IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 4, January 2026
Impact Factor: 7.67

An Empirical Study on Mishap Occurrence and Hazard Variability in Indian Construction Projects Using One-Way Analysis of Variance

Amar Dua[1], P. S. Tathod[2] and Dr. Madhuri Asati[3]
PG Scholar, Department of Safety Engineering[1]
Professor, Department of Safety Engineering[2,3]
Shiv Kumar Singh Institute of Technology and Science, Indore, India

Abstract: *This work examines construction site accidents through the lens of occupational health and safety. It outlines fundamental issues related to insufficient safety practices during construction activities, which can result in work-related injuries and accidents on site. To establish a foundation, statistical data on construction site accidents and workplace accidents in general are presented. The discussion also covers the most frequent types of accidents, their rates of occurrence, and corresponding preventive measures. These incidents are then examined and analyzed in detail to enable a thorough comparison of the associated risks. Through this analysis, strategies for accident prevention and reduction are highlighted. In addition, the underlying causes of accidents are explored, including the level of technical readiness at construction sites and the role of the site management team, both of which can significantly influence accident occurrence.*

Current health and safety legislation is outlined together with the specific requirements that must be followed during construction activities. This allows for an assessment of whether site personnel comply with these regulations or whether further improvements are needed to reduce existing accident rates and enhance workers' safety awareness. Finally, the thesis seeks to evaluate the process of reintegrating workers into the construction site after they have experienced an accident and taken sick leave. It examines the accident from the perspectives of the injured workers, their co-workers, and management, considering whether additional preventive measures have been implemented, in what manner, and whether the overall perception and seriousness of workplace accidents among site employees have changed.

The investigation revealed that Occupational Health and Safety (OHS) principles are followed at construction sites to some extent. However, there is significant room for improvement, particularly in communication, as site management often failed to properly inform employees about procedures during emergencies. On a positive note, compliance with OHS regulations and the use of personal protective equipment (PPE) capable of preventing accidents were generally satisfactory. The study also highlighted that the consequences of construction site accidents for workers can be very severe. Fortunately, employees demonstrate a relatively strong awareness of these risks. Analysis of Variance (ANOVA) is a statistical method used to compare differences between group means by analyzing variances. It is applied in airport development and construction projects across various facilities in India..

Keywords: Construction Site Safety, Occupational Health and Safety (OHS), Workplace Accidents, Accident Prevention, Safety Management, Personal Protective Equipment (PPE), Risk Assessment, Accident Analysis, Emergency Preparedness, Worker Reintegration, Statistical Analysis, Analysis of Variance (ANOVA), Construction Management, Safety Compliance, Technical Readiness etc

DOI: 10.48175/IJARSCT-31072