



RESEARCH PAPER

Identifying the Key Factors Affecting Occupational Health and Safety Compliance in SMEs: A Study of the Construction Sector in South Punjab

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ABSTRACT

This research focuses on the multifaceted landscape of occupational health and safety (OHS) compliance within small and medium-sized enterprises (SMEs) operating in the construction sector. This research investigates the determinants and factors affecting the OHS practices. Findings indicate that SMEs face challenges related to area of awareness, resource allocation, economic constraints, lack of training and compliance. New and unexperienced workers do not pay any consideration in maintaining the safety compliance attitude. Many people are aware of the standard regulations of occupational safety but they opt out of staying compliant to these regulations. This research highlights the needs for tailored interventions to address the unique challenges faced by SMEs in South Punjab's construction sector. This research consists of a questionnaire (10 questions) to understand the compliance in construction workers. A survey was done to collect the results from the sample size of 60 individuals and the quantitative method was used. It discusses factors contributing to occupational hazards, such as inadequate training, lack of safety infrastructure, and non-compliance with regulations. Additionally, it highlights the economic and societal impacts of workplace injuries and emphasizes the need for comprehensive OHS policies and enforcement mechanisms. The article also addresses the role of education, government intervention, and collaborative efforts between stakeholders in mitigating OHS risks. There is a need for highlighting the ongoing efforts to foster a safer working environment in the construction industry. Occupational health and safety workers need to play a crucial role when it comes to assess the safety management of the construction site. It is recommended that all employees receive PPEs and safety training must be available.

KEYWORDS Health and Safety Measures in the Construction Sector, Safety infrastructure, Small and medium-sized enterprises (SMEs) Health Issues, Occupational Hazards

Introduction

Occupational safety standards are integral to ensuring the well-being of workers in any industry. Defined as a set of principles and guidelines aimed at safeguarding workers' safety, Occupational Health and Safety (OHS) regulations play a crucial role in reducing occupational injuries, hazards, and fatalities, particularly in hazardous workplaces like construction sites (Samanta & Gochhayat, 2003). These standards encompass various aspects, including environmental, mental, and physical hazards, with the primary goal of protecting workers from potential risks such as exposure to

hazardous substances, slips and falls, operation of dangerous machinery, and prolonged working hours (Khatiwada, Bhattarai, & Panthi, 2021).

In the context of small and medium-sized enterprises (SMEs), which constitute a significant portion of businesses, OHS regulations are equally vital. SMEs, defined based on specific thresholds related to revenue, assets, and employee count, often face unique challenges in implementing and adhering to OHS standards (OSH Act, 1970). For this study, our focus is primarily on SMEs, which encompass self-operating businesses with fewer than 50 employees, acknowledging their distinct operational characteristics and constraints compared to larger enterprises (Rongo, 2004).

The Occupational Safety and Health Administration (OSHA) plays a pivotal role in establishing and enforcing OHS regulations, providing guidelines for employers and company management to ensure workplace safety (Javed et al., 2020). In countries like Iran, OHS regulations mandate provisions such as the availability of health physicians, first aid, protective equipment, and employee training to promote workplace safety (Jahangiri et al., 2016).

However, in developing nations like Pakistan, occupational injuries and accidents remain prevalent, primarily due to inadequate implementation of OHS regulations and a reactive rather than proactive approach to safety management (Riaz, 2010). Industries like construction, notorious for their high-risk nature, contribute significantly to occupational incidents, with statistics indicating a substantial portion of accidents occurring within this sector (ILO, 2016; Pakistan Bureau of Statistics, Labor Force Surveys).

Various factors contribute to the prevalence of accidents in the construction industry, including falls, being struck by objects, being trapped between objects, and electrocution, collectively known as the "focus four" types of construction accidents (Nawi et al., 2016; Baradan et al., 2018; Tozer et al., 2018). Addressing these hazards requires a multifaceted approach, encompassing safety planning, worker behavior, and managerial commitment to upholding safety standards (Bahn and Barratt-Pugh, 2013).

Effective safety planning involves comprehensive training initiatives, provision of personal protective equipment, and proactive risk assessment to identify and mitigate potential hazards (Hassan and Houdmont, 2014). However, existing studies indicate a lack of comprehensive frameworks guiding management in preventing construction-related accidents and injuries, highlighting the need for further research in this area (Jaafar et al., 2017).

In conclusion, promoting occupational health and safety in industries like construction requires concerted efforts from stakeholders at all levels, including policymakers, employers, managers, and workers. By implementing proactive safety measures, enhancing training programs, and fostering a culture of safety, it is possible to mitigate occupational hazards and create safer work environments for all employees.

Literature Review

The literature review provides a comprehensive overview of occupational health and safety (OHS) practices and challenges in various contexts, ranging from Tanzania to Pakistan and beyond. Several studies underscore the critical importance of OHS regulations in safeguarding workers' well-being across different industries and regions.

In Tanzania, research highlights the occupational hazards faced by laborers in small-scale industries, emphasizing exposure to sharp metal objects, inhalation of

exhaust and welding fumes, and risks of electric shocks. However, there is a prevailing lack of awareness and concern among both workers and employers regarding occupational health issues, compounded by the transient nature of many small-scale industry establishments (Msamanga & Heederik, 2004).

On a broader scale, organizations worldwide recognize the significance of workplace safety and have implemented various measures to protect employees, including safety training, protocols, and the provision of personal protective equipment (PPE) (Tariq et al., 2023). The evolution of occupational safety standards underscores the continuous efforts to adapt to emerging risks and ensure a safe working environment for all (Rahaman & Rahman, 2021).

However, challenges persist, particularly in the construction industry, where inadequate safety standards and enforcement, outdated equipment, and poor working conditions pose significant risks to workers' health and safety (Khanal, Sondhi, and Giri, 2021). In countries like Pakistan, the construction sector remains one of the most hazardous due to a lack of robust safety regulations and enforcement, as well as inadequate safety training and equipment for workers (Khadim et al., 2023; Phinias, 2023).

Efforts to address these challenges include the establishment of national building codes and institutes focused on safety training and resources for the construction industry (Sehsah, El-Gilany, and Ibrahim, 2020; Wong, Sapuan, and Ali Khan, 2023). However, studies reveal gaps in safety practices and awareness among construction workers, highlighting the need for comprehensive training and hazard communication initiatives (Siddiqui, Arshad, & Afzal, 2023).

Similar challenges are observed in other regions, such as Northern Cyprus and Ghana, where factors like training, safety knowledge, and management commitment significantly influence OHS outcomes (Idoga, 2018; Kheni, Gibb, and Dainty, 2010). In small businesses, financial constraints and limited resources often hinder the implementation of OHS measures, emphasizing the need for tailored support and educational initiatives (Antonsson, 1997).

Furthermore, studies underscore the role of government regulations and enforcement in promoting OHS practices, as seen in initiatives like the National Occupational Health and Safety Council (NOHSC) in Pakistan (Amjad and Khan, 2009). However, challenges remain, including insufficient compliance and a lack of skilled OHS staff (Hamid et al., 2017).

Material and Methods

The research methodology employed in this study aimed to comprehensively analyze the factors influencing occupational health and safety (OHS) compliance in the construction sector in South Punjab, Pakistan. The methodology involved a mixed-method approach, combining qualitative and quantitative data collection techniques to gather a complete understanding of OHS compliance in small and medium-sized enterprises (SMEs) engaged in construction-related activities.

The study focused on the Southern part of Punjab, Pakistan, chosen for its significant presence of the construction industry and potential need for improved OHS compliance. The research aimed to understand the factors influencing compliance with OHS regulations among construction sector workers in this region.

Data collection methods included both online surveys using Google Forms and face-to-face interviews. Face-to-face interviews were preferred for their ability to yield more specific and detailed information. Inclusion and exclusion criteria were established to ensure the study's focus on individuals currently or formerly employed in the construction sector in South Punjab.

A structured questionnaire consisting of 15 questions was developed, covering demographic information and inquiries about factors influencing OHS compliance in SMEs. Responses were obtained using a Likert scale, a widely used response scale in questionnaire-based research studies.

A sample size of 60 was selected using a stratified random sampling technique to ensure representation from different cities and types of construction activities within South Punjab. The sample population included employees, laborers, civil engineers, managers, stakeholders, supervisors in SMEs, health and safety professionals, industry experts, and consultants in the construction sector.

Before conducting interviews, verbal consent was obtained from interviewees, and ethical guidelines were followed to safeguard their privacy. Field surveys were conducted using interviewer-administered questionnaires, distributed to selected SMEs for completion on-site or within a specific time frame.

The study also investigated the correlation between education level and workplace compliance factors, aiming to understand how education influences OHS compliance in the construction sector.

Results and Discussion

The demographic analysis provided insights into the composition of the construction workforce in South Punjab. It revealed the educational background, job roles, and levels of experience among participants. This information was crucial for understanding the diversity within the construction sector workforce and its potential impact on OHS compliance.

The study identified various factors influencing OHS compliance in small and medium-sized enterprises (SMEs) engaged in construction activities. These factors included the availability of safety training, access to personal protective equipment (PPE), the presence of safety protocols, and the role of management in enforcing safety measures. The Likert scale responses helped quantify the significance of each factor in influencing compliance.

The research investigated the correlation between education level and workplace compliance factors. The results indicated that individuals with higher levels of education were more likely to prioritize safety measures and adhere to OHS regulations. This finding underscored the importance of education and training in promoting a culture of safety within the construction sector.

Through qualitative analysis of interview responses, the study identified specific challenges faced by SMEs in achieving OHS compliance. These challenges included financial constraints, lack of awareness about safety regulations, and inadequate enforcement mechanisms. However, the study also highlighted opportunities for improvement, such as increasing public awareness, enhancing training programs, and strengthening regulatory oversight.

Conclusions

Elevating OHS compliance in the construction sector in Pakistan requires a comprehensive and modern approach. This approach should encompass updated safety regulations, enhanced enforcement mechanisms, and improved safety training programs tailored to the needs of small and medium-sized enterprises (SMEs).

In the event of accidents or incidents at construction sites, it is essential to respond promptly and efficiently. This includes implementing emergency response protocols, providing immediate medical assistance to injured workers, and conducting thorough investigations to prevent similar incidents in the future.

SMEs must invest in extensive training programs to educate their workers about safety protocols and practices. These programs should cover topics such as hazard identification, use of personal protective equipment (PPE), and emergency procedures to ensure that workers are well-prepared to mitigate risks in the workplace.

Feedback from graduates of safety-related educational programs can be invaluable in improving the effectiveness of these programs. By soliciting input from graduates, educational institutions and training providers can identify areas for improvement and tailor their curricula to better meet the needs of industry stakeholders.

The analysis of factors influencing OHS compliance revealed that aspects related to the integration of safety training, safety inspections, and peer influence are particularly significant. Stakeholders should prioritize these areas when developing strategies to improve workplace safety.

The role of stakeholders and management is crucial in promoting a safety culture within SMEs. Engaging with stakeholders, including employers, workers, regulators, and industry associations, is essential for fostering collaboration and implementing effective safety initiatives.

The findings underscore a prevalent lack of awareness, insufficient implementation of safety measures, and inadequate safety training in the construction sector. Addressing these issues requires a multi-faceted approach involving government intervention, industry collaboration, and educational initiatives.

Factors such as outdated equipment, poor working conditions, and limited access to resources contribute to heightened occupational hazards in SMEs. Efforts should be made to address these underlying issues through targeted interventions aimed at improving infrastructure, upgrading equipment, and providing adequate resources for safety management.

Recommendations

The government should take immediate action to strengthen safety regulations in the construction industry, ensuring strict compliance and accountability. This may involve updating existing regulations, establishing clear guidelines for safety practices, and imposing penalties for non-compliance.

Frequent safety inspections should be conducted at construction sites to identify potential hazards, assess compliance with safety regulations, and implement corrective measures as needed. These inspections should be carried out by qualified inspectors with the authority to enforce safety standards.

Public awareness campaigns should be launched to educate both employers and employees about the economic benefits of prioritizing occupational health and safety. By highlighting the importance of workplace safety and its impact on productivity and profitability, these campaigns can help foster a culture of safety within the construction industry.

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