



REVIEW ON STUDY OF SAFETY CULTURE AT CONSTRUCTION SITES

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ABSTRACT

Researchers had agreed that, construction industry one of the most hazardous industries worldwide due to its unique nature. The environment of the construction industry is risky which make it very essential to pay more attention to improve the construction safety and health at the workplace. Few studies had been conducted in construction safety and health performance. The construction industry is commonly considered to be dangerous, difficult and dirty, and is one of the most hazardous land-based industrial activities, producing numerous serious accidents and asces of ill health to workers and members of the public. Based on above literature review it could be concluded that occupational health and safety in construction industry is very necessary in developing countries because lack of safety regulations and standards, low priority of safety, lack of data on safety at construction sites, lack of safety training, lack of safety promotion, and lack of documented and organized safety management systems.

Keywords: *Construction Safety And Health, Safety Policies Etc.*

I. INTRODUCTION

Construction industry is one of the most hazardous industries resulting in high rates of accidents around the world. Accidents are primarily seen as the result of poor safety culture expressed as unsafe practices and behavior. As the existence of poor safety practices leads to an increased risk to human lives, the industry has put a great deal of effort into the form of improving the organizational safety culture. Establishing a good and efficient safety culture undoubtedly helps organizations control and reduces construction costs and increases their long-term operational efficacy. The construction industry produces the built environment, creates employment and generates wealth. Small businesses specialist in one of numerous different construction related activities, dominate the industry resulting in a competitive, complex, dynamic and fragmented industry. The construction industry is commonly considered to be dangerous, difficult and dirty, and is one of the most hazardous land-based industrial activities, producing numerous serious accidents and asces of ill health to workers and members of the public. The majority of small construction companies that dominate the industry worldwide tend to have slim management structures, with little bureaucracy and no formal safety management systems. Risk assessments, safety policies, safety committees and documented safety management systems were virtually absent. Directors and project managers were often unaware of their duties under health and safety

legislation, including reporting accidents. There was a general absence of formal health and safety training specific to the construction industry.

II.LITERATURE REVIEW

Mohd. Aqleem Mir, Bibha Mahto[1] The construction industry is considered as one of the most hazardous industrial sectors wherein the construction workers are more prone to accidents. Despite recent efforts to improve site safety, construction still accounts for a disproportionate number of occupational-related fatalities. In developed countries there is strict legal enforcement of safety in the construction industry and also in the implementation of safety management systems which are designed to minimize or eliminate accidents at work places. However, occupational safety in construction industry is very poor in developing countries because lack of safety regulations and standards, low priority of safety, lack of data on safety at construction sites, lack of safety training, lack of safety promotion, and lack of documented and organized safety management systems. The objective of present work is to study the various site safety measures at building construction sites and to compare the site safety measures with relevant safety codes. The study pertains to find out the provisions as laid down in the BIS codes for various aspects of safety measures at construction sites. The study included, physically visiting different construction sites, collecting the data regarding safety provisions adopted and feedback from site engineers by using questionnaire will help in implementing the safety measures at building sites more efficiently. So that that the present study will help out in ascertaining the proper safety planning in building construction.

Tan Chin Keng, Nadeera Abdul Razak[2] Cases of construction site accidents always happen. In line with the efforts to reduce accidents at construction sites in Malaysia, the objectives of this research are to determine the current safety practices at construction sites, to identify the safety practices related problems, and to identify the strategies to reduce the safety practices related problems. Two case studies were conducted for data collection. Data were collected through semi-structured interviews with the safety officer of the respective project. It is concluded from the research findings that generally the construction site has good and structured as far as safety practices are concerned. Among the practices are safety policy, education and training, site safety inspection, safety auditing, safety meeting, site safety organization, personal protective equipments, emergency support and safety measuring devices, fall protective systems, and safety promotions. Nevertheless, several problems were encountered in the safety practices; ignorance of workers on work procedures, lack of financial allocation for safety management, lack of awareness among workers, and language barrier between supervisors and workers. Several strategies have been suggested to overcome the problems, such as to provide effective safety training, allocation of budget for safety management, full commitment from the top management, and to provide safety booklets in various languages. The suggestions cover three aspects for the implementation of safety practices, i.e. awareness of workers, commitment of top management and the allocation of resources. The findings of this research would reduce the gap of understanding on the aspect of safety practices at construction site in Malaysia and can be used as a source of reference in the site safety management.

Kanchana Priyadarshani, Gayani Karunasena and Sajani Jayasuriya[3] Construction safety on project sites is of utmost importance due to the nature of the construction industry. However, it is usually a secondary concern in a



market-driven society where the main concern is completing projects at the required quality with minimum time and cost. Thus, safety issues are considered only after an accident occurs at a construction site with follow up measures to improve working conditions, especially in developing countries. In Sri Lanka, according to the International Labour Organisation, one out of six accidents and 25 out of 40 deaths occur at construction sites due to negligence or carelessness. These statistics show that safety is not adequately considered in the Sri Lankan construction industry. Therefore, proper safety management in construction is of utmost importance; hence, this study aims to introduce a benchmark to measure construction safety through a proposed safety management assessment framework. Factors affecting construction safety performance were explored through a questionnaire survey conducted in Sri Lanka. The results suggest that a benchmark of construction safety should be considered across six dominant groups of factors: management commitment, management measures, implementation, project nature, individual involvement and economic investment. Management commitment is the most dominant factor that affects construction safety and consists of implementing organisational safety policies, assigning safety responsibilities at all levels, etc. The proposed management framework will facilitate a benchmarking process and initiatives for improving construction safety performance in developing countries.

Eric Chan [4] Promoting safety management is always the top priority in construction business. Fostering safety culture will be one of the most effective ways. This paper is a case study, based upon the “Geller’s 10 principles for achieving a total safety culture”, to review how a construction company in Hong Kong effectively promoting safety culture and enjoying pleasant safety records. Zero harm is not a “zero sum game”, but it requires positive “top down” and “bottom up” actions from both employers and employees.

Faridah Ismail, Hasmawati Harun, Razidah Ismail and Muhd. Zaimi [5] this research presents the methodological development of a framework for promoting safety culture for the Malaysian construction companies. There is no framework that has been established in this context. The development will enable professionals to quantify and analyze safety culture in a consistent manner. A mixed methodology of qualitative and quantitative was adopted, in which sample for the study was limited to selected building contractors in the Klang Valley. The preliminary survey identified leadership, organisational commitment, management commitment, safety training, and resource allocation as practices which embed safety culture into organisational culture. Hence, the development of the main survey includes the identification of these behavioural factors and their further expansion to include the aspects of psychological and situational factors’ characteristics. Semi-structured interviews were also conducted to provide new insights on the importance of communications which are founded on mutual trust, shared perceptions between the Senior Management, Safety Officer, and Site Supervisor within the organisations. The safety related representatives from the industry players are validated based on the appropriateness, the ease of use, and the coverage of the framework.

Andi [6] Efforts to reduce construction accidents can be initiated by building good safety culture. Researches concerning safety culture, however, are still limited. This research aims to empirically gauge worker’s perception toward safety culture in construction projects. Data were obtained through questionnaire survey to three large construction projects in Surabaya. Two hundreds and seven sets of questionnaires were gathered and used for subsequent analyses. Results show that in general workers’ perception toward safety culture are quite good. Further



analysis indicates that workers in the three projects have different safety culture perceptions, especially on factors of top management commitment, safety rules and procedures, communication, and worker's competency.

Sam Wamuziri[7] This paper provides an evaluation of safety culture in the UK construction industry. Firstly, an overview of recent changes in accident statistics in the industry is given. Analysis of safety data collected by the UK's Health and Safety Executive (HSE) reveals that safety performance in UK construction appears to have reached a plateau. In fact, the fatal injury rate appears to have gone up in the last two years. Future improvement of safety performance therefore remains a subject of current debate. It is suggested in this paper that future improvements in performance are likely to come not from more legislation or simply changes to management systems. Rules, regulations and managements systems have their role to play in improving safety performance. However, on their own they are inadequate to bring about further major improvements in safety performance which are required in the industry. It is postulated in this paper that a major cultural shift in attitudes is still required in the

industry. The concept of safety culture is discussed in this paper including an assessment of its main characteristics. Research on safety culture in aviation, mining, nuclear and offshore sectors is assessed with a view to drawing important lessons for the construction industry. Results of a pilot survey to assess the characteristics of safety climate and culture in a large UK contracting organisation are provided. The results reveal a clear divergence in attitudes and views of managers and employees in this particular organisation. It is concluded that the safety climate or culture of an organisation can be assessed and changed over a period of time. A toolkit to assist in his process has been developed and published by the UK health and Safety Executive. However studies are required to develop this tool kit further to take into account the regulations, risks and management systems that are specific to the construction industry.

Mohd Saidin Misnan and Abdul Hakim Mohammed[8] The nature of most accidents at the construction sites shows that the construction industry is unique. Factor involved include human behaviour, different construction sites, the difficulties of works, unsafe safety culture, dangerous machinery and equipment being used, and non-compliance to the various set procedures. Study shows that an accident and injury at the worksite is often the result of workers' behaviour, work practices or behaviour and work culture. Safety and health culture are more related to workers' safety practices. An efficient safety management system ought to be based on the safety awareness that should become a culture in the construction industry involving all the parties. The efficient safety culture and safety management system should be shown to the public, and as well as healthy and safety in environmental value business. This paper will discuss the conceptual framework of the development of safety culture in the construction industry, known as one of the dangerous industries but which can still provide a safe working environment thus offering a safe and promising career. Safety culture is an alternative for encouraging competition at any level. The construction industry must have a safety culture in order to reduce number of accidents, fatalities and injuries that involves workers and properties.

III.CONCLUSION

Based on above literature review it could be concluded that occupational health and safety in construction industry is very necessary in developing countries because lack of safety regulations and standards, low priority



of safety, lack of data on safety at construction sites, lack of safety training, lack of safety promotion, and lack of documented and organized safety management systems. The safety climate or culture of an organisation can be assessed and changed over a period of time. The construction industry must have a safety culture in order to reduce number of accidents, fatalities and injuries that involves workers and properties.

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