
Components of Effective Safety and Health Management System towards the Awareness of Occupational Safety and Health Administration (OSHA) at Government Owned Company Kuala Lumpur

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Abstract — *Every organization should put safety and health of employees at the top of priority. A safety and health management system or safety program can help the employees to improve job performance, boost employee's motivation and satisfaction. The most important is employers and employees will feel secure and safe at the workplace. Occupational Safety and Health Administration (OSHA) in an organization could help to prevent any possible illnesses, injuries and accidents happen in working environment. Several studies have been conducted that clarified some of the components of effective safety and health management systems towards the awareness of OSHA. The focus of this study is to identify the most influential components of effective safety and health management systems towards the awareness of OSHA and also to examine the relationship between the components of effective safety and health management systems towards the awareness of OSHA. Thus, the researcher chooses correlational research design in order to achieve the objectives of the study. In this study, 250 employees who are working in GOC, Kuala Lumpur have been involved in a survey.*

Keywords: *Employees Participation (EP), Hazard Identification and Risk Assessment (HIRA), Management Commitment (MC), Occupational Safety and Health Administration (OSHA)*

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I. Introduction

Accidents can happen anywhere at any time. Accidents are more likely to happen in unsafe work environment. Everyone is careful and afraid to be a victim of any accident especially in a working environment which is prone to accidents. This is supported by Nayanthara and Wimalaratne (2012) that accidents and health hazards can happen due to the usage of heavy and large equipment, dangerous tools and hazardous materials. Thus, the implementation of Occupational Safety and Health Act is vital to prevent any accident from occurring in any organization. The most important thing to be highlighted is how to maintain and practice the highest safety and health standards in the organization.

According to the United States Government Accountability Office (April 2012), OSHA administers the Occupational Safety and Health Act of 1970 which was enacted to assure as far as possible a safe and healthful working condition for the nation's workers. In addition, OSHA set occupational safety and health standards and is responsible for enforcing them. The agency directly enforces these standards in about half the states with the remaining states having been granted authority by Occupational Safety and Health Act to set and enforce their own workplace safety and health standards under a state plan approved by OSHA.

Ensuring people to be aware of their safety and health in the working environment is vital. No matter how big or small the company is, when it comes to how the people think about their own safety and health, the management and all relevant parties have to ensure the people are aware and responsible of the safety and health standards at the workplace

II. Literature Review

Occupational Safety and Health Administration (OSHA)

The two important terms in OSHA which are 'safety' and 'health' bring different meanings. According to Lucas (2001), safety can be referred to as the deficiency of injuries, illnesses and accidents due to the interaction of the employees and the working environment. On the other hand, Aswathappa (2004) claimed that safety is when the people, especially the employees in the organization, are free from the existence of risk of injuries or loss. Moving on, health, in general terms, is a state of complete physical, emotional, mental, and social ability of an individual to cope within a working environment and not merely the absence of disease or infirmity (Hippocrate, 1981). Lucas (2001) stated that health is the art preventing disease, promoting physical and mental health and control of infections and organization of health services. In this study, there are three components of effective safety and health management system towards the awareness of OSHA in GOC, Kuala Lumpur which are management commitment (MC), hazard identification and risk assessment (HIRA) and employee participation (EP).

Management Commitment (MC)

According to Cooper (2006), managerial commitment is defined as engaging in and maintaining behaviours that help others achieve a goal. Based on Akpan (2011), for health and safety management to be effective, management at all levels should demonstrate their support of the health and safety program. This may be demonstrated through management, participation in health and safety leadership training meetings, facility inspections, incident investigations and others.

Hazard Identification and Risk Assessment (HIRA)

According to Burnett (2011), hazard identification is the process used to identify all the possible situations in the workplace where people may be exposed to injury, illness or disease. Hazards may be identified from accident reports, statistics, inspections and safety surveys. Risk assessment is the process used to determine the likelihood that people may be exposed to injury, illness or disease in the workplace arising from any situation identified during the hazard identification process. A risk assessment is generally carried out with the assistance of a risk assessment matrix.

Employee Participation (EP)

Based on Dillard (1998), employee's participation or involvement is essential to identify existing and potential hazards through clearly established procedures. Other than that, employee's participation helps develop and implement an effective way to abate hazards in an organization. The employee's participation can be divided into two ways which are formal and informal participation or involvement. Formal participation means employees get involved in safety committees or ergonomic teams where the employees can participate in any programs or events regarding OSHA in an organization. In contrast, informal participation is when employees make reports on safety problems that occur in the working environment.

III. Research Questions

In this study, the researcher developed two questions and the answer enlightened clearly at the end of the study;

What is the most influential components of effective safety and health management system towards the awareness of Occupational Safety and Health Administration (OSHA)?

Is there any relationship between the components of effective safety and health management system towards the awareness of Occupational Safety and Health Administration (OSHA)?

IV. Findings and Analysis

Demographic Background

Based on the table 1, the respondents of this study were from the employers and employees who are working in GOC, Kuala Lumpur. Total of 250 questionnaires were collected out of 300 questionnaires and represent 83.33% response rate. The percentage of female respondents are 60% and 40% are male. The majority of the respondents came from Malay which is 98.4%, Chinese and Indian 0.8% respectively. Most of the respondents involved in the survey were from Finance department represents 18.8% and who are working between 6 to 10 years are the majority of the respondents which is 32.4%. Most of the respondents are Diploma holder represents 32.8%.

Table 1 Demographic Analysis

Items	Descriptions	Frequency	Percentage (%)
Gender	Male	100	40
	Female	150	60
Age	<30 years old	91	36.4
	31-40 years old	82	32.8
	41-50 years old	19	7.6
	>51 years old	58	23.2
Races	Malay	246	98.4
	Chinese	2	0.8
	Indian	2	0.8
Departments	Sales	17	6.8
	Finance	47	18.8
	Marketing	20	8.0
	Procurement	20	8.0
	Engineering	24	9.6
	Human Resource	37	14.8
	Administrative	44	17.6
	OSHA	6	2.4
	Internal Audit	15	6.0
	MIS	20	8.0
Years of Service	<5 years	71	28.4
	6-10 years	81	32.4
	11-15 years	28	11.2
	16-20years	3	1.2
	21-25 years	5	2.0
	>26 years	62	24.8
Education Level	SPM	67	26.8
	STPM	22	8.8
	Diploma	82	32.8
	Degree	72	28.8
	Master	7	2.8

* Demographic profile in this study (n=250)

Reliability Analysis

Reliability analysis is conducted after factor analysis and it is to measure the consistency of the instrument in measuring the constructs. According to Sekaran (2006), the instruments are reliable when the Cronbach's Alpha value is above .70 and closer to 1.0. However, Lee and Kerlinger (2005) stated that, for social science research, .50 to .60 is still acceptable. This means that the higher the value, the higher the internal consistency reliability. The respective alpha coefficient for the present study is between $\alpha=.801$ and $\alpha=.859$ which shows a high degree of reliability as shown in Table 2.

Table 2 Reliability Statistics after Factor Analysis

Variables	No of Items	Cronbach Alpha's	No of Items (After Factor Analysis)	Cronbach Alpha's (After Factor Analysis)
The Awareness of OSHA	9	.855	5	.859
MC	5	.842	5	.842
HIRA	6	.823	6	.823
EP	8	.819	5	.801

Correlational Analysis

Based on Table 3, it is found that all the components of effective management system are correlated to the awareness of OSHA. This indicates that there is a significant relationship between the components of effective management system (MC, HIRA and EP) towards the awareness of OSHA. It specifies that there is a positive and weak relationship between management commitment (MC) and the awareness of OSHA ($r=.379, p<.01$). Hazard identification and risk assessment (HIRA) has a positive and strong relationship with the awareness of OSHA where the r value is ($r=.731, p<.01$). The last is employee participation (EP) which has a positive and moderate relationship to the awareness of OSHA with the r values ($r=.489, p<.01$).

Table 3 Correlation Analysis for Variables

Variables	r Values	Degree of Correlation
MC	.379**	Weak
HIRA	.731**	Strong
EP	.489**	Moderate

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

Multiple Regression Analysis

In this study, the researcher uses standard multiple regression analysis in order to find out whether the independent variables (the components of effective safety and health management system) and dependent variable (the awareness of OSHA) are associated with each other. It was illustrated in Table 4 shows the multiple regression analysis between the components of effective safety and health management system have a significant relationship with the awareness of OSHA. The results indicate that R^2 is .403 indicating that the independent variables explain 40.3% of the variance in the awareness of OSHA which is significant where sig F value is .000. The Durbin Watson value is 1.943 and within the acceptable range of 1.5 to 2.5.

Table 4 Multiple Regression Analysis between the Components of Effective Safety and Health Management System and the Awareness of OSHA

Independent Variables	Dependent Variable
	The awareness of OSHA
	Beta Values
The components of effective safety and health management system	.637
R^2	.406
Adjusted R^2	.403
F values	169.181
Sig F values	.000
Durbin Watson	1.943

V. Conclusion

The researcher identified that one of the components effective safety and health management system in this study that is Hazard Identification and Risk Assessment (HIRA) is really related to the awareness of Occupational Safety and Health Administration (OSHA) in Government Owned Company (GOC), Kuala Lumpur. It shows that the management and also employees at GOC aware and noted on identifying potential hazard and risk in the organization. This is important because it lead to prevention of any potential hazard or risk. In short, the organization can used and utilize the finding of the study in the organization to make improvement and better awareness of OSHA among employer and employee in the organization. Not only that, the result of the study can be used by another organization to have better awareness of OSHA and can be seen as a role model

VI. Discussions and Recommendations

Is there any relationship between the components of effective health and safety management system towards the awareness of Occupational Safety and Health Administration (OSHA)?

In this study, the researcher concluded that the components of effective health and safety management system have a significant relationship towards the awareness of OSHA. The three components of effective health and safety management system in this study which are Management Commitment (MC), Hazard Identification and Risk Assessment (HIRA), and Employee's Participation (EP) contributed to the awareness of OSHA. In an organization, the health and safety of the employees must be a top priority because it can help the employees feel secure, safe and comfortable with the working environment. This automatically motivates the employees and can lead to excellent performance. In addition to that, having an effective health and safety management system can contribute to a good corporate image and reputation, capable of attracting not only employees but also potential investors and customers. As stated by Akpan (2011), effective organizational health and safety management can help to boost workers' morale and enable them to have confidence in the management of the organization. Since workers are the worst inflicted people due to their direct involvement in hazard-prone activities, management, by way of providing safer work environment, would improve employees' work-behavior and trust in the management. In short, management should focus on and develop an effective health and safety management system to ensure the awareness of OSHA that will lead to the implementation of it in the organization.

What is the most influential components of effective health and safety management system towards the awareness of Occupational Safety and Health Administration (OSHA)?

The researcher found that one of the components of effective health and safety management system in this study, which is Hazard Identification and Risk Assessment (HIRA), is the most influential component of effective health and safety management system towards the awareness of OSHA. It is highly correlated with the awareness of OSHA which represents ($r=.731$, $p<.01$). Hazard Identification and Risk Assessment (HIRA) is vital to the management because the management can be notified, be aware and take appropriate action on any potential hazard and risk in the organization before work begins. Besides that, employees are also able to recognize and realize the existence of hazard and risk in their working environment. Based on Hardy (2010), hazard identification is arguably the most important part of the safety analysis effort. One could think of the hazard identification step as defining the problem to be solved. If one does not properly identify the problem, then it becomes difficult to assess the risk or postulate solutions. Hazard identification takes persistence to characterize known hazards and creativity to identify the new ways the system design or operation can lead to an accident. Hazard assessment data could be used as the basis for inspection checklists. In the case of incident investigation, hazard assessment and control data can be used to help determine if a system failure was the cause of an incident (Akpan,2011). Basically, after the management has identified potential hazards or risk, it should be recorded as a reference. According to Kleiner *et al.*, (2005), the purpose of the records is for the identification of hazardous areas or operations where there is a need for corrective action, information on workplace safety and health status, and distribution of data for national surveys on occupational injuries and illnesses. Furthermore, the management has to keep a record of all fatalities, exposure to hazardous materials and the steps taken to establish the awareness of OSHA.

Recommendations

Future researcher should explore different kind of organization in order to know the awareness of OSHA, not limit to only one organization or one kind of organization. It can be Government Sector, Private Sector and also Government Linked Company (GLC). Then, it would be more interesting because the findings will come from variety of organization and the future researcher can make the comparison between organizations towards the awareness of OSHA. Next, the researcher also suggested to discover any other components effective of safety and health management system besides management Commitment (MC), Hazard Identification and Risk Assessment (HIRA) and employee participation (EP) in this study. According to Akpan (2011), there are so many components effective of safety and health management system that can be discussed and conducted.

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