

# Safety Approach Towards Construction Projects

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**Abstract-** *The construction industry involves risky and unhealthy operations which result in human tragedies, discourage workers, disrupt construction, delay progress, and adversely affect cost, productivity, and reputation. Construction managers focus mainly on productivity terms of cost, quality, and time. Construction project can be achieve its objectives with construction professionals become aware of the safety-related issues.*

*While completing high quality work within specified time and cost, safety of workers requires a significant training and encouragement.*

*The project deals with the causes of various accidents on the worksite which includes Unsafe acts, unsafe conditions and also covers the laws and acts related safety for construction.*

*The project also deals with the assessment of safety management plans for various residential building project. A comparison of these plans and formulation of a safety management approach for a construction industry is suggested.*

**Keywords-** Construction projects, safety

## I. INTRODUCTION

Safety means keeping yourself and others free from harm or danger. It means taking care not to fall or bump or run into things. It also means to avoid accidents by being careful with what you are doing. His term safety refers to a condition of being safe or protected. Safety in the context of occupational health and safety means a state of being protected against physical, psychological, occupational, mechanical failure, damage, accident, death, injury, or such highly undesirable events. Safety is also described as a condition, where positive control of known hazards exists in an effort to achieve an acceptable degree of calculated risk such as a permissible exposure limit. Safety in the workplace means having an environment free from injury and hazards. Instituting proper procedures and ensuring a safe environment will allow employees

to work without worrying about their safety. To have a safe workplace, everyone within a company must be involved. Employees can be encouraged to review their work areas to ensure no hazards are present. Hazards that they cannot remove or repair should be reported to management.

## II. LITERATURE SURVEY

TODD W. LOUSHINE et al.,(2006) From a theoretical standpoint, quality management and safety management programs have similar characteristics. In construction work, a company's ability to deliver a quality product in a safe manner is the key to business success. In order to better understand what contributes to successful quality and safety programs in construction, a literature review was conducted using general, engineering, and business literature search engines. In all, 49 articles were found: 18 articles on safety, 26 articles on quality, and five articles on safety and quality. Overall, the literature supports the use of integrated safety and quality management in construction. However, according to the literature, there are three primary barriers to the success of quality management in construction projects: 'shoddy' implementation, the nature of construction work, and the industry itself. The similarities between safety and the quality management process were supported by findings of the research literature. Similarities were also established for the outcome measures of safety and quality. However, as several researchers indicated, the construction industry is too different and complex simply to take a successful management system from manufacturing and transplant it into construction. The nature of construction is a dominant force in keeping construction 'the way it is'. As evident by the papers on construction quality, the success of quality management is increased through the combined effort by all parties involved with a project. The integration of safety and quality management is a possibility, but it requires much more research before it can truly become a reality. It may take an effort by academia to educate the construction industry to realize that a policy-level change is needed before construction safety and quality can improve

Dr. M.O. Agwu et al.,(2012)The paper discusses total safety management (TSM) as a strategy for improving organisational performance (reduced accident/incident rate,

improved safety practices, enhanced productivity and increased profitability) in selected construction companies in Nigeria. TSM is a performance-oriented approach that integrates all aspects of construction safety (intention, behaviour, culture and process) to achieve a safe work environment that is consistent with peak performance and continuous improvement. This research is based on Ken Wilber's Integral Safety Model which views construction safety from the perspective of the construction worker as an entity consisting of four inter-dependent and complementary dimensions (intention, behaviour, culture and process). It assumes that implementation of TSM integrates these four dimensions of construction safety into a strategic tool for better organizational performance. This paper has tried to address the implications of implementing total safety management on corporate performance in the execution of construction activities in Nigeria, from total quality management/accident preventive perspective. From the foregoing results and discussion of respondents' responses we can conclude that better organisational performance (reduced accident/ incident rate, improved safety practices, enhanced productivity and increased profitability) is dependent on total safety management implementation in the six selected construction companies.

Husrul Nizam Husin et al., (2008) An overview of construction quality and safety reveals many striking similarities for these two management concepts. Programs that have been developed to improve quality and safety performance have many elements in common. In some cases safety is considered a part of Total Quality Management (TQM). The close relationship between quality and safety implies that benefits would be derived by applying some or all of the following propositions: Consolidate the safety and quality functions; Apply quality concept to safety; Optimize the safety management concept; and Apply the results of safety aspects to quality. This paper aims to provide a basis framework, this seminar which titled "Safety Management towards Quality Construction" tries to delineate the relationship and the importance of these two areas. The concepts of safety management and quality management indeed are still new in Malaysia. A proposed model which is also a framework is seen as a procurable method on defining the basic concept of safety management meant to achieve the expected quality level. In the aspect of proposing safety application model, a directive method of the Total Quality Management is used. It may take a couple of years before a final series of guidelines covering every inch of construction works can be regulated. A more comprehensive application model deriving from a fundamental model theoretically produced can be used as guiding principle for safety management. The application model in fact is a substitute for

the non-existence of compliant guidelines or requirements of construction plant and machinery. Since no other application models both for construction plant management and safety management have been produced except for those two theoretical diagrams, these models can be used as basis for the development of the application model.

### III. RESEARCH METHODOLOGY

Primary data is collected from the questionnaire survey, interviews, discussion and site visit etc. Most of the findings are generated based on the primary source of data.

Structured relevant questionnaire were prepared to collect data. The questions therefore were developed in such a way that targeted respondents would be able to answer them.

In addition, informal discussions were done with labours, engineers working in construction Company, and consultancies.

### IV. CONCLUSION

**From the study, site visits, questionnaire survey and discussion with project managers we arrived at following conclusions.**

1. Safety training should be given to workers
2. They should be made aware of types of accidents and should be informed about the use of equipment.
3. Safety equipment should be provided to proper extent
4. Safety supervisor should be provided.
5. Workers should be psychologically motivated to reduce carelessness in using equipment's.
6. Provision for safety awards should be made to encourage the worker
7. Major priority should be given to safety in a project
8. Regulation and laws should be strictly implemented
9. Extra amount of money should be allocated for the safety equipment so as to prevent the huge loss in the future.
10. All the individuals related to constructions should be aware of labour Act and the privileges under the law.
11. Greater attention should be given to the design and selection of tools, equipment and materials. Safety, rather than price, should be the paramount consideration.
12. By allotting approx of 1% to 5% of the construction cost for safety, we can carry out safety practices and procedures and indirectly reduce uncontrolled cost of accidents.
13. From the analysis it was evident that for completing high quality work within specified time and cost, safety of workers requires a significant attention.

14. From the prevent scenario of the construction industry in Pune we can conclude that builder are now giving importance to the safety management policy and encouraging their employees for a safer and effective work environment on the site.

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