

PREVENTION OF INDUSTRIAL ACCIDENTS: MEASURES AND CHALLENGES

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Abstract

Industrial accidents are the bane of any industry. An industrial accident is the sudden and expected change in the working order. The nature of the industry determines the magnitude of damage and probability of accidents occurring. Such accidents lead to physical or mental occupational injury to the workers or employees. Injury to the worker or the employee means any bodily injury, exposure to disease or somethings death. Hence the industry undertakes several safety measures to prevent and initiate damage control for the incident. Such safety and preventive measures focuses on the identification of worker's attitudes, working environment, concern of the management and the conflict with the worker's productivity which is affected by the preventive measures taken. By taking such safety measures, the industry is less likely to face any legal consequences, generate a good reputation against it's competitors, encourage employees to work with higher productivity and ultimately reduce employee turnover rate. The industry undertakes preventive and safety measure by enforcing proper and efficient safety protocols, proper selection of employees, implementation of incentives for accident free days, proper and regular maintenance of machinery, equipment and infrastructure facilities and through training the employees in safety measures. In this context, the present study shows the various safety and preventive measures taken by the industry to protect and ensure safety to the employees and the challenges faced by the management in the process of implementation of such measures.

Keywords: *Accidents, safety protocols, preventive measures, damage control, precautions*

Introduction

An industrial accident is a random and sudden occurrence in the ordinary course of an industry which interrupts the working progress of the industry. As per the Factories Act, 1948: an industrial accident is termed as the event of occurrence in an industrial establishment which results in causing bodily injury to a person which makes him / her unfit to resume their duty in the next 48 hours ([Sridevi](#), 2017) . The Workers' Compensation Act, 1923 defines an industrial injury as a personal injury to an employee which would have or has been caused by an occupational disease or an accident which arises out of or in ordinary course of employment and for which the employee is entitled to any sort of compensation ([Rajeev Jain](#), 2017).

Thus it can be said that an industrial accident is an unexpected, undesirable and unforeseen event in the ordinary course of business that results in causing personal injury to the employees. The accident in question may arise out of multiplicity of causes, which are often closely related with each other. Such accidents are also of various types and magnitude ([Albert](#), 2016). Some accidents differ upon the severity, durability and degree of the injury suffered by the employee. Such disability is either partial, total, fatal or non-fatal. In certain cases, such an industrial injury may result in a mental occupational injury which leads to Post Traumatic Stress Disorder (PTSD) which is common among those who have survived a major life threatening incident ([Clarke](#), 2006).

An accident which results in causing major injury, death or permanent and prolonged disability to the injured employee is termed as a 'major scale accident' whereas an accident which does not result in rendering the employee disabled is termed as a 'minor scale accident' , which is further classified into many levels of magnitude. When an accident results in rendering the employee disabled for a short period of time is termed as a 'temporary accident' , an accident showing external signs of injury is termed as an external one and when it shows internal signs of injury is termed as an internal one ([F.P KcKenna](#), 1983). However, it is to be noted that self- inflicted injury in the ordinary course of business is not regarded as an industrial accident as such incidents are isolated accidents occurring due to personal negligence and incompetence ([Vinotha](#), 2015).

Conceptual background on factors leading to an industrial accident

Some of the many factors that are responsible for an industrial accident for larger magnitude are lack of proper safety measures, workers attitude, working environment, communication between and among the co-workers, inadequate management concern over it's employees and conflict between productivity and safety. On most cases the workers are too ignorant, arrogant and lazy to follow the safety measures implemented. Such toxic worker's attitude results in making them obnoxious to the surrounding. There are either unaware of the possible impending dangers or too stubborn to learn the a viable safety measure practices. Such workers having a care free attitude often ends up them in injuring themselves or sometimes death.

Lack of proper safety measures undertaken by the management is the major factor that leads to an industrial accident. It means those measures taken to protect oneself from the occurrence or risk of industrial accidents and injury happening in industrial establishments. Lack of proper safety measures such as mandatory helmet, working gloves and lifeguard jacket, goggles result in causing harm to employees in adverse scenarios. The management, on such instances would not have made the employees conscious of the various mandatory safety measures that are to be followed

Unsafe working environment is cause of major scale accident in chemical, construction and bio-hazardous industries. The presence of working on defective machinery, plants, electronics, equipments and input results in grave accidents. Such causes are technical causes which can be checked and maintained in regular basics. Other technical causes are unsupervised equipments, faulty plant layout, incompetent location of the plant, inadequate lighting for melding plant, unsafe storage age and inadequate amount of safety devices.

Besides these causes, there are also psychological factors of the employee which results in unsafe work environment. Monotony, frustration of the employee, tiredness, sleeplessness, fatigue, sickness, over time working are some of the psychological factors which results in causing accidents. Lack of proper knowledge on operating heady machinery also causes in unsafe working environment. Climatic conditions and variations also results in unsafe working environment. Extremely high temperature, humid conditions, excessive dust, smog and fume are some of the climatic factors.

Lack of communication between the management and the employees also results in accidents. The level of communication maybe inefficient and incompetent. The employees being unaware of the safety measures implemented, work in unsafe work environment and

suffer grave injury to self. Moreover the lack of efficient communications between and among co-workers results in harm to workers. Workers may be oblivious to the dangerous surroundings which could cause them harm. This ultimately reflects on how minimum the concern that the management has over its employees.

Safety measures taken against industrial accidents

Adoption of safety measures by industries to minimize and eliminate industrial accident is the responsibility of the management and can be seen in the form of training, reinforcements, supervision, regular staff meetings, conducting physical and medical check to screen unqualified employees, educating the workers about the imminent dangers and rewarding employees for accident free days. Implementing mandatory protective equipments such as safety goggles or plastic eye shields to protect the eyes from the wild fire from welding and fumes, harden protective caps and helmets to prevent head injuries, gas masks to protect oneself from inhalation of poisonous and dangerous fumes, gloves to protect the worker's hand from acidic substances and safety shoes, overalls and skin guards apparels to protect the workers is essential to avoid accidents. By making sure that there is an adequate staffs to work in shifts, the management can avoid employee exhaustion and fatigue. By implementing and following such measures, the management can ensure that there is a orderly workplace environment. The workers are to be given psychological counseling after a life threatening accident to ensure that the worker doesn't suffer from Post Traumatic Stress Disorder (PTSD) and proportionate compensations to be given in both monetary form and in benefit.

Preventive measures to ensure worker's safety

There is a significant difference between safety measures and preventive measures. While safety measures aims at protecting the workers and ensuring their safety, preventive measures aims at minimizing the probability of major scale industrial accidents. The every nature of safety measure is in itself a preventive one. The most important preventive measure is ensuring proper maintenance of machinery, equipments and infrastructure facilities as the major cause of accident occurs when machinery is left used for a long time. The management should fix a maximum limit for speed and continuous usage to make sure that the machinery isn't overused. The workers are to be instructed not to rush their work but work in a sustained pace so as to avoid accidents and also the employee should be assigned the amount of work

which he can perform efficiently and not over it. By training the workers in emergency situations and drills, the workers can understand the real consequences and impact of not adhering to instructions.

Challenges faced in implementing such measures

The major challenge faced in implementing safety and preventive measures is that while undertaking such measures sometimes results in lowering the level of productivity. In the process of taking precautions and safety measures, the optimum level of productivity of the machinery is reduced. Although the reduction in productivity is in insignificant level, in whole it has an impact in the long run. The workers attitude in adhering to the measures also pose as a challenge in implementing them. The stubbornness and arrogance of the worker is a challenge. Moreover, by undertaking such measures has a toll on profits on the industry. The management often feels such safety measure is a burden on the profits of the firm. Sometimes they feel that such safety measures aren't needed and hence it is not implemented. Moreover undertaking such safety measures the workers feel the measures restrict them from working in complete productivity.

Materials and methods

The data for this research paper was collected from secondary sources such as research papers, journals, online article, magazines and paper articles.

Null Hypothesis H₀: There is no significant relationship between industrial accidents and safety measures taken.

Alternate Hypothesis H₁: There is significant relationship between industrial accidents and safety measures taken.

Conclusion

Industrial accidents have a great deal of impact on the health of the workers as well as the productivity of the industry. In order to reduce the occurrence of accidents and its toll on productivity, safety and preventive measures are to be undertaken and strictly followed. Workers and management are to be educated on the importance of safety protocols. The management can implement reward and penalty system for those workers who follow safety

protocols and those who don't. This can result in motivating the workers to work as per the protocols and guidelines and work through towards a safer working environment. The management must train the workers for the worst case scenario by training the do's and don'ts after an accident to minimize the magnitude of it and reduced the collateral damage. They must provide adequate training for those workers are required to operate heavy and specified machinery and ensure that workers aren't made to work in unsafe environment and work for humane working working hours. The firm must make sure that it's management implements such measures and closely monitor them.

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