ABSTRACT

The statistic of accidents at construction sites give us a picture that Malaysian construction industry is one of the critical sectors that need a huge and fast overhaul from the current site safety practices. Most accidents result from a combination of contributing causes and one or more unsafe acts and unsafe condition. In order to improve the overall safety performance we need to investigate the level of awareness among the contractors and their employees concerning safety and health matters. The study will also determine the level of attitude concerning the underlying principles of the Occupational Safety and Health Act 1994 that promotes self-regulation. The research will determine the level of compliance of the construction companies and also the health and safety management process at construction sites. The knowledge derived from this research could be utilized in formulating a more conducive working conditions and environments at construction sites. Hence, a study to explore the problems concerning S&H issues faced by the construction companies in Sabah is timely and of significant importance. Any occupational accidents at construction sites will have direct and indirect effect upon the construction stakeholders. However these losses could have been prevented through improvement of site management, better training and enhancement of work practice.

This study investigates the prevalent safety management practices through method of questionnaire survey, interview and discussion. The finding is crucial in understanding the safety and health practice and its effectiveness on workers’ job performance. It is hoped that the findings derived will identify ways to reduce accidents at construction sites.

Keywords: Safety and health, HR practices, accidents, and employees attitudes.

Introduction

Construction industry is one of the major contributors to the total employment. It has long since been considered as a hazardous occupation due to high incidence of occupational accidents that resulted in fatal injuries, permanent disability, temporary disability and occupational disease. Statistics from all over the world had shown an enormous proportion of the occupational accidents in the construction industry. The occupational accidents (whether fatal or not) and occupational illness will have direct and indirect costs to the companies. However these losses could have been prevented through improvement of site management, better training and enhancement of work practice.

Problem Statement

Although regulations in occupational safety and health in Malaysia are quite comprehensive and reinforced with strict safety inspection and audit by DOSH at
regular of time, the accidents at construction site is still alarming. There is a need to
determine why the number of accident and fatality still at unacceptable figure. It is
very important to find any loopholes in enforcing the requirements of safety Acts or
any weaknesses in inspecting and auditing construction sites. The level of
compliance of the contractors will be analyzed to determine the effectiveness in
implementing the occupational safety and health issues at construction sectors.
Based on the figures and numbers of death cases in construction sites, there are few
problems that can be undertaken for research consideration.

First problem is the understanding of the construction site’s management on safety
and health. Although cases were reported to related departments, yet information on
the safety and health management in construction sites is still far lacking. There has
not been any clear understanding provided by any party. The issue has to be
fundamentally understood and comprehended. Awareness on safety and health is
important and crucial for construction sites. The Occupational Safety and Health Act
1994 (OSHA) is a self-regulation statute. It means that the government will not
prescribe how the safety and health at a workplace should be managed. The Act
requires a joint effort from the employers and employees on how to administer the
safety and health at their respective workplace.

Second problem is the lack of the understanding on the gaps between government
agencies and the construction companies / developers. It is undeniable that
government agencies were working hard to promote in ensuring workplace safety
and health. Gaps between government agencies, and developers and its construction
companies, with other related parties must be comprehended as an initiative to
bridge the loops between all parties in ensuring government agencies can
implement, and monitor well on occupational (workplace) safety and health.

Third problem is the absence of understanding problems faced by the companies in
complying occupational health and safety act and regulations. It is agreeable that
strict laws and regulations must be implemented, to ensure the safety and health at
workplace. However, compliance of the organizations must be studied on the
limitation of its capability or any problems faced that never being brought to surface
for discussion.

Fourth problem is the non-existence of site’s occupational and safety model provided
by the industry. Model from the industry itself should be developed, as researcher
and policy maker can study and provide enhancement for such model. It will be
difficult for researcher and policy maker to develop own safety and health model for
the organization, when information is not obtained and developed from the industry
perspective.

Fifth problem is the unknown compliance level of construction managements and its
capability with willingness in developing and accepting safety and health courses to
their employees. The compliance level may inclusive of the accidents reports,
courses conducted for employees, policies and regulation adaptation with
compliance, and measurement on safety and health.

**Research Questions**

Based on the problem statements above, few research questions have been
developed for this research in addressing the issues and problems in the construction
industry, as the followings: What is the level of awareness in S&H among the
construction companies? What is the level of attitude of the construction companies towards safety provision for their workers on site and attitude towards self-regulations of OSHA? What is the level of compliance of the construction companies at construction sites? What is the health and safety management process at construction sites? What are the problems concerning S&H issues faced by the construction companies? And How does it all affecting the labourers’ job performance?
All of the questions are the fundamental questions that need to be addressed and answer in order to understand the perspectives on safety and health at construction sites.

**Significance of the study**
The research will identify the stated objectives in addressing the research questions that will benefit the industry. With a clearer comprehension and real understanding on construction site’s safety and health, fundamental issues in construction site can be identified and explained to the extent of model to resolve the issue can be proposed in the future. Awareness of the companies may play a significant role for the researchers understand the extent of awareness with its affectivity to companies (as business organization) in implementing the rules and regulation. By understanding the level of compliance of the companies, researcher will be able to identify the real picture and happening at construction sites. Level of compliance is important as an indicator of measurement, if the research to be undertaken for examining the relationship or the extent of influence among the factors at sites. In identifying the safety and health management at site, researchers will able to develop a model of management process based on the real scenario that happens in the real practices. The research will become a fundamental ground for researcher to understand the exact happenings in construction sites, on matters pertaining to safety and health, problems that faced by the management, problems faced by the companies, problems that faced by the employees (the workers themselves) and level of awareness with compliances in various facets may also being identified for future direction of the safety and health in construction companies. On top of all, the study also determined to examine the relationship between HR, safety and health practices towards work safety at construction sites.

**Literature Review**
Ahmad Fauzi (2007) has studied thoroughly on the accidents at construction industry and he has confirmed the need to have a safety audit. Abd Rahim et al (2008) has stated that the statistic of accidents at construction sites shows that Malaysian construction industry is one of the critical sectors that require immediate overhaul from the current site safety practices. According to the authors, most accidents result from a combination of contributing causes and one or more unsafe acts and unsafe condition. In order to improve the overall safety performance we need to investigate the root causes of construction accidents. That knowledge could be utilised in formulating more conducive working conditions and environments at construction sites.

Khairuddin (2008) described that construction industry is an important industry in Malaysian’s economy. Quality concerns in construction industry always being mentioned due to the low number of participation by local workers. The industry’s safety and welfare record was not all encouraging. Government has implemented and taken various steps in assuring the safety and health at workplace in
construction industry. The paper suggested focusing on the upstream process of the industry which is likely to be pre-construction stage of the construction process. Author has applied Domino Theory to discuss on the issues of health and safety concerns in construction industry. It is stated that this theory has been developed in 1930's by Heinrich and has been modified by Adam (1976).

The researchers cited above had conducted research in West Malaysia. The researchers have not discussed specific problems in Sabah construction industry which might differ from West Malaysia. Hence this study will fill the gaps in the area. It is also to report that there is yet any similar research has been done.

**Human Resource Practices and Work Safety and Health Environment**

Hassan, Basha and Hanafi (2007) described that construction industry is one of the most hazardous activities, and safety on the job site is important which led to the study on safety level perception of the site workers towards the safety, health and environment on work site. In their study, 5 sites of each large and small construction project were chosen as the location of the study. Standard checklist and detailed questionnaire was used as the instrument for data collection. The result reported by Hassan et al. (2007) is that large projects found to be consistent in safety level while small projects as opposite. The key factors of the study were organizational commitment, communication among workmates, personal role and supervisory role, and management commitment too. The checklist of the study includes 17 items of checklist, as the followings: fire prevention, housekeeping, scaffold/mobile tower, sandblasting, cartridge operated tools, power tool machine, excavation, heavy equipment, concrete equipment, concrete formwork, gas and electric, health and welfare, compressed gas, transportation, air compressors, cranes and lifting, safety administration, and temporary electric. The general findings of the study concluded: (1) the perceptions of the workers on safety and health is mostly influenced by management effort such as safety training, safety meeting, and has sufficient resource available for safety; (2) the perception on the accidents and near misses reporting is high due to the awareness at workplace that is reinforced by worker's experience, age and background of safety training; (3) supervisor is regarded important as production that stimulates the distinct company policy on safety; (4) physical condition could be the main obstacles to safe behavior factor, as some tasks at sites require a long period with head and arms in physically in awkward positions; and (5) relationship with workers, talk on safety is related to the safety behavior and motivation at sites.

Goodrum and Maloney (2006) reported that there has been a little investigation into the effectiveness if safety and health training programs, and the limited evidence suggested it is beneficial. Lingard (2002) has assessed in the effect of first aid training on occupational safety and health behavior in construction industry, intervened to reduce workers’ willingness to engage in risky behavior at work and reduce their willingness to tolerate for unsafe situations. The finding was similar to the research done by Hinze and Wilson (2000) whom reported that managerial respondents feels that training is key to improve safety performance. Employees reported of saying formall programs are needed and informal training is a significant contribution to the knowledge of work safety and health (Goodrum and Maloney, 2006). The training meant by the employees are undocumented training received outside a classroom setting, on-the-job training, co-worker mentoring and supervision. From the focus group held by Goodrum and Maloney (2006), informal
mentoring was mentioned consistently as the informal trainer should be having leadership skills and mastery of the job. On the other hand, the feedback obtained from the focus group was safety talk was rated as ineffective, where practical and hands-on knowledge are more critical to the effectiveness of training. On policies, procedure and culture, the feedback was personal protective equipment and clothing, hard hats, steel toe safety shoes, safety glasses, and reflective vests are always being emphasized at the work sites, by safety manual and regular scheduled committee meeting on safe job performance. Again on mentoring as reported by Goodrum and Meloney (2006), workers often learned and benefited from the senior colleagues, but journeymen were not aware that they have the obligation to instruct the inexperienced workers on safety aspects. Resulted from the research, formalized mentoring program should be implemented to take advantage of the knowledge and skills from the journeymen, and training should be expanded on the availability of "train-the-trainer" program, yet future study should focus on studying the effectiveness of training program, formal and informal, as to improve the current practices in worksite.

Research Design
Objectives of the research are to explore and identify:
1. the awareness in S&H among the construction companies;
2. the attitude of the construction companies towards safety provision for their workers on site and attitude towards self-regulations of OSHA;
3. the compliance of the construction companies at construction sites;
4. the health and safety management process at construction sites;
5. the problems concerning S&H issues faced by the construction companies; and,
6. the effect of the practices on job performance.

The research will be an exploratory study on safety and health issues at construction sites in Kota Kinabalu, Sabah. The survey will be collecting all information addressing on the issues and problems through method of questionnaire survey, interview and discussion. The survey will be purposely to obtain data and information on the compliance of safety and health, awareness on safety and health issue, problems faced by employers and employees and other related information.

The research will also involve the input from government agencies like Department of Safety and Health (DOSH), National Institute of Safety and Health (NIOSH), Construction Industry Development Board (CIDB), Sabah Urban Development Corporation (SUDC), and Sabah Development Office (SDO). Inputs and data from the government agencies are important as the guidelines, rules and regulations, policy, and even training and campaign courses are done by the government agencies. Most important, the data obtained from the government agencies will ensure the researcher to obtain some solid ideas that is useful for fundamental research on the construction. The target of the research will be the companies’ managers and workers at construction sites. Target population of the research is the construction sites in Sabah States, inclusive of government’s project and developers’ sites. Sampling population of this research will be all construction sites belonging to government and private sectors. The actual data will be obtained from related department for best statistical number of constructions sites. The sampling size will cover sites that categorized in civil engineering. The research will exclude personal construction such as house renovation and office renovation. The sampling meant in this study is the sites that currently developing and constructing buildings under government’s funding or private developers. The unit of analysis will be at individual level. The samples are the constructions’ workers and workers from all managerial level in companies. Sampling techniques for this research will be convenience sampling technique. The reason of applying this technique is to obtain feedback as much as can. This technique is most suitable for purposive for construction sites.
only, with some government agencies. This technique perhaps is most useful for exploratory study.

**Research Framework**

![Diagram showing categories and subcategories related to workers safety practices and human resource practices]

**Proposed Hypotheses**

Two main hypotheses are proposed as the following:

H1: Workers Safety Practice has significant impact on Work Safety

H2: Human Resource Practices has significant impact on work safety

**Instrumentations**

The development of the questionnaire will be referred to the following:

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<tr>
<th>No</th>
<th>Questionnaire Title</th>
<th>Remarks / Related Items</th>
<th>Reference / Existing Questionnaire</th>
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<tr>
<td>1</td>
<td>Health and Safety Attitude Survey</td>
<td>Managerial Support on Safety and Health</td>
<td>Professional Training Services (PTS) by the Bureau of Safe Risk Management</td>
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<td>2</td>
<td>Safety and Health Program Evaluation Questionnaire</td>
<td>Written Safety and Health Program, Managers’ roles, Supervisors’ roles, Safety Manager's roles, Employees Obedience, Safety Committee, Safety and Health Inspection</td>
<td>Safety and Health Program Evaluation Questionnaire</td>
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<td>3</td>
<td>Health and Safety Questionnaire</td>
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<td>4</td>
<td>Health and Safety Self Assessment Questionnaire: General Purpose</td>
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<td>Broadland District Council, United Kingdom: Health and Safety Self Assessment Questionnaire</td>
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<td>5</td>
<td>Mentoring Interest Survey for Prospective Participants</td>
<td>Knowledge of mentoring, mentoring experience, development activities profile, desired benefits of mentoring,</td>
<td>Leadership Technologies (2002)</td>
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<td>6</td>
<td>Mint Tool: Mentoring Styles</td>
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<td>Mint Tool: Mentoring Styles</td>
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<td>8</td>
<td>Attributes of Effective Mentoring Relationship: Partner’s Perspective.</td>
<td></td>
<td>Starcevich, and Friend (2009). Centre for Coaching and Mentoring</td>
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<td>9</td>
<td>Performance and Development Solutions (PDS) Coaching Questionnaire</td>
<td>Type of coaching, and coaching goals</td>
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<td>10</td>
<td>Effective Coaching Model</td>
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<td>Personal-coaching-information.com Whitmore (2002), Downey (2003), and Whitworth</td>
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<td>Employee Counseling</td>
<td>CLEAR Coaching Model,</td>
<td>Joshi, G. (123oye.com)</td>
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<td>11</td>
<td>Skills for efficient counselor</td>
<td>(2007)</td>
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<td>12</td>
<td>Employee Counseling Program in Malaysian Workplace</td>
<td>Culture and Value</td>
<td>Peter Tong, (1998)</td>
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**REFERENCES**


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