected garment manufacturing firm in Sri Lanka?
2. What is the relationship between safety management practices and safety compliance in the selected garment manufacturing firm in Sri Lanka?
3. Do safety management practices impact safety compliance in the selected garment manufacturing firm in Sri Lanka?

Objectives

This study was conducted,

1. To identify the determinants of safety management practices in selected garment manufacturing Firm in Sri Lanka.
2. To identify the relationship between safety management practices and safety compliance in the selected garment manufacturing firm in Sri Lanka
3. To find out the impact of safety management practices on safety compliance in a selected garment manufacturing firm in Sri Lanka.

Literature Review

Safety Management Practices

Successful safety management requires a more long-term and strategic approach that recognizes the connections between safety and other facets of company performance (Glendon et al., 2006). The management of an organization's techniques, policies, strategies, practices, and initiatives implemented with the goal of preventing workplace accidents and injuries are known as safety management practices. (Gershon et al., 2000; Cabrera et al., 2007; Vinodkumar and Bhasi, 2010). According to Gershon et al. (2000) to reduce workplace accidents and injuries, proactive policies and procedures are put in place through safety management practices. Safety management relates to the actual practices, roles and functions associate with remaining safe (Kirwan, 1998). According to Mattson (2015), regulatory and legal compliance drives safety management practices, which are handled independently from routine activities rather than integrated with the organization's broader management processes. Therefore, he often recommended that safety management should be considered from a strategic HRM perspective.

Safety management practices are important aspects to be considered in maintaining a safety culture within an organization. Gershon et al. (2000) stressed that safety management practices are proactive policies and measures

that are set up for the prevention of occupational accidents and injuries. Accordingly, different literature defines safety management practices in different ways.

Dimensions of Safety Management Practices

The literature also determined six dimensions of safety management practices. According to Subramaniam et al. (2016) following safety management practices have been widely considered: management commitment, staff training, safety rules, and procedures, workers' involvement, safety promotion policies, and safety communication and feedback.

Management Commitment

Management commitment imitates the significance of safety-related safety related issues, reflected in the care and survival safety-related programs grams related programs (Vinodkumar & Bhasi, 2010; Hsu, 2008). Therefore, as explained by Subramaniam et al. (2016) management commitment is the key dimension affecting the success of an organization's safety program.

Safety Training

Safety training is an important risk prevention strategy to guarantee every employee is safe in good workplace conditions (Cohen, 1998). It has also been recognized as an important organizational characteristic distinguishing organization from successful safety programs (Zohar, 1980). Therefore, safety training is defined as instruction in hazard recognition and control measures, learning safe work practices and proper use of personal protective equipment, and acquiring knowledge of emergency procedures and preventive actions (Cohen, 1998).

Safety Rules and Procedures

Organizations with safety rules and procedures refer to organizations that set clearly their mission, vision, and responsibilities, set up the standards of employee behavior, and provide a safety system to correct workers' safety behavior (Lu & Yang, 2011). Cox and Cheyne (2000) examined that the enforcement of safety rules and procedures was capable of influencing workers' behaviors toward superior safety performance.

Workers' Involvement

Vredenburg (2002) stressed that for the committees to be effective, they have to be given real power to affect the changes needed in all safety-related issues. Workers' involvement is the extent employees could influence and control OHS management issues at the workplace (Masso, 2015, p. 64).

Safety Promotion Policies

Welander (2004) noted that the process of safety promotion policies involves a combined effort of individuals, organizations, communities, and nations to create safety-supportive environments. According to Subramaniam et al. (2016), a safety promotion policy is crucial for an organization to apply in order to sustain, and promote the safety policy that had been set up by the organization

Safety Communication and Feedback

Safety communication and feedback is one of the important practices that need to play the main role, especially in reporting any problem, cause, trouble, accident, or on-compliance. There must be two ways of communication between employees and management. Employees should encourage to give their feedback and, comments on the improvements safety-related (Razali, 2018). Razali (2018) also emphasized that communication between co-workers and management is crucial for the involvement of 16 employees to give any suggestions, or comments on matters of safety.

Safety Compliance

Previous researchers have demonstrated that when employees follow safety rules and procedures, they are less likely to be injured or hurt in a workplace accident (Clarke, 2006., Neal and Griffin, 2006). According to Neal and Griffin (2000) adhering to safety procedures and carrying out work in a safe manner is defined as safety compliance. Therefore, following safety procedures and minimizing workplace accidents is safety compliance, which is considered an important aspect of maintaining workplace safety.

Impact of Safety Management Practices and Safety Compliance

Safety compliance is an essential element for every organization to be succeeded in the present competitive environment. This is affected by different factors as researched by different authors. Safety management practices are one factor that affects safety compliance according to their findings. Furthermore, studies generally tend to demonstrate a direct impact of safety management practices and safety compliance (Ali et al., 2009; Cabrera et al., 2007; Geldert et al., 2010; Huang et al., 2012; Lu and Yang, 2011; Razuri et al., 2007; Vinodkumar and Bhasi, 2010). Management commitment, a safety management practice which is been tested against safety compliance by Hofmann and Stetzer (1996); Yule et al. (2007) explained that when employees perceive that management is committed to their safety, they tend to take safety matters seriously, thus, leading to an overall reduction in accident and injury rates. Abdullah et al. (2009) explained further that workers would be motivated to improve safety behavior for long as it is apparent that the management is committed to the safety of the workers and the workplace. Management commitment reflects the values top management has on safety-related issues and the understanding that workplace safety is paramount toward organizational effectiveness and efficiency by providing the necessary support and encouragement to employees to engage in safe behavior while at work (Hsu et al. 2008).

Methodology

According to the study, the independent variable of the research is safety management practices and the dependent variable is the safety compliance. There are six dimensions in safety management practices which are management commitment, safety training, safety rules and procedures, workers’ involvement, safety promotion policies, and safety communication and feedback. Safety compliance is a single dependent variable.

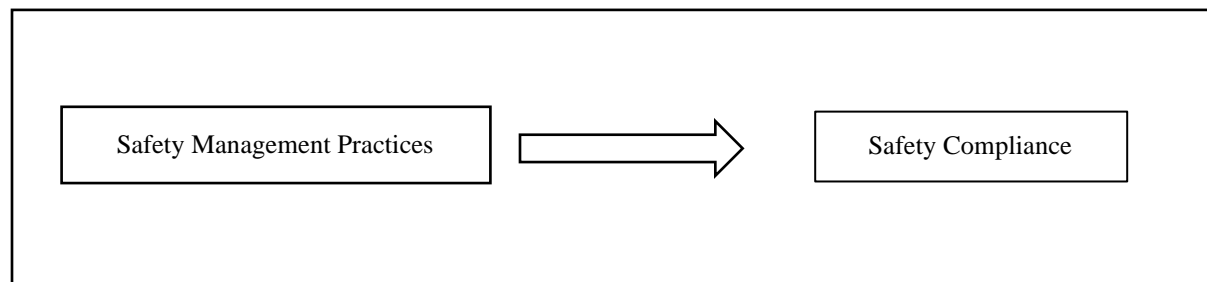


Figure 1: The research framework of the study

Therefore, the two hypotheses of the research study are,

Hypothesis 1: There is a significant relationship between safety management practices and safety compliance in the selected garment manufacturing firm in Sri Lanka.

Hypothesis 2: There is a significant impact of safety management practices on safety compliance in the selected garment manufacturing Firm in Sri Lanka.

Study Design

The main objective of this study was to find out the impact of safety management practices on safety compliance in selected garment manufacturing firms in Sri Lanka and the hypotheses were formulated based on this objective. The type of investigation was analytical and there were no controlled or mediating variables considered. The population for the study was 653 machine operators and the survey was carried out among a sample of 196 Machine Operators in the selected garment manufacturing firm in Sri Lanka based on Krejcie & Morgan Table (1970). The unit of analysis was at an individual level. To collect the primary data required for the study, a set of self-administered questionnaires was distributed among them. Secondary data collection was done through various sources such as research articles, journals, books, the internet, and published reports relating to the topic. The data were analyzed based on the descriptive statistic software SPSS version 23.0 to discuss the effect of an independent variable, safety management practices on the dependent variable, safety compliance. The data analysis included univariate and bivariate analyses.

Measures

The questionnaire consisted of three parts.

Safety management practices: Safety management practices were measured using the questionnaire designed by Subramaniam (2016), which has 30 questions covering all 6 dimensions of safety management practices. The responses were to be marked on a 5-point Likert-type scale. The sample element is “Safety is given high priority by the management”.

Safety compliance: Safety compliance was also measured using the questionnaire designed by Subramaniam (2016), which has 12 questions covering safety compliance. The responses were also to be marked on a 5-point Likert-type scale. The sample element is “I use all necessary safety equipment to do my job”.

Demographic Factors: Factors relating to gender, age, number of working years, number of working years within the current organization, marital status, whether he/she has faced any occupational accidents, and whether he/she has attended to any safety training.

Reliability and Validity

Reliability concerns the extent to which a measurement of a phenomenon provides stable and consistent results (Carmines and Zeller, 1979). The external reliability of the instrument used to collect data was examined by the Test – retest method. This test was carried out using 10 responses (associate employees) from a selected garment manufacturing firm in Sri Lanka with one and half weeks’ time intervals. As shown in Table 1, the coefficients of the Test-retest of the instruments indicate that each instrument has high external reliability.

Table 1: Results of Test-Retest

Instrument	Test- re-test Coefficient
Safety management practices	0.832
Safety compliance	0.819

The inter-item consistency reliability was examined with Cronbach’s Alpha test. This test was carried out using 30 responses (associate employees) from a selected garment manufacturing firm in Sri Lanka. The results of Cronbach’s Alpha test are given in Table 2, which suggests that the internal reliability of each is satisfactory.

Table 2: Cronbach’s Alpha Coefficients

Instrument	Cronbach’s Alpha
Safety management practices	0.801
Safety compliance	0.788

The content validity of the instruments was ensured by the conceptualization and operationalization of the variables in the literature, and indirectly by the high internal consistency reliability of the instruments as denoted by Alphas (Table 2). The construct validity of the variables of the study was ensured by the fact that the regression analysis supports the hypotheses formulated linking the impact of independent variables and the dependent variable.

Results and Discussion

Hundred and ninety-six questionnaires were distributed among respondents and all were received. Under univariant analysis, frequency distribution analysis was done based on the demographic characteristics of the respondents. Among the respondents, 142 were females and 54 were males. Accordingly, 72% were females and 28% were males and the majority were females. Among respondents, there were 6 respondents whose age is less than 20 and which is 3% of the total sample. 49 respondents in between 20 to 30 years old category representing 25% of the total sample. 112 respondents from the 31 to 40 years old category representing 57% of the total sample and finally 29 respondents from the age category which is more than 40 years old representing 15% of the total sample. From the number of working years, there are 70 respondents from the category of working years less than 5 years which is 36% of the total sample, 111 respondents from the category of 5 to 10 years in their working life which is 56% of the total sample and 15 respondents from the category of more than 10 years of working life which represents 8% from the total sample. The category respondents’ working years within the current organization, less than 5 years have 101 responses which are 52% of the total sample. 5 to 10 years of working years have 93 responses and 47% of the total and working years more than 10 years have 2 responses which is 1% of the total responses. Under respondents’ marital status, there were 99 married responses which are 51% of the total sample, 76 unmarried responses which represent 38% of the total, and 21 divorced responses which is 11% of the total responses. 7 respondents have faced accidents within the current organization and which is 4% of the total sample and 189 respondents have not faced any occupational accidents within the current organization and which is 96% of the total sample. And finally, 105 respondents have attended safety training and which is 54% of the total sample, and 91 respondents have not faced any safety training and which is 46% of the total.

The results of the univariate analysis are depicted in Table 3 and it indicates that both the variables, safety management practices, and safety compliance are approximately normally distributed.

Table 3: Frequency Distribution Analysis

	Safety management practices	Safety Compliance
N	Valid	196
	Missing	0
Mean	4.8961	4.9396
Std. Error of Mean	.01438	.00570
Median	4.9000	5.0000
Mode	4.93	5.00
Std. Deviation	.20128	.07987

Variance	.041	.006
Skewness	6.013	-1.072
Std. Error of Skewness	.174	.174
Kurtosis	51.739	-.038
Std. Error of Kurtosis	.346	.346

As indicated by Table 3, the mean value of safety management practices in the distribution is 4.8961. Then the practice of safety management practices within the company is “agree” and the mean value of safety compliance in the distribution is 4.9396. Then the safety compliance of the respondents is “neutral”. The skewness and kurtosis of safety management practices and safety compliance are 6.013 and 51.739 and -1.072 and -0.038 respectively, which indicated that the practicing of safety management practices and safety compliance is approximately normally distributed.

Table 4 shows the correlation between safety management practices and safety compliance.

Table 4: Correlation between safety management practices and safety compliance

		Safety management practices	safety compliance
Safety management practices	Pearson Correlation	1	.534*
	Sig. (1-tailed)		.043
	N	196	196
safety compliance	Pearson Correlation	.534*	1
	Sig. (1-tailed)	.043	
	N	196	196

According to the results of Pearson correlation analysis the coefficient between the two variables is 0.534. This shows that there is a positive relationship between safety management practices and safety compliance.

Table 5 represents the model summary of regression analysis between two variables.

Table 5: Model summary of regression analysis

Model	R	R Square	Adjusted R Square	Std. The error in the Estimate	Durbin-Watson
1	.534 ^a	.286	.280	.38271	1.233

According to Table 5 of the model summary, the value of R square is 0.286, depicting that safety management practices explains 29% of the variance in Safety compliance.

According to Table 6 of the ANOVA Table, the p-value is less than 0.05. This means safety management practices have an impact on safety compliance.

Table 6: ANOVA Table

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	6.341	1	6.341	43.292	.000 ^a
Residual	15.818	108	.146		
Total	22.159	109			

As per simple regression analysis between the two variables the regression coefficient (b) is 0.535, which is significant at 1% (Sig. T =0.000). Then there is a positive impact of safety management practices on safety compliance (Table 7).

Table 7: Regression Analysis

Model		Unstandardized Coefficients		Standardizes Coefficient	t	Sig.	95% Confidence interval for B					
		B	Std. Error	Beta			Lower Bound	Upper Bound				
1	(Constant)	1.723	.582	.333	.535	5.174	6.580	.000	1.063	.407	2.383	.757
2	Safety management practices			.088				.000				

Finally, the hypotheses of the study are depicted in Table 8.

Table 8: Hypotheses Summary

No	Hypotheses	Statistics	Remarks
H ₁	There is a significant relationship between safety management practices and safety compliance in the selected garment manufacturing firm in Sri Lanka.	Pearson correlation coefficient = 0.534	Accepted
H ₂	There is a significant impact of safety management practices on safety compliance in the selected garment manufacturing Firm in Sri Lanka.	R square = 0.286, p <0.05	Accepted

Hypothesis 1: There is a significant relationship between safety management practices and safety compliance in the selected garment manufacturing firm in Sri Lanka.

The Pearson correlation analysis' findings show that there is a 0.534 correlation between the two variables. This demonstrates that safety management practices and safety compliance have a positive relationship. Accordingly, H1 is accepted and safety management practices in selected garment manufacturing firm is positively related with the safety compliance of the employees of the same.

Further, studies frequently show a clear link between safety management practices and safety compliance (Cabrera et al., 2007; Razuri et al., 2007; Ali et al., 2009; Geldert et al., 2010; Vinodkumar and Bhasi, 2010; Huang et al., 2012; Lu and Yang, 2011).

Hypothesis 2: There is a significant impact of safety management practices on safety compliance in the selected garment manufacturing Firm in Sri Lanka.

The model summary of the analysis shows that the value of R square is 0.286, showing that variation in safety management practices accounts for 29% of the explanation of safety compliance. The p-value is less than 0.05, according to the ANOVA Table. This indicates that safety management practices affect safety compliance. The regression coefficient (b), according to a simple regression analysis between the two variables, is 0.535 and is significant at 1% (Sig. T =0.000). Then, safety management practices have a positive effect on safety compliance. Accordingly, H2 is accepted and safety management practices has a significant effect on safety compliance.

Conclusion and Implications

The results of the study can be discussed by referring to the objectives of the study. The first objective of the study is to identify the relationship between safety management practices and safety compliance in selected garment manufacturing firms in Sri Lanka. According to the correlation analysis, the variables are said to be correlated when the movement of one variable is complemented by the movement of another variable. According to the results of Pearson correlation analysis the coefficient between the two variables is a positive value. Accordingly, the study identifies that there is a positive relationship between safety management practices and safety compliance in selected garment manufacturing firms in Sri Lanka.

The next objective of the study is to identify the impact of safety management practices on safety compliance. According to the model summary, safety compliance is explained by 29% through variation in safety management practices. ANOVA table of two variables, safety management practices have an impact on safety compliance. As per simple regression analysis between the two variables, there is a positive impact of safety management practices on safety compliance. Finally, the study concludes that there is an impact of safety management practices on safety compliance.

Since it is confirmed that there is a positive relationship between safety management practices and safety compliance, it is recommended to increase or maintain sound safety management practices within the organization so that organizational safety compliance will get increased and will contribute the organization to increase its productivity and finally to its profit.

Increasing management commitment from management by various participatory approaches such as job training programs, getting involved and participating in safety committees, consideration of safety in job design, and review of the pace of work. Safety training through instructing hazard recognition and control measures, learning opportunities on safe work practices and proper use of personal protective equipment, and acquiring knowledge of emergency procedures and preventive actions. Motivate employees to make suggestions about safety improvements, especially when new technologies and materials were introduced. There must be two ways of communication between employees and management regarding safety issues and encourage them to give their feedback, suggestions, and comments for the improvements of safety-related aspects. Set clearly defined rules and regulations on safety and compliance in their mission, vision, responsibilities, standards, and company code of conduct. Encourage employees to report hazards, generate awareness by way of organizing programs to mark safety week and other related events, and can be implemented by using safe conduct for promotion, rewards, and incentives. Finally, the implications of safety management practices in workplaces would encourage organizations for proper safety compliance.

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