

STUDY OF THE HEALTH AND SAFETY MANAGEMENT METHODS USED IN THE MANUFACTURING INDUSTRY

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Abstract - In the past quarter of a century, manufacturing industries have expanded significantly as a result of high economic development. However, if we examine the safety practices that are followed in the manufacturing sector, we find that they are very pitiful, which poses a risk to the lives of manufacturing workers. So, there is a significant amount of room for development in the area of factory safety. Despite the fact that many businesses have implemented policies to cut accident rates, the industrial industry continues to have a high incidence of accidents and injuries, according to the figures. The safety management system utilizes a wide variety of indicators to cut down on the number of accidents. Indicators of a safe working environment include a company's organizational safety culture, employees' safe behaviors, and the company's safety performance.

Key Words: Manufacturing sector, Organizational safety culture, Behaviour safety, Safety performance.

INTRODUCTION

Many industrial accidents occurred in the manufacturing sectors during the previous 20 years as a result of poor environmental safety, a lack of awareness of industrial accidents, and a disregard for the value of safety. The majority of small and medium-sized industrial sectors do not prioritize safety owing to one-time investments, but they are unaware of the indirect losses brought on by accidents. Management needs to prioritize increasing safety. The Heinrich hypothesis states that 88% of industrial accidents are the result of risky human behavior, 10% are the result of an

unsafe industrial environment, and 2% are the result of other variables. Human error is becoming a bigger factor in industrial accidents than ever before.

The most effective way to avoid such an industrial catastrophe is to change people's behavior by providing specific training for the job and undertaking behavioral-based research to lower accident rates and enhance the safe environment in industry. According to several studies, a weak management system, such as a policy or safety system, is one of the factors that might lead to an industrial accident. Industry has to provide training, education, meetings, reviews, and other things to improve the safety culture and employee behavior. The industry is in a position to spend money on the following things for this purpose: Conference for training and education [1]. Due to the poor performance of communication from top level to low level management, communication also plays a significant part in accidents. The causes of accidents are the subject of this essay. By examining these factors, we may potentially identify remedies that will improve safety culture performance as well as employee behavior and safety performance. Statistics on accidents in Indian industry from 2000 to 2008.

Table -1: Number of Workers and Accident Rate per Thousand Worker

Year	No. workers employed	No accident	Accident rate per thousand workers
2000	230386	55	0.24
2001	230063	55	0.24
2002	300310	34	1.12
2003	319725	23	0.071
2004	343196	19	0.05
2005	343333	50	0.14
2006	345801	64	0.18
2007	359126	52	0.14
2008	375645	61	0.16

Chart -1: Accident statistics in India from 2000 -2008

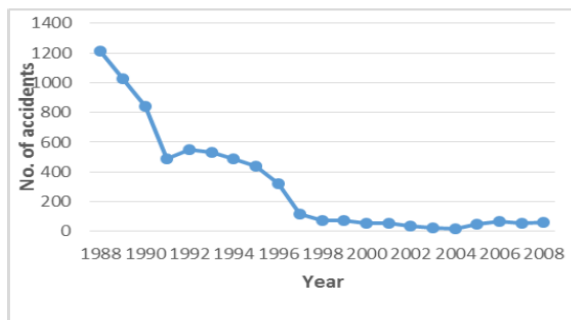
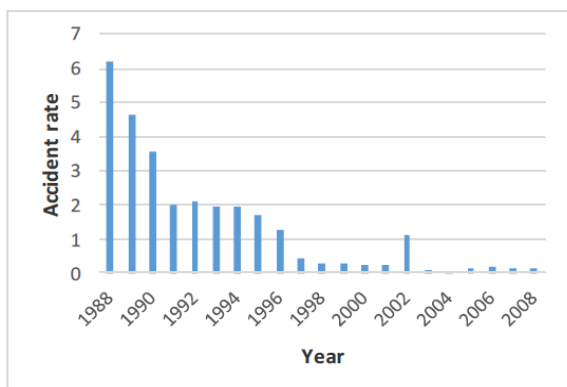


Chart -2: Accident rate in India from 2000 to 2008



METHODOLOGY

A safety management system is a strategy to lower accident rates and boost security. Safety policy, assurance, risk management, and promotion are a few of the essential components of a safety management

system. This essay makes some systematic safety management system recommendations.

ORGANIZATIONAL SAFETY CULTURE

Organizational culture includes safety culture, which is important in determining an organization's success or failure. Organizations with a pervasive lackluster safety culture, frequent procedural infractions, and noncompliance with the business's own safety management system. The corporate values have been communicated, leadership has been shown, safety results have been personalized, positive safety attitudes have been developed, people have taken ownership of their safety duties and accountability, and danger awareness and preventative behaviors have increased. Procedure, management commitment, visible management, safety attitudes, workmate influences, employee involvement, safety knowledge, management takes the initial work of identifying the hazard at the workplace by using various methods, including HIRA (Hazard Identification Risk Assessment), JSA (Job Safety Analysis), work permit system, etc., have all been used to measure safety culture.

The management's goal is to remove the risk and reduce employee risk at work. A regular assessment of their work and appraisal are essential. Focusing on the workplace, welfare resources, and legal requirements is the primary goal of safety culture. The factories Act of 1948 states in Section 11 that the workplace must be clean, Section 12 that waste and effluents must be disposed of, Section 13 that ventilation and temperature must be maintained, Section 42 that there must be washing facilities, Section 45 that there must be first-aid equipment, Section 46

that there must be canteens, Section 47 that there must be shelters, restrooms, and lunch rooms, Section 48 that there must be creches, and Section 49 welfare officers. It enhances the industries' safety cultures.

BEHAVIOURAL SAFETY

Most people agree that human mistake accounts for between 80 and 90 percent of mishaps in daily life and may result in injury. Knowledge-based behavior, rule-based behavior, and skill-based behavior are all contributing factors to human mistake. Anything a person performs that may be seen in the workplace is considered safety behavior. Good safety compliance is shown by the existence of excellent safety behavior. In the industrial industry, safety behavior is particularly crucial. To distinguish between risky and safe behavior, it is required to first identify all behavior activities.

Any behavior has to be produced and put in proper sequence after the corresponding danger. Safety behavior refers to how workers support safety education, training, and motivational efforts [2]. Management commitment, organizational commitment, behavioral-based research, safety messaging, safety motivation, and safety training are just a few of the many ways to avoid the human. Employees should get safety training to learn about possible accidents, how to avoid mishaps, and how to recognize potential risks at work. New hires are required to take safety training before they can start working. Top management representative conducts the behavioral-based research.

A specific representative has been assigned to the task at hand. The representative will watch the employee do his or her regular duties at the workplace and record both the good and bad aspects of the job. The representative will then talk to the

employee about the positive aspects. Safety Employer or top management participation in terms of relationships with workers, discussions about safety, and safety-related advice can help to increase employee enthusiasm for safety and promote safe behavior.

Positive reinforcement, in which workers get benefits like pay raises, bonuses, and job promotions, is one sort of incentive. Negative reinforcement, on the other hand, involves managers criticizing, threatening, or punishing employees for failing to do their duties in a safe way. The most crucial step in addressing dangerous workplace habits to prevent human mistake is safety behavior observation and review [2].

SAFETY PERFORMANCE

Regular upkeep, inspection, auditing, and evaluation will reduce the possibility of a danger developing. The quality of safety performance will increase; it removes all dangers on a regular basis to lower the accident rate. To compare workplace safety performance, a variety of metrics may be employed. Safety audits, the quantity of safety training sessions held, the proportion of personnel who have received safety training, the quantity of safety inspections, and the percentage of legal compliance.

For businesses, factories, and other workplaces across the globe, two well-known safety performance indicators have been employed. Frequency rate (FR) and severity rate (SR) are what they are called [5]. The safety audit is the next area of concern for the safety system from the top to the bottom. It analyzes the safety system, identifies any errors in each area, and also recommends the ideal conditions for safety improvement for the various industries.

By keeping an eye on the employee, safety performance is increased. Monitoring done well will reveal issues and make it simple to find remedies. Only educated and competent people are needed for monitoring, which requires a lot of time and effort. Direct losses and indirect losses are the two basic categories of accident losses. Indirect losses include compensation, material loss, and human loss. Production losses, property damage, investigative costs, and insurance costs are examples of indirect losses.

CONCLUSIONS

This essay makes the case for the importance of corporate safety culture, behavior, and performance. The research has shown that worker safety comes first and is strongly advised for all industrial businesses. This will contribute to enhancing safety measures across all production sectors. These safety ideas may help create a more secure working environment for employees, which will naturally increase productivity. This research is used as a foundation for future work on industrial industries' safety management.

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