Factors Contribute to Safety Culture in the Manufacturing Industry in Malaysia

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Abstract
The purpose of this paper is to explain the role of safety culture in the manufacturing industry in Malaysia and identify factors contribute to safety culture. It is suggested in this study that leadership support, management commitment and safety management system are important factors that contribute to safety culture. This study also provides theoretical implications to guide future research and offers practical implications to the managers in the development of safety culture. Given that safety is able to determine an organization's profit or loss, safety should be given equal attention like other important elements such as quality and productivity in the process of developing a safety culture.
Keywords: Safety culture, leadership support, management commitment, safety management system.

1. Introduction

The explosion of Bright Sparklers fireworks factory in 1991 was considered the worst industrial incident in the history of Malaysia. It has claimed 26 lives and injured more than 100 people. A royal commission was set up to investigate the incident. The incident has alerted the government and the public on how important industrial safety regulations to the manufacturers. As a consequence of that, the government has taken a step further by introducing the Occupational, Safety and Health Act (OSHA) 1994. OSHA 1994 was enacted to address industrial safety and health issues in the manufacturing sector. The act emphasized on self-regulation where it expects manufacturers and employers to take initiative in minimizing industry hazards as far as practicable. Proactive approach has been introduced to replace the command and control of Factory and Machinery Act (FMA), 1967. It is expected that the self governance of safety regulations in the manufacturing industry would bring more positive effects as safety programs are voluntarily established by the employers. Apart from that, the Act also listed the duties of employer and employee. The responsibilities of safety and health are established to rest on the employers who create the risks and employees who deal with the risks. For example, OSHA 1994 requires manufacturing companies to set up a safety committee and appoint a qualified safety and health officer to oversee the safety activities in the company. The safety and health officer is also assigned to ensure the company

complies with the Occupational, Safety and Health Act 1994. However, in terms of accident cases, manufacturing industry still overtakes other sectors in Malaysia. In 2013, the total investigated accident cases for manufacturing sector has reached 1,655 as reported by the Department of Safety and Health (DOSH) (www.dosh.gov.my). There were 58 fatalities in the accident cases. By looking at the number of accidents, it is apparent that the safety standard in the manufacturing industry is still questionable. Efforts taken to improve safety seem not effective to eliminate hazards in the workplace. The presence of industrial accidents has lead to higher operation cost, lower productivity and lack of confidence among the workers. However, past study indicated that an introduction of safety culture can be seen as a solution to the incremental accident cases in the workplace (Sukadarin, Suhaimi & Abdull, 2012). Safety culture is able to create an atmosphere where workers are aware of the risks in their workplace and completely guard against them to prevent accidents (Ostrom, Wilhelmsen & Kaplan, 1993). It is also a viable method of controlling workers' belief, attitudes and behaviors in the workplace (Beck & Woolfson, 1999). Despite safety culture has been regarded as one of the measures in reducing accidents, relatively little attention has been paid to safety culture in the manufacturing industry in Malaysia. In most cases, safety was emphasized due to enforcement by the government officers. Less progress has been made in understanding how safety culture can contribute towards safety in the manufacturing industry. Hence, this paper attempts to explain the role of safety culture and key factors in the development of safety culture.

2. The Role of Safety Culture

Nowadays, safety culture has become the key factor in determining the organization's safety performance. Safety culture has attracted much attention because it plays an important role to ascertain the organization's success or failure. The role of safety culture among others is targeted at steering the organization towards excellent safety performance. In Malaysia, there are various types of manufacturing industry. They are ranging from electronics, petrochemicals, automotive, textiles, wood based, plastics and many others. Different types of industry generate different industrial risks and hazards. As most accidents were caused by unsafe behaviors (Mullen, 2004) at the workplace, it is important that good attitudes should be possessed by individuals in order to exhibit safety behaviors. In this case, safety culture provides guidance to the workers in interpreting the meaning of workplace safety. Organizations with safety culture promote belongingness, trust and participation. Workers propel through cohesiveness and membership in the organization. They remind each other on the importance of safety and facilitate interaction through team work. Safety culture also provides shared values and beliefs that assist workers to realize organizational safety and offer them with guidance for their safety practices in the organization. In addition, it emphasizes on broad participation by employees in the safety activities and establishes communication channels to disseminate safety information. It maintains an essential focus on the internal organizational safety standard. In an organization with safety culture, workplace safety has never been compromised with productivity. Leaders lead the workers by demonstrating safety is a value to them and to the organization. They assure the workplace is safe for the workers to perform their duties. Thus, workers will have more confidence to carry out their job and subsequently improve the productivity. In terms of shaping individual safety behaviors, safety culture encourages the exhibition of safety compliance and safety participation behavior. It promotes safety in the sense of empowerment and self-belongingness. The shared responsibility of safety will further influence peers and supervisors

to participate in safety programs. The adaptability on safety will certainly lead to valued outcome such as performing citizenship activities in the workplace (Tsui, Pearce, Porter & Tripoli, 1997). In short, the roles of safety culture can be summarized as below:

i) Shaping safety behavior
ii) Building trust and participation in safety related activities
iii) Reminding peers and coworkers about safety practices
iv) Promoting safety in the sense of empowerment
v) Emphasizing shared responsibility in safety initiatives
vi) Establishing communication channel to disseminate safety information

As culture represents "how things are around here" and demonstrates the enduring ideology that workers carry inside their heads (Cameron & Quinn, 1999), it is believed that safety culture shall be the crucial key that managers used to direct the course of their organization safety performance.

3. Factors Contribute to Safety Culture

3.1 Leadership Support

Previous researchers have identified many factors that could contribute to the development of safety culture. Lee and Harrison (2000) interpret safety culture as a result of multiple interactions between people, functions and organizations. In the process of interaction, personal attitudes and behaviors are able to determine the acceptability or violation of safety rules that could eventually affect the function and physical environment of the organization. Workers with risk taking behavior generally have the tendency to break safety rules in an occupational setting. It is evident that those with risk behaviors are the ones with lesser leadership support (Vries & Lechner, 2000). Leadership support is an important element to form the foundation of safety culture. Management must believe that workplace safety is a value to the organization. It is indeed a shared organizational value that fostering worker's ownership of safety without compromising quality or productivity of the organization. In fact, workplace safety improves productivity as workers performing their duties in a hazard free working environment. Therefore, managers at all levels need to demonstrate their support especially in participating safety activities. They should look into the worker's feedback seriously to elevate the safety standard in the organization. They have to lead all safety initiatives by personally involve in safety meetings. They should not stay in the office and read safety report. Managers' participation in safety programs is crucial to show that they are always behind the workers in providing support and motivation. It is also important that management learn how to appreciate and commend their workers in relation to safety. Recognition can be done in the form of awarding certificate of appreciation to the workers. Such recognition could make them more self-motivated and wanting to do their best in every aspect of safety. As explained by self-determination theory (Deci & Ryan, 1985), a psychological process is involved in the acceptance of new values. Therefore, leadership support is essential in promoting safety culture because it makes everyone feels that safety is everyone's responsibilities from top to bottom in the organization. Based on the above explanation, it is proposed that:

Proposition 1: Leadership support contributes to safety culture in the manufacturing industry.

3.2 Management Commitment

To develop a safety culture in the manufacturing industry, high visibility of management commitment to safety is required. Management must be sensitive towards safety issues and committed to challenge unsafe behaviors without fail. Management staffs must personally join the safety meeting to resolve safety issues. Proactive discussion about safety should take place during meeting to better understand the risks and hazards in the workplace. Feedback mechanisms must be established to ensure actions have been taken to eliminate the hazards. Top Management presence at the production floor through periodical safety tours sends a strong message that they are committed to place safety as top priority. In addition, it shows that management is leading by example and walks the talk with regard to workplace safety. In order to show that management is fully committed to safety, workplace safety should be addressed as one of the corporate values. When safety becomes a corporate value, it will be considered in the organization business strategy and tactical decisions. Thus, safety will be embedded in the organization with the support of corporate decisions. To date, management commitment has been recognized as a key factor of a successful organizational safety culture. Visible management commitment to safety generally creates positive safety atmosphere at the workplace. If management does not support safety, it would be difficult for the rest to enforce safety in the organization. If we compare safety with other business elements such as production, quality and engineering, safety may not be the focus in our daily operation. Therefore, management plays an important role in establishing objectives which they place safety as value of the organization. If safety is not a value in the organization, it may only be noticeable when an accident or incident is recorded. Hence, in the process of promoting safety culture, management should use a combination of influence and tactics to drive the entire organization (Clarke & Ward, 2006). It will be excellent if management is committed by viewing safety as important as the organization business objectives. Therefore, it is proposed that:

Proposition 2: Management commitment contributes to safety culture in the manufacturing industry.

3.3 Safety Management System

Manufacturing industry should have a safety management system in place for effective handling and management of all safety-related issues. A safety management system shall consist of safety elements which are essential in managing risks. It should provide planning, implementing and control with regard to safety at different stages and functionalities in the organization. All the employees at different levels have the responsibility to participate in safety programs as stated in the safety management system. Generally, the programs shall cover the entire organization and require the employees to involve in activities such as hazard identification and risk assessment. These activities act as an initial step to initiate safety reporting. This systematic approach establishes safety awareness among employees through self-involvement. To reap extra benefits in creating safety culture, safety management system needs to instill employee's willingness to involve in safety. It has to make all the employees aware that whenever they perform safety practices, not because they have to do it but because they want to do it. Only that, their safety involvement will become more meaningful. A matured safety management system will lay foundation to ensure that safety values are fully internalized as safety beliefs. Training and communication in the safety management system are important elements to transform safety values to safety beliefs. Effective training engages employees in safety activities and improves the organization's safety culture

(Williams, 2003). Safety trainings should not stop at any point of time and it shall be conducted continually when there is a safety alert. Indeed, safety training provides knowledge and competency to deal with risks in the workplace. On the other hand, communication provides safety information and updates about safety performance of the organization. Giving, receiving and sharing safety information assist in preventing accidents by providing precautionary actions against unsafe behaviors. Regular communication will establish common understandings about safety and contribute towards an effective safety management system. It is believed that safety management system will ultimately contribute towards the organization's safe work culture. Based on the above rationale, it is proposed that:

Proposition 3: Safety management system contributes to safety culture in the manufacturing industry.

4. Theoretical Framework

Despite some researchers have identified key factors that contribute to safety culture such as management (Cox & Cheyne, 2000), individual and behavioral (Cooper, 2000), worker's knowledge on safety (Williamson, Feyer, Cairns, Biancotti, 1997), person, behavior and environment (Geller, 1996), it is proposed that the manufacturing industry in Malaysia needs to focus on leadership support, management commitment and safety management system. Leadership support and management commitment are essential in instilling safety culture by providing resources, motivation, direction and recognition which will eventually reduce workplace accidents. On the other hand, safety management system will offer a complete structure to the organization to implement safety practices systematically. By looking at the selected factors, a theoretical framework has been established to indicate the influence of leadership support, management commitment and safety management system towards safety culture. The proposed theoretical framework is shown in figure 1.

5. Research Implications
5.1 Theoretical Implications

This paper intends to propose a theoretical framework to identify factors that contribute to safety culture in the manufacturing industry in Malaysia. As stated by Farrington-Darby, Pickup and Wilson (2005), safety culture is the product of individual and group values, perceptions, attitudes, behaviors and competencies. Therefore, to develop a safety culture in an organization, the values of safety have to be internalized through internal factors within the organization. In this study, leadership support, management commitment and safety management system have been selected as key factors to develop safety culture in the manufacturing industry. Leadership support is expected to provide motivation to the employees to perform safety responsibilities whereby management commitment allocates resources and establishes safety objectives to drive safety initiatives. On the other hand, safety management system offers a framework for planning, checking, implementing and continually improving safety practices in the organization. Hence, in terms of theoretical implications, this study has identified factors contribute to safety culture and proposed related propositions to be tested in the manufacturing context to ascertain the level of significance of the theoretical framework.

5.2 Practical Implications

As manufacturing industries play a significant role in contributing to the nation economy, it is imperative to promote safe work culture that will increase its productivity and enable the industry to compete under various market conditions. In terms of practical implication, managers are encouraged to extend their fullest support and commitment towards a total safety culture in their organization. It is also suggested that a safety management system should not focus only on safety compliance but transforming safety values into safety beliefs in the organization. Communication and training should be in place to drive the change process towards a common understanding of safety culture and achieve its objectives. In order to realize a safe work culture, the combination of leadership support, management commitment and effective safety management system are vital in achieving the real change.

6. Conclusion

Today, manufacturing industry has become an important sector in promoting economic growth in Malaysia. However, the accident cases in the manufacturing sector are always higher than other sectors most of the time. In order to reduce the accident cases, safety culture is the long term solution that creates consistent patterns of safety behaviors, beliefs and values in the organization. Therefore, safety culture should be given equal attention like other important elements such as quality and productivity. If profit and loss is so crucial to a manufacturing company, safety should be treated as crucial as profit and loss because it can determine the success or failure of an organization.

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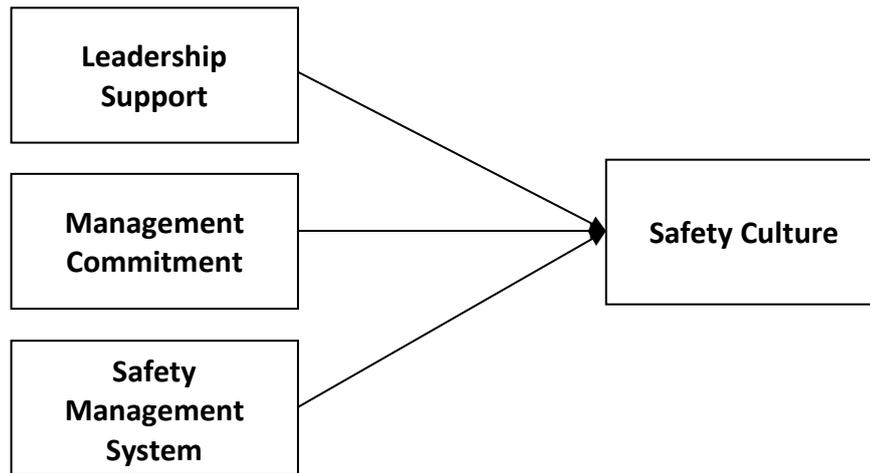
Figure 1: Proposed Theoretical Framework