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IDENTIFYING LEVEL OF AWARENESS ON SUFFICIENCY OF SAFETY AND HEALTH REQUIREMENTS AMONGST CONTRACTORS

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Abstract

Construction site is dangerous by its nature and are prone to accidents. Extensive efforts have previously been taken in order to minimise its risk. By providing adequate budget for safety requirements during tendering, it will help to concern more about the safety. This research proposes to look into the level of awareness among construction players regarding the adequacy of safety and health requirements on site during construction stage that lead to non-compliance of safety and health regulations. Objective of this research is to identify the level of awareness among construction players and to recommend the awareness improvement towards safety and health requirements on construction site. The data for this research will be collected via questionnaires which were distributed to the Class A contractors registered with PKK in Perak. Descriptive statistic will be used to analyse the data. The results will indicate the level of awareness of the different parties in order to resolve the problem of the inadequacy of the construction site safety and health requirements.

Keywords: Level of Awareness, Safety and Health, Safety Requirement, Contractors.

1. Introduction

The majority of the current efforts of safety and health evaluation approaches are mainly post-contract measures. Thus, the construction industries lack of project management guidelines to deal comprehensively throughout construction process, pre-contract and post-contract. No attempts have been made to look back any deficient aspects during the preparation of project documentation process leading to accident prevention. There is less effort has been done to embedded the safety and health elements into contract documents leading to the less attention paid to the related issues during construction period.

According to the Master Plan for Occupational Safety and Health in Construction Industry 2005 – 2010 (MPOSH) produced by Department of Occupational Safety and Health, Human Resources Ministry and Construction Industry Development Board (CIDB), there is a need to specify health and safety requirements in the contract document for the nation. Such safety and health requirements may provide comprehensive guidelines and evidential analysis for any accident taking place on site. This may help anyone involved during construction to take any action in order to eliminate, avoid and reduce potential deficiencies leading to increased risk of accident.

Rabani (2010) was found that, most of the items added in the Bill of Quantities are too general with ambiguous requirements. Bill of Quantities does not clearly explain the work activities and safety requirement needed that should be put in the Bill of Quantities and provided by the contractor or employer. Usually safety is the second important priority in budget spending plan, so they don't want to provide more money to safety. It is supported by Lop (2009) in the finding from study that budget allocations for safety items on site are one of the most significant barriers face by the contractors in complying with safety and health provisions. Some contractors are not aware and alert about the safety requirements on site.

They are always ignoring the need to appoint a safety officer on site because it involves the cost. Thus, if this thing were not stated and priced for then the contractor should bear the costs. The problem more occur when the contractor refuse to do it.

Faridah (2004) also found out that allocations for safety budget were the main constraint in any construction project in Malaysia. Besides that, Ahmed, (1999) stated that limited budget on safety investment are among the most factors that adversely influencing site safety implementation. They are always ignoring the need to appoint a safety officer on site because it involves the cost. To resolve it, detailed Bill of Quantities is needed where all the important safety requirements should be provided in the tender document that becomes a contract document.

Providing enough safety budgets is a constraint to some but is an essential factor that must not be compromised, and a clear element that helps management to enhance safety culture and reduce the number of accidents.

2. Awareness on the Adequacy Safety and Health Requirements

Today, the level of construction accidents on site increase from day to day. Construction project, whether building or road project will be exposed to risks especially when using heavy equipment and machinery. Indirectly, employees or other person in the vicinity be exposed to the hazards and risk. Safety problems at the workplace important and must strive to reduce the accident rate. By providing sufficient budget for safety items and requirements in the Bill of Quantities, it will help the contractors and other construction parties to concern more about the safety. Bill of Quantities was clearly explained the work activities including safety requirements that should be provided by employers. Hawkins (2001) defines the perception or opinion as a process to receive awareness or understanding of sensory information. In that case, perception will be focus to contractors about the awareness to implement and understanding safety items provided in the Bill of Quantities. Prior to commencing work on site, the contractor must make itself aware of all the requirements needed for the works and site activities relating to safety and health issues.

The frequently heard reasons for such phenomenon are expressed by employers who alleged are not aware of the law with regards to Occupational Safety and Health matters and also feel occupational safety and health matters are not important and have no time to think about such matters and do not have enough allocation funds on the issue (Evawaynie, 2007). According to Evawaynie (2007) in their study, the best technique to propagate awareness of OSH Act and Regulations is through in-house training, seminars and workshop pick group discussion. This statement is supported by Rampal (2006) and he agreed that the awareness of OSH Act 1994 needs to be improved by organizing several safety programmes and hence it is important that employers and employees know, understand and comply with the provision stipulated in the legislation.

Among the important factors that need to be considered to ensure that the project will run smoothly is safety on site. Contractors are one of the parties that could play the role to achieve that. In order to provide safe working environment, sufficient budget on safety requirement must be provided. More expenses for safety are needed to achieve good safety level. (Harun, 2009).There is quite a few weaknesses about practice of the safety aspects and elements in the construction site. This is because less awareness about safety and health by the construction site management and the worker itself. As the solutions, the companies management should think this problem seriously and take some suitable actions if they want to see our country successfully achieve the zero accident level one day (Rahmat, 2008).

According to Whiting (2004), people's perceptions of the level of awareness or risk are not determined solely by quantitative, numerical data but are also strongly influenced by many other subjective factors. The accurate perception of risk by all employees within an organization of what the organization regards as "tolerable" and "intolerable" is important for effective risk management. "Common sense" cannot be assumed as automatic without considerable effort in discussion and argument in achieving commonality and agreement on those risks which are "tolerable or acceptable" and those which are not (Whiting, 2000). Although regulations on occupational safety and health in Malaysia are quite comprehensive, the level of awareness and practicability of such regulations within the society of construction industry are generally lower than what supposed to come in force (Hamid, Yusuf and Singh, 2003).

3. Improvement on Level of Awareness on Safety and Health Requirements at Site

Rosli (2008) was quoted the purposed of OSHA 1994 is to promote and encourage occupational safety and health awareness among workers and to create organization along with effective safety and health measures. This would be carried out by self regulation schemes that match the industry or related organization. This Act, which contains 15 sections, is a measure that supersedes any conflict in existing OSH laws such as the Factory and Machinery Act 1967 (FMA). The OSHA 1994 complements any existing legislative provision and if there any conflicts, the OSHA 1994 will overcome it. There are several programmes to propagate awareness towards the OSH Act and Regulations, such as:

(i) Organize OSH seminars and In-house training for employers and employees in collaboration with DOSH at their workplace on the importance of providing sufficient safety and health items at construction site.
(ii) To provide consultation centre and organize OSH workshops and group discussions for employers and employees to congregate.
(iii) To advise both employers and employees in setting up committee at the workplace.

(iv) The government ought to intensify its campaign especially on OSH awareness among construction companies via electronic media.
(v) The government to provide special training courses on the importance of safety and health requirements provided at site for the Employer and Contractor.

Toole (2002) also found that accidents happen generally due to the lack of proper training. Proper training is needed to help rectify the unsafe work behaviors, which would not be effective if fines or bonuses alone implemented. To encourage firms to participate and encourage them to send workers for training, measures in the form of rebates or group discounts may be needed

The focus of occupational safety and health is towards elimination of condition which will cause injury and occupational diseases at the workplace. Preventing people from work related accident and diseases at the workplace requires the collaboration and participation of both employers and workers in health and safety programmes. To have an efficient safety and health system at the workplace, it begins with the employer providing fundamental pre-requisites and sufficient safety equipments at the workplace (Evawaynie, 2007).

In Malaysia, the government and private institutions in the field of OSH, for instance, National Institute of Safety and Health (NIOSH), Malaysian Society for Occupational Safety and Health (MSOSH), Department of Occupational Safety and Health (DOSH) and National Council for Occupational Safety and Health (NCOSH) were established primarily to increase the awareness of safety in organizations. They are responsible in the planning, organizing and assisting in the implementation and continual improvement of the Occupational Safety and Health (OSH) field in Malaysia (Dayang, 2007).

4. Methodology

Data collection is the utmost important stage in this study in order to achieve the desired objectives within the scope of work. This study was collected data by hand questionnaire from top management of Malaysian Construction Companies that registered with Pusat Khidmat Kontraktor (PKK) 'Class A' in Perak using random sampling techniques. Twenty four (24) Malaysian Construction Companies registered with PKK were chosen as the sample. The survey was conducted from July 2012 to September 2012. The top management and the professional were chosen as the respondents because they are the most important person who planning, implement and enforcing on the safety and health provisions in the company.

The data collection from questionnaire survey was then analyzed using the Statistical Package for Social Sciences (SPSS) version 20. The questions asked in the questionnaire are based on a likert scale. Likert scale questionnaire require each respondent to rate the statement on a 5-point. Such as scale 1 = strongly disagree, scale 2 = disagree, scale 3 = undecided, scale 4 = Agree, scale 5 = strongly agree.

Quantitative Approach

i) Demographic Background

Based on Table 1, there are 30 respondents was selected and only 24 was return the questionnaire given. Table 1 shows that, the lowest percentage is the company establish for a period within 10 to15 years which represent 16.67% (4). About 58.33% (14) of the companies are establishing within 5 to 10 years and the rest of the companies which represent 25% (6) have been establishing for more than 15 years. Overall of the companies were established within 10 to 15 years which are nearly to 60% (14). It shows that most of the companies have more experience in the construction industry and had face with the safety issues at construction site.

Table 1: Demographic profile of the respondents (n = 24 companies)

	Descriptions	Percentage of Respondents	Number of Respondents
Company years of establishment	<5 years	0%	0
	5-10 years	58.33%	14
	10-15 years	16.67%	4
	>15 years	25%	

Numbers of years involve in safety and health initiative	<5 years	(33.3%)	8
	5-10 years	(25%)	6
	10-15 years	(8.3%)	2
	>15 years	(33.3%)	8

Table 1 also shows that, about 100% of the companies have an experience and had involved in safety and health initiative at construction site. There are about 33.33% (8) numbers of companies who involve in safety and health initiative for more than 15 years. From the results, it can be conclude that most of the respondents have an experience with the safety and health at construction site and they have no reasons to ignore the compliance of safety and health requirement that required at construction site.

ii) Level of awareness on the sufficiency of safety and health items provided at construction site

Table 2: Awareness on safety requirements provided

Item	Statement of Awareness on Safety Requirements	N	Min.	Max.	Mean	Std. Deviation
1	Meaning of safety	24	4	5	4.33	.482
2	Familiar with safety and health items	24	3	5	4.17	.816
3	Company comply with the safety and health regulations and requirement	24	2	6	3.75	.737
4	Company has an official safety and health policies	24	2	6	3.50	.511
5	Problems occur at site due to lack of safety items provided.	24	1	6	3.77	.963
6	Company provide sufficient items for safety and health	24	2	5	2.67	.482
7	Company appoint safety officer	24	3	6	3.17	1.308
	Overall means for Section B: Awareness	**24**	**2.57**	**5.71**	**3.62**	**.757**

The descriptive statistics for means and standard deviations of the seven (7) variables of the safety and health requirement dimensions are shown in Table 2 above and it can be seen that level of awareness for all companies regarding Safety and Health are at the same level which mostly are familiar on the safety and health items provided at construction site which represent 4.17 of the mean. According to the results from Table 2, it shows that most of the respondents agreed with the statement on understanding the meaning of safety and health and it represents 4.33 mean. It is proves that most of the respondents had knowledge about safety and health and also aware with the safety and health requirements.

Based on the table, perceptions of the respondents towards safety and health perceived this dimension to be disagreed with the statement of sufficient items provided at construction site. This indicates that most of the company still not provides safety and health items sufficiently in accordance with safety regulations. This may be due to a shortfall or lacking items in the tender document to be pricing by the contractor. In-sufficient to provide adequate on-site construction safety requirements and items may also be caused by the negligence of the contractor to comply with safety and health regulation or it's all about the budgets. It is supported by Harun (2009), which among the important factors that need to be considered to ensure that the project will run smoothly is safely on site. Tang (1997) also have the same opinion that the higher the investment in safety, the better the safety performance.

Providing enough safety budgets is a constraint to some but is an essential factor that must not be compromised, and a clear element that helps management to reduce the risk of accidents. Contractors are responsible to make sure safe working environment therefore sufficient budget on safety requirement must be provided. Adequate budget from the government will increase the level of safety and health at construction sites.

iii) Awareness Improvement

Analysis for this section as per Table 3 is using descriptive analysis in order to identify the mean values for each item dimensions. From the mean value of dimensions, the effective factors that facilitate on the enhancement level of awareness can be identified and ranked.

Table 3: Improvement on Awareness

Item	Statement of Awareness Improvement	N	Min.	Max.	Mean	Std. Deviation
1	Carried out OSH Seminars	24	3	5	4.00	.590
2	In-house training	24	3	5	4.08	.504
3	Consultation Centre	24	2	3	2.50	.511
4	Setting up Committee of safety and health	24	2	4	2.83	.565
5	Government Campaign	24	3	4	3.75	.442
6	Government provide training course	24	3	5	4.58	.654
	Overall means for Section C: Awareness	24	2.17	4.33	3.62	.544

Table 3 shows that the agreement on the statement of government should provides special training courses for the employer and workers is the most frequent level of improvement on safety awareness at construction site (4.58) and followed by in-house training (4.08) for employers and employees with collaboration with DOSH. The contractors also should carry out OSH seminars for their employer and employees, scored a third high of average mean with (4.00). Only (2.50 average mean) respondents agreed by providing consultation centre and organize OSH workshops and a group discussion for employers and employees is the safety and health awareness improvement ways at the construction site. It can be concluded that the respondents were still needed an involvement by the government in improving the level of awareness on safety and health at construction site.

It is supported by Rosli (2008) in their study that there are several programmes and activities to propagate awareness towards the safety and health compliance, such as organize OSH seminars and in-house training for employers and workers, provide consultation centre and organize OSH workshops and group discussions for employers and employees to congregate, setting up committee for both employers and employees at the workplace, government ought to intensify its campaign via electronic media and also provide special training courses on the importance of safety and health requirements provided at site for the Employer and Contractor.

The most effective factors identified to enhance the level of awareness of safety and health is by providing training course organized by the government and in-house training initiate by the company. In summary, the main effective factors were determined for objective 2 was completely answered. It can be concluded that there are three (3) most effective factors which will enhance the level of awareness on safety and health requirements at construction site.

Table 4: Improvement on Awareness Based on Highest Ranked

Item	Statement of Awareness Improvement	N	Mean
1	Government provide training course	24	4.58
2	In-house training	24	4.08
3	Carried out OSH Seminars	24	4.00
4	Government Campaign	24	3.75
5	Setting up Committee of safety and health	24	2.83
6	Consultation Centre	24	2.50
	Overall means for Section C: Awareness		3.62

In order to prioritize the above factors, so that their degree of importance and effective factors can be known, ranking by using mean values can be done to show the importance and effective factor to enhance level of awareness among the contractors. Table 4 shows the effective factors to enhance the level of awareness among contractors regarding safety and health, there are provide training course by the government (4.58), in-house training by the company (4.08), carried out OSH seminars (4.00), government campaign (3.75), setting up committee of safety (2.83) and health and consultation centre (2.50).

DISCUSSION

Most of the companies are aware of the safety and health issue except the statement of adequacy safety and health requirement provided at the construction site. The results show that, perceptions of disagrees on company provides sufficient safety items at construction site are at the lower level from the respondents. It means that most of the contactors are aware about the lacking and insufficient safety items provided by the company for workers at construction site. In order to increase the level of awareness among the contractors on the importance of safety and health items required at construction site, the government should organize a number of programs and seminars on safety and health to all construction site workers and employers in an effort to raise the awareness. This effort will help in reducing the rate of accidents often occurs at construction sites. Employers who are invest in workplace safety and health can expect to reduce fatalities, injuries, and illnesses. This will result in cost savings in a variety of areas such as lowering workers' compensation costs and medical expenses, avoiding OSHA penalties, and reducing costs to train replacement employees and conduct accident investigations. In addition, employers often find that changes made to improve workplace safety and health can result in significant improvements to their organization's productivity and financial performance.

CONCLUSION

This paper concludes that the level of awareness is at the same for all company except statement for company provides sufficient safety and health items. Although there are aware with the safety and health regulations, the government should do some enforcement to all the construction companies to make sure all safety requirement and equipments provided sufficiently according site activities requirement. The second objective is achieved by identifying the factors that influence and facilitate the contractor's awareness on safety and health issue at construction site. From the findings, there are several factors can contribute to enhance the level of awareness in safety and health among contractors such as provide training course by the government, in-house training by the company, carried out OSH seminars, government campaign, setting up committee of safety and health and consultation centre. From this improvement, the contractors can make a proper planning regarding safety and health and comply with the regulations.

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