



An occupational safety and health management system related to level of safety culture in construction site

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ABSTRACT

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That accidents recurring at the construction sites show that the construction industry which become larger in causing safety problems and the frequency of accidents also increases. However, it is not possible to control all the hazardous activities at a construction site. Factors influencing accidents include human behaviour, different construction sites, complexity of work, lack of safety culture, unsafe use of machinery and equipment, and noncompliance with various sets of procedures. Studies show that accident and injuries at the worksite are often the result of workers' behaviour and safety culture. In this paper will discuss about the importance of OSH management system in organization including element and benefit of OSH management system. It also will discuss about safety culture in organization including level of safety culture, impact of safety culture and measurement of level of safety culture at construction site.

Keywords:

Construction industry, OSH management system, level of safety culture

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1. Introduction

Historically, construction is one of the most hazardous professions to be employed in. It is commonly known as the 3D's industry i.e. difficult, dirty and dangerous [1]. Management systems usually focus on continuous improvement using the plan-do-check-act model. Occupational Health and Safety Management Systems is part of the overall management system that facilitates the management of the OS&H risks associated with the business of the organization [1, 2]. This includes the organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the organization's OS&H policy [2, 3]. Besides that, the management system specific to occupational health and safety is comprised of four interrelated components include management leadership and

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employee involvement, worksite analysis, hazard prevention and control and safety and health training.

1.1 Problem Statement

The construction industry tends to have a low awareness of the long-term benefits of safety practices, while the tendering process often gives little attention to safety, resulting in cost and corner cutting [2].

The unsatisfactory OSH record of the construction industry has always been highlighted. According to Abdul Rahim *et al.* [1], the construction industry can benefit from an improved attitude change that cultivates a vision for the future which elevates safety concerns and effectively integrates them into the overall management mix. High rates of injury are primarily due to inadequate or non-existence of an OSH management system[6, 8, 13]. Perhaps this is not surprising given that, with very few exceptions, many of us who write or talk about safety culture tend to wave the phrase around like a well-worn slogan that is passed its sell-by date[6, 7].

1.2 Objective

The objective of this paper is to discuss OSH management system related to level of safety culture.

2. OSH Management System

According to Construction Safety & Health Management System [3], the essential factors for implementing an active management system are:

- a) Ensuring that there is complete commitment of the management;
- b) Developing and implementing a clear and comprehensive sustainable policy;
- c) Establishing and empowering a team as an essential element within the company to ensure that continuous improvement becomes normative within the company;
- d) Providing regular and effective feedback about the process and improvement result;
- e) Increasing room for action for team members and encouraging timely changes when the causes of problems and ideas for improvement have been identified;
- f) Documenting the result of successful actions;
- g) Informing all stakeholders, inside and outside of the corporations; and
- h) Allocating human and financial resources to ensure that the process continues and that the company itself continues on its journey towards sustainable development.

2.1 Objective of OSH Management System

According to Cooper [4], he argued that the effectiveness of an organization's OSH system is defined and determined by the degree by which it achieves the following seven (7) safety management objectives: Safety leadership, Employee participation, Knowledgeable programme participants, Hazard identification, evaluation and control, Performance goals, standards and measures, Safety performance accountability and Continuous safety improvement programme.

2.2 Elements of the OSH Management System

The key elements of a successful safety and health management system are set out in this paper. The main elements of an occupational safety and health management system [4]; Policy and Commitment, Planning, Implementation and Operation, Measuring Performance, Auditing and Review Performance.

2.2.1 Policy

The OS&H policy shall: be appropriate to the nature and scale of the organization's OH&S risks, be documented, implemented and maintained, be communicated to all employees with the intent that employees are made aware of their individual OH&S obligations, be available to interested parties, and be reviewed periodically to ensure that it remains relevant and appropriate to the organization.

2.2.2 Organizing

The organization shall construct a list that include all work hazards, risk assessment of each hazard and the required measures for controlling the risk of each hazard.

2.2.3 Planning and implementing

Organizations adopt a planned and systematic approach to policy implementation which are include the management arrangement such as organization activities, adequate and appropriate resources, measuring performance and audits.

2.2.3 Measuring performance

Performance monitoring and measurement shall: be used as a means of determining the extent to which S&H policy and objectives are being implemented and risks are controlled, include both proactive and reactive monitoring, and not be based only upon work related injury, ill health, disease and incident statistics, and Be recorded. The monitoring shall provide: feedback on H&S performance.

2.2.4 Audit

The organization shall establish and maintain an audit program and documented procedures for periodic S&H management system audits to be carried out, in order to: determine whether the H&S management system: Review the results of previous audits and Provide information on the results of audits to management.

3. Initial and Periodic Status Review

Four approaches to health and safety management are identified from the findings of the literature on health and safety management systems and types of systems, and from the emerging case evidence. The four approaches below: Traditional management, Innovative management, A 'safe place' control strategy, and A 'safe person' control strategy.

3.1 Benefits of OSH Management System

Organizations with effective OSH management system earn positive returns and benefits on their health and safety investment by: Operational cost savings through OSH management system, Reducing work-related accidents and ill health and the costs associated with them, Improving performance through heightened employee morale and adherence to policies and procedures, Increased control of regulator issue, Reinforcing a responsible and well-managed reputation with customers, stakeholders and communities, Clear demonstration of legal and regulatory compliance to regulatory authorities, customers and employees, Better management of health and safety risks on a planned and ongoing basis and Increased access to new customers and business partners through an improved corporate image.

3.2 Safety Culture

Safety culture of an organization related to attitudes, behaviours, systems and environmental factors that are shared by all members of the organization effectively in safety and health management system. An organization is said to have a culture of safety depends on the effectiveness of the safety risk management strategy [10-12]. Safety culture is a part of the overall culture of the organization and is seen as affecting the attitudes and beliefs of members in terms of health and safety performance [4-6].

3.2.1 Level of safety culture

These are more likely to:

- 1) Ensure health and safety responsibilities are identified and known, including responsibilities set out in health and safety legislation.
- 2) Have senior managers taking an active role in health and safety.
- 3) Encourage supervisor involvement in health and safety.
- 4) Have health and safety representatives who are actively and broadly involved in health and safety management system activity.
- 5) Have effective health and safety committees.
- 6) Have a planned approach to hazard identification and risk assessment.
- 7) Give high priority and consistent attention to control of hazards at source.
- 8) Have a comprehensive approach to workplace inspections and incident investigations.
- 9) Have developed purchasing systems.

3.2.2 Impact of safety culture

These (4) impact of safety culture; The impact of safety culture on quality, Impact of safety culture on reliability, The impact of safety culture on competitiveness and The impact of safety culture on profitability.

4. Level of Safety Culture related to OSH Management System

The level of safety culture in construction site with limited health and safety management system development reveals the following barriers to improved health and safety performance:

- 1) The lack of knowledge by senior managers of health and safety principles, legislation and management systems.
- 2) A limited and reactive role for the health and safety supervisor, typically associated with limited time, resources and support to attend to health and safety, and sometimes in the context of the development of a broader role for the supervisor in relation to quality management.
- 3) Over-reliance on health and safety specialists to drive health and safety activity without sufficient management involvement and support.
- 4) Site-specific characteristics, particularly cases which are separate establishments in multi-site companies; where a centralised health and safety support unit has difficulty servicing the health and safety needs of myriad smaller concerns, let alone facilitating effective self-management of health and safety; with limited health and safety consultative arrangements; and an operational culture focused strongly on productivity targets, leaving little time to attend to health and safety management.

5. Conclusion

Understanding the concept of the OSH management system will help us to understand the application of level of safety culture in some company organization. The rules and legislation are always protecting the worker safety and ensuring healthy workplaces. The main purpose of the rules and legislation is to prevent accidents, ill health and injury at workplaces towards development of safety culture. Many companies who have implemented OSH management system have reported benefited from increased operational efficiencies, reduction in lost workdays, fewer accidents and medical claims, recognition by insurers and regulators and improved worker's retention and satisfaction. Organizations with effective OSH management system earn positive returns and benefits on their health and safety investment. In conclusion, the OSH management system and level of safety culture is related on each other. To have a good level of safety culture is needed a good OSH management system, but if organization do not implement the good OSH management system, it will bring about bad level of safety culture.

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