

*Research Article*

# Investigation of the Occupational Safety Practices on the Construction Sites

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**ABSTRACT**

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The construction sector is one of the largest business areas in many countries in the world. According to the data obtained from International Labor Organization. (İLO), the number of workers working in the construction sector exceeds 110 million, and in many countries, this figure changes directly or indirectly and can reach twice this number. Researches have clearly shown that the biggest concern in the construction industry is the protection of employees. It can be considered as worker health and safety. It can be defined as all the studies and practices carried out in parallel with the health and safety of workers to reduce the risk of potential and potential accident situations and prevent occupational diseases and work accidents.

According to the literature review and the evaluations made on the construction sites, there is an occupational safety program in all construction sites. However, occupational health and safety show that some accidents occurred at the construction sites. According to the results, it can be said that the employees' awareness about the safety rules, precautions, and use of occupational safety tools in the construction sites is not sufficient. The regular and fully efficient implementation of the safety programs is not at the highest level.

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**KEYWORDS:** - *Occupational Health and Safety, Safety Management System, Construction sites, Personal protective equipment.*

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## **1. INTRODUCTION**

Construction is a complicated activity involving many stakeholders, constantly challenged by the task's requirements. Every work environment has numerous safety and hazards elements, necessitating the establishment of quality and safety management systems as stated (Mehta and Agnew, 2010). Because of the nature of construction, risk management has proven to be a challenging regime to apply, owing to factors such as a continual change in the construction sites, direct exposure to risks sources, high pressure on requiring deadlines and costs, and complex nature of construction processes (HSE, 2001). According to data from various developed countries, construction workers are three to four times more likely to be injured or die in a workplace accident than other workers. (Url-1).

According to ILO standards, occupational accidents in Turkey are expected to cost 4% of its gross domestic product. This number causes an economic loss of billions of Turkish liras resulting from roughly 1000 occupational health-related deaths per year. Generally, in the conclusion of this proportion, the equivalent value of Turkish GDP for 2009, which was 953, 974 billion TL, is 38 billion TL (Ceylan, 2011).

According to Anton (1989), a safety program regulates the working environment, equipment, processes, and people to prevent unintentional injuries and losses in the industry places. Safety management systems (SMS) are being used in the construction sector as an official method of controlling site safety. The contracting company is obliged to monitor on-site safety via official SMS. It is critical to assess the effectiveness of these systems so that flaws may be addressed.

Previous research has found that implementing the safety management system SMS on construction sectors could assist prevent accidents (Findley et al., 2004; Tam and Fung, 1998; Goldenhar et al., 2001; Hinze and Gambatese, 2003; Poon et al., 2000). Safety measures are critical in eliminating and decreasing workplace accidents and injuries.

## **2. THE CONSTRUCTION INDUSTRY'S MAIN CHARACTERISTICS AND SPECIFIC OSH MEASURES**

The constant competition among construction companies necessitates a focus on productivity concerns in construction firms. The following are the primary goals of every building project:

1. Cost: to keep project expenses as low as possible.
2. Time: to fulfill the project's deadline.
3. Quality: to be concerned with quality and to prevent flaws.
4. Health and safety: to assure health and safety and to prevent occupational accidents and illnesses.
5. Environment: to make a beneficial contribution to the constructions sites.

The interdependence of those mentioned above five major aims, as well as market pressures favoring speed, cost, quality, safety, and health, make it exceedingly difficult to achieve our objectives. Moreover, it must be constantly

kept in mind that workplace safety and health would never be jeopardized or harmed for social or human reasons but should adhere to some basic criteria.

Recent developments in the construction sector ensure that strong workplace safety and health have a demonstrable beneficial influence on productivity. In other words, building companies realize that prevention is an investment rather than a cost. For example, research in European Union nations and elsewhere has shown that occupational accidents are roughly double the price of preventive measures, such as intervention during a building project's design, planning, and execution (Dias, 2009).

The building sector is fraught with hazards due to the possibility of encountering many accidents and occupational illnesses on construction sites. At the same time, builders have begun to ask about the efficiency and effectiveness of existing procedures for adopting and monitoring safety and health measures. Moreover, they all agree that if an accident occurs, it indicates that something has failed. Construction experts in many nations, on the other hand, appear to be aware of industry dangers and preventative measures.

Even though there has been a significant drop in fatal accidents in various nations over the previous few decades, worksite accidents continue to occur. This demonstrates that, in practice, preventative techniques are not meant to eliminate all accidents, as every human desire. The existence of sufficient rules and regulations on occupational safety and health in the building sector does not guarantee the ideal solution. This is due to a failure to put these rules and regulations into effect. Most nations have adequate controls and regulations governing occupational safety and health in the construction industry, but these laws and regulations are not being followed.

### 3. COUNTRIES ADOPTION OF SAFETY FACTORS

A good-designed and planned safety management system (SMS) may help successfully implement a safety management system in the workplace. National SMS for construction sites has been created and put in practice in several nations depending on the country's standard norms. The exact number of variables utilized in making the SMS varies by nation, depending on the unique requirements of the domestic building sector (Ismail et al., 2012). Various degrees of factorial classifications are based on the level of information needed. Table 3.1, for example, summarizes the first degree of safety established by various nations throughout the world, as indicated by (Ismail et al., 2012)

**Table 1** summarizes the first degree of safety established by various nations worldwide, as indicated by (Ismail et al., 2012).

Country	Adopted Safety Precautions
China	Resources for safety (explicit safety instruction) Relationship between management and employees (safety organization) Cooperation in safety (safety culture) Communication about safety (Personal Factors) Safety instruction (safety training) Enforcing safety regulations (safety responsibility) Inspection for safety (safety motivation) Meeting to discuss safety (management support)
Singapore	Characteristics of a Worker's Safety Attitude (Personal Factors)

	<p>Framework for safety (process factors)</p> <p>SMS and insurance policies, as well as legislative requirements (Safety policy or Safety culture)</p> <p>Incentive and punishment, as well as acknowledgment (Safety motivation)</p>
<b>USA</b>	<p>Safety resources (clear safety instructions)</p> <p>Relationship between management and employees (safety organization)</p> <p>Cooperation in safety (safety culture)</p> <p>Cooperation in protection (safety culture)</p> <p>Communication about safety (Personal Factors)</p> <p>Safety instruction (safety training)</p> <p>Enforcing safety regulations (safety responsibility)</p> <p>Inspection for safety (safety motivation)</p> <p>Meeting to discuss safety (management support)</p>
<b>Netherland</b>	<p>Analysis of safety (management support)</p> <p>A methodology based on themes (safety clear instruction)</p> <p>Organization for Safety (safety organization)</p> <p>Expert extra-safety personnel are being trained (safety training)</p> <p>Responsibility for safety (safety responsibility)</p> <p>Safety requirements (safety code &amp; standards)</p>

#### 4. CONCLUSIONS

To summarize, governments and non-governmental organizations from every nation need to focus intensely on these aspects and collaborate to find viable, relevant solutions with the legislative and implementation levels. Moreover, it could be significantly welcomed if (Occupational safety and health administration) OSH law could be made as straightforward and performance based as feasible, making it easier for contractors to execute and labor inspectors to inspect. Furthermore, it is recommended that the owner company, contractor companies, and clients of building projects get more active in OSH concerns and pay close attention to them.

The construction sector should make efforts to improve workplace safety and health. Moreover, enhancements can only be made by uniting large and small contractors with employees, site engineers, architects, designers, and surveyors.

Guidelines- spreading excellent compliance practice: Guidelines should accompany OSH legislation to demonstrate how the legislative requirements might be executed, suggesting an effective compliance practice.

To develop a healthy and safe constructed work environment by identifying risk whenever feasible and highlighting any continuing residual risk across the duration of every project.

Ensure that construction sites are free of recognized hazards as much as possible and Examine working conditions to ensure they comply with OSHA standards

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