

The Factors Affecting The Workplace Safety in Manufacturing Industry

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ABSTRACT

Lately, issues of incidents in workplace are increasing and this situation obviously brings bad impact to the management and also the workers in manufacturing industries. This quantitative study identified the factors that influence the workplace safety among the workers. The researcher has selected workers from production department as the population for this study. To complete this study, the researcher has developed a set of questionnaire as the research instrument for collecting the data. The questionnaire consisted of two parts; Part A and Part B. Part A is the demographic factors while part B is the variables involve in this research. The variables were employee involvement, management commitment, workplace environment and workplace safety. The target population was 534 who are workers from production department only. The sampling method was a stratified random sampling based on the table of Krejcie and Morgan and the sample size was 217. The findings were assessed by using the Statistical Package for the Social Sciences (SPSS) version 23. SPSS then were analyzed the instrument throughout reliability analysis and correlation analysis. The study revealed that three independent variables contributed in influencing the workplace safety among the workers at Malaysian manufacturing sector. In addition, this study provides the management and workers with a few suggestions and opinions to reduce or eliminate the rate of workplace incidents.

Keywords: Workplace Safety, Employee Involvement, Management Commitment, Workplace Environment

INTRODUCTION

Malaysia's manufacturing sector, because of its nature, is one of the most hazardous sectors. According to Hong, Ramayah, and Subramaniam (2018), factory workers need some basic safety understanding to be aware of the potential risks in their workplace. Hong et al. (2018) further discovered that the awareness is transferred to one generation from another generation of workers. Consequently, it also transmits dangerous actions and unsafe conditions that become traditions and gradually becomes part of the organizational culture. However, the behaviors and activities involved in consistently meeting customer deadlines and seeking to maximize performance have made manufacturing companies very unsafe workplaces. Since the trend towards international legal standards, manufacturers must take advantage of employee's knowledge and experience in order to continue to compete with the potential business climate.

Hence, the issues relating to human resources, work performance, workplace safety and occupational safety and health cannot be prevented (Phusavat et al., 2017).

The research objectives are:-

1. To identify the relationship between the employees' involvement and the workplace safety.
2. To determine the relationship between the management commitment and the workplace safety.
3. To measure the relationship between the workplace environment and the workplace safety.

LITERATURE REVIEW

Employees' Involvement

According to Irimie, Munteanu, Ghicajanu, and Marica (2015), the paper is highlighting the perception of employees regarding the safety and health at work. It involves the information, occupational risks, quality of the working environment, training and satisfaction that relate to the working conditions. This research also aims the employees' involvement so that they have workplace safety.

According to Hetzner, Heid, and Gruber (2015), it shows that employees' involvement is related to workplace safety. The research aims to understand how individual characteristics and perceived situational environments form thinking in professional work, especially in workplaces that provide a range of change-related work experiences (Hetzner et al., 2015). The individual characteristics and employees' involvement is quite similar or it can be said that it has the same meaning. The authors of this research study the effects of personal initiative, self - efficacy and perceived psychological safety in working relationships with colleagues and supervisors on the reflection of individuals at work. The research results revealed that personal initiative and self - efficacy of both individuals have a positive significant impact on workplace reflection (Hetzner et al., 2015). So, from the finding or the result of the research, it shows that employees' involvement may be related to the workplace safety.

Management Commitment

According to Subramaniam, Mohd. Shamsudin, Mohd Zin, Sri Ramalu, and Hassan (2016), the aim of the research is to explore the role of safety participation as an intermediary in the connection between six aspects of safety management concerning management commitment, safety training, worker's participation, safety interaction and feedback, safety rules and regulations, and occupational safety promotion policies. The findings for this study found that only three dimensions of safety management practices were significantly related to the safety in the workplace (Subramaniam et al., 2016). Therefore, it can be said that management commitment and workplace safety may relate to each other.

Morillas, Rubio-Romero, and Fuertes (2013) state that, if the company implements the occupational health and safety (OHS), it can ensure that workplace accident rates decrease which is referred y the statistic of workplace accident rates in Sweden and Spain. This research was conducted in Sweden and Spain which used an exploratory comparative study and was also quite different from others because it only studies the previous case compared to the others in which they distributed the questionnaires to the respondents (Morillas et al., 2013).

Workplace Environment

Pretrus and Kleiner (2013) state that, the important aspect is that all members of the organization share the responsibility to work together to address the safety of the workplace. From the statement, it shows that workplace environment is related and also influences workplace safety. The examples of negative workplace environment are unsafe or uncomfortable working conditions and high risk of violence (Pretrus & Kleiner, 2013).

Akamangwa (2016) states that, the paper is looking for work conditions that affect health and wellbeing in certain contexts of workers meeting the requirements of environmental protection on ship vessels. It is recognized that high-involvement working conditions have such a negative effect on occupational health and well-being due to higher anxiety. In addition, the existence and degree of work stress due to environmental enforcement activities have not been explored previously among employees who regularly perform the task and as non-specialists (Akamangwa, 2016).

Workplace Safety

The employers and their representatives, including managers, have a specific moral character and legal responsibility for creating and maintaining a workplace safety. A picture shows the data from employers who did not manage workplace safety effectively or implement comprehensive safety systems (Dodge, 2013). It did not mean that there were no injuries to employers with safety features, but the effective picture emerges from the investigation's workplace data area in which safety was not an acknowledged management role or a priority. The lack of concern for how to do work or the potential harm indicates a lack of institutional sophistication that puts employees at risk of harm and illness. If nobody in the organization turns their minds to safety problems, the hazard will not be recognized and addressed. It is clear that safety can not be effectively managed by workers alone (Dodge, 2013).

Conceptual Framework

This study shows the conceptual framework as follows:

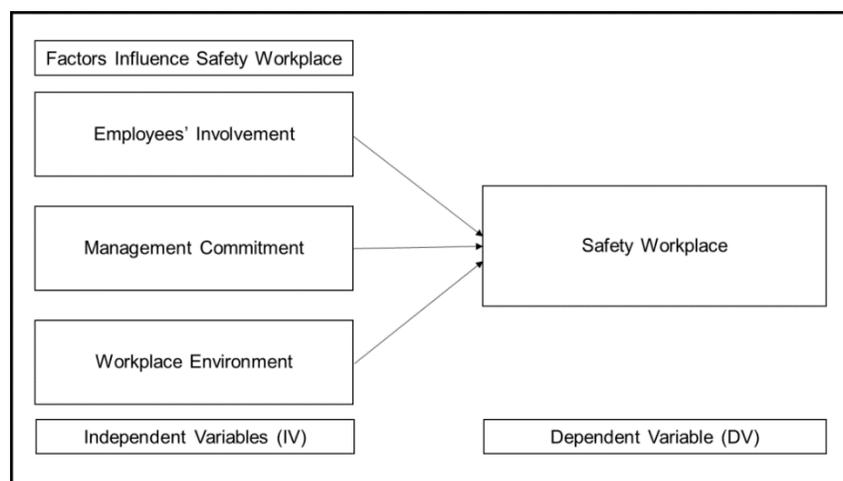


Figure 1: Conceptual Framework

METHODOLOGY

Research Design

This is a correlation study because the researcher wanted to find out the relationship or the changes between all the independent and dependent variables in Malaysian manufacturing industry. The researcher also was testing the hypothesis as an objective study. It is to examine the specific nature of the relationship and create a distinction between two or more factors in the situation (Salkind 2006).

Sampling Frame and Population

The sampling of this study was carried out in Nichicon Corporation, Bangi. The target population consists of the production department workers in this company with the total population is 543.

Sample Size

The sample size was determined by Krejcie and Morgan (1970) which used the sample size table. As the population is 534 workers, the sample size was 217 respondents who answered the questionnaire. The sample from the populations should be selected because the researcher is able to maximize the probability that the sample used to represent the populations.

RESULT AND DISCUSSION

Reliability Analysis

For this study, a reliability analysis had been conducted for respondents who are workers in the production department of Malaysian manufacturing industry. The analysis was conducted in order to know the factors that affect the workplace safety among the respondents.

Table 1: Questionnaire Reliability

| VARIABLES | ITEMS | CRONBACH'S ALPHA |
|-----------------------|-------|------------------|
| Employee Involvement | 10 | 0.85 |
| Management Commitment | 10 | 0.882 |
| Workplace Environment | 10 | 0.691 |
| Workplace Safety | 10 | 0.636 |

Relationship Analysis (Correlation Analysis)

The correlation between employee involvement and workplace safety in this study is ($r = .218, p < .003$) which represents a weak positive relationship. The correlation between management commitment and workplace safety in this study is ($r = .249, p < .001$) which represents a weak positive relationship. Lastly, the correlation between workplace environment and workplace safety in this study is ($r = .499, p < .000$) which represents a moderate positive relationship. The footnote says, the results are significant at .01 level. This could also be interpreted as “the level of confidence is 99%” ($1 - .01 = .99$).

It can be concluded from the table that all independent variables are expected to have a positive correlation of workplace safety relationships. Hence, the hypothesis is accepted.

Table 2: Correlation Analysis

| No | Variables | IV 1 | IV 2 | IV 3 |
|----|------------------------|---------|---------|---------|
| 1) | Employee's Involvement | 1 | | |
| 2) | Management Commitment | 0.531** | 1 | |
| 3) | Workplace Environment | 0.410** | 0.577** | 1 |
| 4) | Workplace Safety | 0.218** | 0.249** | 0.499** |

*.Correlation is significant at the 0.05 level (2-tailed)

Discussions

This research was conducted to find the relationship between factors that influence workplace safety among workers of Malaysian manufacturing industry. The independent variables are employee's involvement, management commitment and workplace environment while independents variable is workplace safety. The hypothesis of this study was tested and answered by Pearson Correlation Coefficient in order to find the relationship between factors that influence workplace safety which is:-

H₁: There is a significant relationship between the employees' involvement, management commitment, workplace environment and workplace safety.

Based on the result in Table 2, it shows that there is positive relationship between employee's involvement and workplace safety at this company. Based on the finding, it shows weak relationship between the employee's involvement and the workplace safety at this company as the value of $r = 0.218^{**}$ with the p-value of 0.003 at 0.01 significant level. According to the result of the management commitment, it also shows weak relationship between the management commitment and the workplace safety at this company as the value of $r = 0.249^{**}$ with the p-value of 0.001 at 0.01 significant level. Lastly, the workplace environment and the workplace safety has moderate relationship with value of $r = 0.499^{**}$ with the p-value of 0.000 at 0.01 significant level. Based on the results all the proposed hypothesis were supported.

CONCLUSION

Based on this research, the researcher has made several recommendations. Hopefully, all the recommendations and suggestions may help Malaysian manufacturing industry to reduce or eliminate workplace incidents since there are many factors that can contribute for incidents to occur at workplace.

First and foremost, the management and person in charge in production department should find alternative to reduce or if possible to eliminate any incidents in workplace. Even though it is not easy and maybe not possible but they need to use different ways to settle the issues. For example, the manager need to supervise the workers as often as possible so that they do the task in right and safe manner. It means that, the manager should monitor the workers when they are doing their work and correct them on the spot if they do mistake. It is recommended for the manager to supervise their workers for every two hours.

Besides, the company management should provide opportunity to the workers to share their knowledge about safety so that they will cooperate in reducing and eliminating incidents in workplace. As workers, they also have something in mind to share with others regarding safety because it also can give effect to them. So, management must give chance for the workers to speak up about their knowledge.

Next, the management should improve training for workers in handling the machineries. This is because most of the incidents happened in the workplace are due to carelessness of the workers in handling the machineries and lack of knowledge and also training about the machineries. The management should train the workers every month so that they will remember and practice what they had learned before.

Lastly, the workers need to cooperate and support to each other to make sure they work in safe manners in order to reduce and eliminate incidents in workplace. By doing this, the workers can take care of each other's safety and health. Therefore, it hopes that all the suggestions by the researcher may reduce the rate or percentage of workplace incidents in Malaysian manufacturing industry.

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