

ACCIDENT UNDER REPORTING IN THE MALAYSIAN CONSTRUCTION INDUSTRY

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ABSTRACT:

Many construction professionals claimed that under reporting of work-related injuries stem from lack of knowledge of reporting requirements, administrative barriers and inadequate reporting mechanisms. Accident under reporting has created situations where the enforcing authorities and employer has difficulties to identify where and how risks arise and investigate serious accidents. The aim of the study described in this paper is to identify the critical causes of accident under reporting in the Malaysian construction industry. The methods of data collection were through document studies of existing accident reporting procedures, questionnaire survey, and face to face interview with safety officers. A list of critical causes of accident under reporting in Malaysia construction industry as well as recommendations on how to overcome accident under reporting are given as a summary of this study. The findings will be useful to construction companies in improving their accident reporting system.

Keywords: Accident under reporting, OSHA, Safety

1. INTRODUCTION

Construction accidents are the third most likely cause of work-related injury, after mining and agriculture. In order to reach a compensatory settlement in a construction accident, it is imperative to file construction accident reports immediately following the injury. A number of people can be held accountable for a construction accident, from the subcontractor and contractor to the owners, architects, insurance companies and equipment manufacturers. Although contractors are required to inspect construction sites with safety personnel and to enforce employee compliance with safety precautions, construction accidents still occur because of inadequate safety regulations or lack of supervision. Contractors may be held accountable if the construction accident reports have inefficiency.

Accurate reporting of work-related injuries and illnesses can help to identify unsafe work environments and work practices; monitor worker health and well being; and eliminate hazards; or, at least, control the health and safety risks to employees. Through preliminary interview with the construction professionals conducted in this study, majority claimed that “the accident that occurred in their company is more likely to be under reported or not reported at all”. The under reporting of accidents and incidents in their company may be promoted by the presence of a poor safety culture, with inadequate systems in place for reporting dangerous occurrences. One aspect critical to the unsuccessful implementation of reporting scheme is because inactive management commitment to the scheme”. Construction professionals claimed that

“under reporting of work-related injuries in their company can also stem from lack of knowledge of reporting requirements, administrative barriers and inadequate reporting mechanisms.” More specifically, these unsatisfactory reporting systems are considered by staff to be time-consuming; ineffective in actually stimulating positive change, and often unclear with regards to what classifies as a reportable injury. In view of the above scenario a study is needed to analyze the existing accident investigations and reporting system which have been implemented by the local construction companies. With the understanding on the existing system, critical causes that influence the success of implementing accident reporting system will be able to be identified.

1.1 Objectives of Study

The objectives of this study are stated as below:

- a. To study the current accident reporting procedure through document study.
- b. To identify the causes of construction accident under reporting.
- c. To identify methods of minimizing accident under reporting

2. LITERATURE REVIEW

The Occupational Safety and Health (Notification of Accident, Dangerous Occurrence, Occupational Poisoning And Occupational Disease) Regulations 2004 is stated in Occupational Safety and Health Act 1994 [1]. Part II of the regulation stated that reporting of any death, injury or condition of a person shall not apply to a patient when undergoing treatment in a

hospital or surgery by a doctor or dentist. Whenever any accident arising out of or in connection with work which caused any person either death or serious bodily injury, which prevents the person from following his normal occupation for more than four calendar days or where a dangerous occurrence takes place in any place of work, the employer shall forthwith notify the nearest DOSH office by the quickest means available, and within 7 days send a report thereof in an approved form.

Factors that may influence the success implementation of accident reporting system are safety incentive programs, safety culture and level of workplace violence/bullying [2]. Poorly planned safety incentive and reward programs may be counter-productive [3] as rewards are often based on the absence of an unsafe outcome rather than on the presence of fundamentally safe behavior, which can lead to under reporting of accidents. According to Reason [4], there are four critical subcomponents of a safety culture: a ‘reporting culture’, a ‘just culture’, a ‘flexible culture’ and a ‘learning culture’, which interact together to create an ‘informed culture’ or ‘safety culture’. Workplace violence is thought to be heavily under reported, as a result of a lack of consensus on taxonomy of violence; cultural acceptance of violence; lack of an appropriate reporting system; lack of employer interest; and fear of blame or reprisal [5], [6], [7].

3. METODOLOGY

In the initial stage of the data collection exercise, document study of three company’s accident reporting procedure was carried out with the purpose of understanding the current accident reporting procedure carried out in the construction industry. A comparison of these three accident reporting procedures was made to establish the strength and weaknesses of each accident reporting procedures.

Questionnaires were then used to collect the general views of the construction professionals related to the causes of accident under reporting. Literature review and preliminary interview with the relevant professionals were considered in developing the questionnaire. Questionnaires were distributed to the construction professionals in the selected construction sites. The survey questionnaire was designed to cover two main sections. Section A was designed to capture general information on the background of respondent. Section B was about the causes of construction accident under reporting in the selected construction sites.

Data collected from the questionnaire was analyzed using statistic analysis i.e. Average Index analysis. The average index value was based on the equation 1 below:

$$\text{Average index} = \frac{\sum a_i x_i}{\sum x_i} \quad (1)$$

Where a_i = value of importance scales (i= 1,2,3,4,5)

x_i = respondent frequency (i= 1,2,3,4,5)

- 1 = least important
- 2 = slightly important
- 3 = moderatly important
- 4 = important
- 5 = most important

The classification for average index value was based on [8] as below:

- 1 = least important 1.00 ≤ average index < 1.50
- 2 = slightly important 1.50 ≤ average index < 2.50
- 3 = moderately important 2.50 ≤ average index < 3.50
- 4 = important 3.50 ≤ average index < 4.50
- 5 = most important 4.50 ≤ average index < 5.00

In the final stage of the study face to face interviews were carried out to identify measures that can be taken to minimize accident under reporting.

4. RESULTS AND DISCUSSION

4.1 Document Study

Three existing safety accident reporting procedures for construction companies in Johor and Selangor were selected and analysed where the findings are summarized in Table 1 while brief description of each company’s accident reporting procedure are as follows:

Table 1: Comparison of accident reporting procedures

| Item | COMPANY 1 | COMPANY 2 | COMPANY 3 |
|------------------------------------|-----------|-----------|-----------|
| Accident report form | √ | √ | √ |
| Accident reporting flowchart | √ | √ | X |
| Accident investigations guidelines | √ | X | √ |
| Definition of accident type | √ | X | X |

a) Company 1

The procedures used by this company provides the requirement for investigating all site accident that resulted in lost time injuries/illness, property damage, and/or production interruption and for investigating incident where the potential for serious injury/illness, costly damage and production interruption exists.

Project manager or construction manager or supervisor is responsible for giving direction during investigation process. They appoint investigation committee members and chairperson of this committee. The supervisor, foreman, witness and injured victims are responsible for reporting all information about the accident to the investigation committee. Accident

cases to be investigated will be classified into fatality, major accident, minor accident, dangerous occurrence and near miss. Besides the classification, the company also establishes an Accident Investigation Guidelines to be followed by employees during the accident investigation.

b) Company 2

In this company every employee is required to follow the accident reporting procedures whenever facing with any accident issues. There is a flowchart stating the procedures that one need to take when accident occurs. If the accident involves injury, the injured employee has to be given immediate medical treatment and if the injury is major, immediate treatment at the hospital is needed. If the injury is minor, first aid treatment will be given.

After giving a proper medical treatment to the injured employee, investigation will be carried out. With these investigations done, the officer will need to proceed to the second phase of the investigations which is more related to how the accident happened, action taken and whether it involves any disciplinary issue. The employee involves in the accident as well as witnesses to the accident will be interviewed and all the pertinent information will be recorded in the accident investigation form. After filling in the accident report form, safety committee members and manager will review the report. Disciplinary action will be taken if anyone found responsible to the occurrence of the accident.

c) Company 3

The accident reporting procedures of this company states that all industrial accidents will be reported via the prescribed form to the Workmen's Compensation Department, SOCSO and Ministry of Human Resources wherever necessary within 10 days from the date of occurrence. If an employee is on medical leave for more than 4 days due to an accident on worksite, DOSH will be informed.

The motive of the company's accident investigation is to gather facts in an unbiased manner. The question should be concentrated on 'who was injured, what was damaged, where did the accident happen, when did the accident happen and how did the accident happen'. The question of 'why it happened' should not arise until all the facts have been gathered and fitted in a logical sequence. The full detail of every accident or near-miss, having been investigated, must be consolidated into a single file which should include the supervisor's investigation report, witness statements, plans/diagrams/ photographs, copies of medical certificates and insurance claim form, copies of any notification made to relevant statutory body.

4.2 Questionnaire Survey

From a review of literature study, a survey questionnaire was developed to collect data for the

study. Data was collected through questionnaire to the targeted population of this study which included contractors, consultants and clients. The sample size of this study included all 12 contractors, 12 consultants and 12 clients based in Johor.

In the questionnaire, the respondents were asked to rank the causes that influence the success implementation of accident reporting system. The causes can generally categorized into 4 areas, human causes, accident reporting system causes, time causes and organization causes. Based on all the gathered information, quantitative analysis was performed by calculating the average index.

The results indicate that none of factors that cause accident under reporting as listed in Table 2 is considered least important by all respondents. Two factors i.e. employees did not willing to cooperate with superior in accident reporting and investigation, and employees less likely to report accident if the manager's reaction to report or manager take no notice were considered less important by at least one of the respondent groups. Twenty factors were found to be in the moderately important group. Ten factors on the other hand were rated to be important and very important. The list of the important and very important factors is given in Table 3.

Table 2: Average Index of critical causes by all respondents

| Causes | Average index (Client) | Average index (Consultant) | Average index (Contractor) |
|---|------------------------|----------------------------|----------------------------|
| Employees try to hide minor injuries. | 4.7 | 4.9 | 4.4 |
| The company have insufficient and lack of guidelines for documenting incidents of occupational violence the company. | 4.4 | 4.5 | 4.2 |
| Employees need to follow too many procedures if reporting the accident to local Occupational Health and Safety Authority (OHS). | 4.3 | 4.4 | 4.2 |
| Lack of recognition of the reporting system. | 4.1 | 4.2 | 4.1 |
| Employees need to fill in too many reports. | 4 | 4.1 | 4.1 |
| Employees have poor communication skill & coordination skill. | 3.8 | 3.9 | 3.9 |
| Improper diagnosis system after gathering of accident reporting detail. | 3.6 | 3.9 | 3.9 |
| The company has poor safety culture and low safety environment. | 3.5 | 3.8 | 3.8 |
| Employees fear of assign lighter jobs and assign less important role in the company. | 3.5 | 3.7 | 3.8 |
| Limited used of accident reporting system in the company. | 3.5 | 3.6 | 3.8 |
| The company did not fully utilize information technology tools in accident reporting. | 3.5 | 3.4 | 3.8 |
| Employees need to follow too many procedures if reporting accident to superior. | 3.4 | 3.4 | 3.6 |
| The company need to consume time and manpower to analyze the accident report. | 3.3 | 3.2 | 3.5 |
| The company need to consume time for suggestion to prevention or improvement | 3.2 | 3.2 | 3.4 |
| Confusing, unexplained methodologies of accident reporting system in the company. | 3.2 | 3.2 | 3.4 |
| Employees need to involve and consume time for accident investigation. | 3.2 | 3.1 | 3.4 |
| The company has insufficient or lack of person in charge to manage the reporting system. | 3.2 | 3 | 3.3 |

Table 2: Average Index of critical causes by all respondents (cont.)

| Causes | Average index (Client) | Average index (Consultant) | Average index (Contractor) |
|--|------------------------|----------------------------|----------------------------|
| Insufficient accident reporting analysis after gathering of accident reporting detail. | 3.1 | 3 | 3.2 |
| Company policy that not emphasize the importance of accident report system and procedure in the company. | 3.1 | 3 | 3.2 |
| Employees fear of loss overtime and loss extra overtime wages. | 3.1 | 3 | 3.2 |
| The company has poor management. | 3 | 3 | 3.2 |
| Employees have insufficient or lack of knowledge and skill in accident reporting. | 3 | 2.9 | 3.1 |
| Employees fear of violence threat by others staff. | 2.9 | 2.9 | 3 |
| Employee tends to get safety reward and cause accident under reporting. | 2.9 | 2.9 | 2.9 |
| The company provide Inadequate safety training to their employees | 2.9 | 2.9 | 2.8 |
| Employees have poor attitude and reluctant to pay full effort to the company accident reporting. | 2.9 | 2.8 | 2.7 |
| Employees did not want to separate from their co-worker in the company. | 2.9 | 2.8 | 2.6 |
| The company has no accident reporting reward or incentive to the reported employees | 2.8 | 2.6 | 2.6 |
| The company will fine the employees because the accident cause by their careless at the job site. | 2.8 | 2.4 | 2.5 |
| Employee did not want to be labeled as complainer in the company. | 2.7 | 2.4 | 2.5 |
| Employees did not willing to cooperate with superior in accident reporting and investigation. | 2.7 | 2.3 | 2.5 |
| Employees less likely to report accident if the manager's reaction to report or manager take no notice. | 2.6 | 2.3 | 2.3 |

Table 3: Average Index of important and most important causes by all respondents

| Causes | Average index (Client) | Average index (Consultant) | Average index (Contractor) |
|---|------------------------|----------------------------|----------------------------|
| Employees try to hide minor injuries. | 4.7 | 4.9 | 4.4 |
| The company have insufficient and lack of guidelines for documenting incidents of occupational violence the company. | 4.4 | 4.5 | 4.2 |
| Employees need to follow too many procedures if reporting the accident to local Occupational Health and Safety Authority (OHS). | 4.3 | 4.4 | 4.2 |
| Lack of recognition of the reporting system. | 4.1 | 4.2 | 4.1 |
| Employees need to fill in too many reports. | 4 | 4.1 | 4.1 |
| Employees have poor communication skill & coordination skill. | 3.8 | 3.9 | 3.9 |
| Improper diagnosis system after gathering of accident reporting detail. | 3.6 | 3.9 | 3.9 |
| The company has poor safety culture and low safety environment. | 3.5 | 3.8 | 3.8 |
| Employees fear of assign lighter jobs and assign less important role in the company. | 3.5 | 3.7 | 3.8 |
| Limited used of accident reporting system in the company. | 3.5 | 3.6 | 3.8 |
| The company did not fully utilize information technology tools in accident reporting. | 3.5 | 3.4 | 3.8 |

4.3 Interview with Safety Officer

Two interviews had been conducted in this research with safety officers (Refer to Table 4) on how to minimize the accident under reporting cases in construction industry. Several measures have been recommended during the interview sessions, the summary of the recommendations are described in the next section.

Table 4: Interview with Safety Officers

| Safety Officer | Company | Number of Years of Experience |
|----------------------------------|---|-------------------------------|
| 1.Mr.Remy Aidil Bin Abdul Rahman | Khoo Soon Lee Realty Sdn Bhd, Johor Bahru | 8 |
| 2.Mr.Tan Wee Kok | Vertex Landmark Sdn Bhd, Johor Bahru | 9 |

Safety Culture

Under reporting is likely to be symptomatic of poor management commitment to ensure a safe workplace. First, management team must be committed to improve jobsite safety. As management becomes better educated, safety programs will improve and perceptions of the cost of safety will improve. Workers must be encouraged to report injuries; incentives, if used, should be short-term; the focus of the safety program should be on behavior, not prizes.

Safety Incentive Programs

If a company has not yet established any safety incentive programs, it is important for the company to establish one. The system should be designed to ensure that workers must actively participate in improving safety performance, rather than simply hoping to win something at the end of the day.

If the company already has its own safety incentive program, it is important to review the effectiveness of this program. When incentive programs offer an

award based on a long-term safety performance goal, the focus of supervisors tends to be geared towards not losing the award. In other words, the spotlight is on the reward instead of the goal, which should be to increase safety on the jobsite. If an injury occurs and reporting the injury means losing the safety reward, particularly if the award has taken a long time to earn, it becomes tempting to hide the injury.

Employees' perceptions of accident reporting

A range of causes are potentially influence employees' willingness to report accident and injuries. These include fear of reprisal, loss of pay/ overtime pay, not wishing to be labeled as a complainer, and the perception that nothing can be done about the situation. Management should take steps in eliminating these fear that often faced by the workers in order to minimize the under reporting of accidents.

5. CONCLUSIONS

The study on the critical causes of accident under reporting in Malaysia construction industry has been carried out in several stages beginning with literature review followed by document study, survey and interview. The results show that there are ten important and very important factors that cause the problem of accident under reporting to occur in the local construction industry. Interview with safety officers revealed three measures that can be taken to minimised the accident under reporting problem which are improving safety culture within the construction

organization, provide better incentive programme, and better perception towards accident reporting.

6. REFERENCES

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