

Strategies for Adherence of Construction Companies in Abuja to International Labour Organization Occupational Safety and Health Management Systems (ILO OSHMS)

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Abstract: As a critical driver of global economic growth, the construction industry presents unique occupational safety and health (OSH) challenges due to its inherently hazardous nature. This study examines the strategies for enhancing the adherence of construction companies in Abuja to international labour organisation occupational safety and health management systems (ILO OSHMS). The research emphasises the prevalence of accidents such as falls, electrocutions, and heavy equipment mishaps, which contribute significantly to workplace injuries and fatalities in the sector. Using a survey research design, data were collected from 488 respondents, including construction managers, supervisors, and safety officers, drawn from a population of 510 registered construction companies in Abuja. The findings reveal key strategies for enhancing safety adherence, with the development and implementation of training programs on ILO OSHMS principles ranked highest (Relative Importance Index (RII) = 0.87). Systematic safety audits and inspections (RII = 0.85) and the establishment of dedicated safety committees (RII = 0.84) also emerged as critical measures. The study highlights the pivotal role of technology, effective communication, and personal protective equipment (PPE) in fostering a culture of safety. The research concludes that continuous training programs and systematic safety audits are essential to bridge compliance gaps and mitigate occupational risks in Abuja's construction industry. Recommendations include fostering a safety-first organizational culture, collaborating with regulatory authorities, and leveraging technology to improve safety management systems.

Keywords: ILO OSHMS, Occupational Safety, Workplace Safety, Construction, Abuja.

I. INTRODUCTION

Founded in 1919, the International Labour Organisation (ILO) is a tripartite United Nations organisation whose main goal is to advance social justice and ethical labour practices throughout the world (Koliev, 2021). Ensuring decent employment, promoting social and economic justice, and improving the welfare of workers worldwide are at the core of the ILO's mandate. The ILO actively handles Occupational Safety and Health (OSH) issues as part of its multi-agenda by developing standards and guidance (Wilbanks, Abulhassan, and Wachter, 2023). These standards apply to a wide range of businesses, including the construction sector.

Olaoye (2023) asserts that the construction sector plays a critical role in the advancement of the world economy by promoting the expansion of infrastructure and job possibilities. Nevertheless, there are several risks and hazards in this industry that could endanger employees' health and safety (Emuron, 2017). Numerous tasks are involved in construction work, such as working at heights, operating large machines, and coming into contact with potentially hazardous materials. Because of these innate risks, construction sites are prone to mishaps, injuries, and fatalities. One of the industries with the

greatest rates of workplace accidents is the construction sector. Frequent events that result in serious injuries and occasionally fatalities include falls, electrocutions, and incidents involving heavy machinery (Alsharef, Albert, Awolusi, and Jaselskis, 2023). Construction workers frequently perform physically taxing jobs in difficult settings. Uneven terrain, bad weather, and the requirement for exact worker coordination raise the risk of mishaps and injuries if safety precautions are not strictly followed.

Effective implementation of ILO OSHMS may be hampered by the construction industry's dynamic character, economic pressures, and other contextual considerations. It is crucial to comprehend the mechanics of adhering to international standards as Abuja's construction industry develops further. In light of this, this study aims to offer a comprehensive analysis of how closely Abuja construction companies adhere to ILO Occupational Safety and Health Management Systems, with the ultimate goal of promoting improved safety procedures, worker protection, and the long-term expansion of the local construction sector.

II. LITERATURE REVIEW

A. Occupational Safety in the Construction Industry

Accidents on construction sites remain a significant concern due to their contribution to injuries and fatalities, with falls from heights being the leading cause of death worldwide. Reports from the International Labour Organization (ILO) indicate that falls account for nearly one-third of all fatalities in the construction sector, as workers often face hazards such as unstable surfaces, inadequate fall protection, and poorly erected scaffolds (ILO, 1999). In the United States, the Department of Labor reported between 150 to 200 fatalities and over 100,000 injuries annually due to falls from heights at construction sites (U.S. Department of Labor, 1998). Similarly, in Great Britain, falling from heights remains the primary cause of workplace fatalities, constituting one-third of all fatal injuries (HSE, 2013). Effective preventative measures, such as the use of guardrails, fall arrest systems, and properly designed scaffolds supervised by qualified personnel, are vital in mitigating these risks (ILO, 1992; Franck, 2023). Additionally, ensuring proper access to safe working positions and adherence to safety standards significantly reduces the incidence of falls and the associated fatalities (HSE, 2013).

In developing countries, particularly Nigeria, the situation is equally alarming, with inadequate safety regulations, non-compliance with safety standards, and a lack of enforcement mechanisms exacerbating the risks on construction sites. Studies reveal that construction workers in Nigeria frequently encounter hazards such as poorly maintained scaffolds, inadequate personal protective equipment (PPE), and a general disregard for safety protocols (Adeogun & Okafor, 2013). This negligence has led to a high prevalence of accidents, including falls from heights, being struck by objects, and electrical mishaps. Research by Akinwale and Olusanya (2016) found that about 56% of construction workers in Nigeria have experienced some form of work-related accident, with falls and electrocutions being the most common. Furthermore, the Nigerian construction industry faces challenges such as insufficient training for workers, the use of outdated equipment, and a lack of safety culture among stakeholders. These issues are compounded by the informal nature of a significant portion of the workforce, making it difficult to enforce safety standards uniformly.

Other prevalent construction site accidents include being struck by falling materials, collapses, electrical hazards, manual handling injuries, and exposure to noise, vibration, and chemical substances. Workers face risks from falling objects or collapsing structures, particularly in excavation work where instability and hazardous conditions such as oxygen depletion and toxic fumes are common (HSE, 2006; George, Verma, & Shafiqat, 2022). Electrical misuse and fire hazards from faulty installations or improper handling of flammable substances also pose severe risks, often leading to fatalities or property damage (Park et al., 2020; Franck, 2023). In Nigeria, electrical hazards remain a prominent concern, often linked to substandard wiring and improper handling of electrical equipment. Manual handling of heavy loads frequently causes musculoskeletal injuries, including ligament strains and disc prolapses, especially with repetitive lifting tasks (Lingard & Rowlinson, 2005). Furthermore, noise-induced hearing loss, stress, and the harmful effects of vibration from tools contribute to poor health outcomes and communication challenges, increasing the likelihood of accidents (ILO, 1999; HSE, 2006). Chemical exposure through inhalation or absorption from substances like paints, adhesives, and solvents further endangers workers, necessitating proper labeling, safety data sheets, and protective equipment to minimize harm (HSE, 2013; Park et al., 2020). Comprehensive safety measures addressing these varied hazards are essential to protect construction workers and reduce workplace accidents. For Nigeria, improving safety requires adopting stringent regulatory frameworks, training workers and supervisors, enforcing compliance, and cultivating a robust safety culture across the construction industry.

B. Occupational Safety and Health Awareness

Training is a primary component of OSH management and aims to guarantee and enhance understanding of occupational safety and health among workers, managers, and supervisors (Michigan Occupational Safety and Health Administration (MIOSHA), 2011). OSH awareness helps persons in the workplace to make their contribution to safety and health from an informed position (EU, 2011). The Management needs to understand the relevant legislation and efficient OSH management while workers should understand work hazards and safe work practices (Health and Safety Executive (HSE), 2008).

Familiarity with work hazards contributes to safer work practices in workplaces (Ndegwa, 2015). According to Alli (2008), OSH awareness makes individuals fit into their work by acquiring the required skills and knowledge and this helps in making appropriate decisions, and in the achievement and sustenance of good working conditions and environments.

The Occupational Safety and Health Act (OSHA, 2007) mandates employers to ensure the provision of OSH information and training to all persons in the workplace. The employer determines the required OSH competencies and makes the necessary provision for sustaining knowledge within the organization for all persons to effectively discharge their safety and health duties (ILO-OSH, 2001). The management must prepare and communicate safety and health instructions and guidelines for the work tasks and monitor their compliance in the workplace (MOH, 2014).

III. METHODOLOGY

The research utilized a descriptive research design to examine the strategies for adherence of construction companies in Abuja to international labour organization occupational safety and health management systems (ILO OSHMS). The study area was the Federal Capital Territory (FCT), Abuja, known for its rapid urban development and significant construction activities. The target population consisted of registered construction companies in Abuja, with a focus on key personnel such as construction managers, safety officers, and frontline workers, as well as representatives from regulatory bodies overseeing OHS standards. A sample size of 334 respondents from construction companies, 100 construction workers, and 30 regulatory body personnel was selected using purposive and stratified sampling techniques. Data collection involved both primary and secondary sources, with a questionnaire used to gather insights from respondents. Descriptive statistics were employed for data analysis, including frequencies, percentages, and means to assess awareness levels and compliance with the International Labour Organization's Occupational Safety and Health Management Systems (ILO OSHMS).

IV. RESULTS AND DISCUSSION

Table 1: Extent of application of ILO OSHMS guidelines by construction companies in Abuja.

S/N	ILO OSHMS Guidelines	Level of compliance							RII	Rank
		SA	A	UD	D	SD	Σf	Σfx		
a	OSH Policy	200	150	30	10	8	398	1820	0.91	1 st
b	Responsibility and Accountability	200	150	30	10	8	398	1820	0.91	1 st
c	Competence and Training	20	50	100	150	78	398	960	0.48	10 th
d	Worker Participation	60	100	80	100	58	398	1260	0.63	6 th
e	Hazard Identification and Risk Assessment	100	120	70	80	28	398	1420	0.71	4 th
f	Regulatory Compliance	10	40	80	150	118	398	920	0.46	12 th
g	Emergency Preparedness and Response	80	110	90	90	28	398	1360	0.68	5 th
h	Performance Monitoring and Measurement	120	140	80	40	18	398	1560	0.78	3 rd
i	Auditing	50	90	100	100	58	398	1180	0.59	7 th
j	Preventive and Corrective Action	20	60	80	150	88	398	1020	0.51	11 th
k	Continual Improvement	60	100	80	100	58	398	1260	0.63	6 th
l	Management Review	40	80	90	110	78	398	1120	0.56	9 th

The table presents the extent of application of the ILO Occupational Safety and Health Management System (OSHMS) guidelines by construction companies in Abuja. The data shows that the "OSH Policy" and "Responsibility and Accountability" guidelines have the highest level of compliance, with a Relative Importance Index (RII) of 0.91, ranked 1st. This indicates that construction companies in Abuja strongly adhere to these two guidelines. The "Competence and

Training" guideline, with the lowest RII of 0.46, ranks 12th, suggesting that companies are less compliant with this aspect of the OSHMS. Other guidelines such as "Hazard Identification and Risk Assessment" (RII = 0.71) and "Emergency Preparedness and Response" (RII = 0.68) have moderate compliance, ranking 4th and 5th, respectively, demonstrating a reasonable application in the construction sector.

Further analysis of the table reveals that the guidelines concerning performance monitoring and auditing show a relatively high level of compliance, ranking 3rd and 7th, with RIIs of 0.78 and 0.59, respectively. However, areas like "Regulatory Compliance" (RII = 0.46), "Preventive and Corrective Action" (RII = 0.51), and "Continual Improvement" (RII = 0.63) are ranked lower, suggesting a gap in compliance. These findings indicate that while construction companies in Abuja demonstrate good adherence to certain OSHMS guidelines, others need improvement, particularly in worker competence and training, regulatory compliance, and corrective actions.

Table 2: Effective strategies for enhancing the adherence of construction companies in Abuja to ILO OSHMS and improving occupational safety and health practices in Abuja.

S/N	Strategies	Level of agreement					Σf	Σfx	RII	Rank
		SA	A	UD	D	SD				
a	Develop and implement ongoing training programs that cover the principles of ILO OSHMS, hazard identification, risk assessment, and safe work practices.	180	200	50	30	28	488	2120	0.87	1 st
b	Conduct systematic safety audits and inspections to assess compliance with ILO OSHMS guidelines	170	190	60	40	28	488	2070	0.85	2 nd
c	Form dedicated safety committees within construction companies to foster a culture of safety and engage employees at all levels.	160	200	60	40	28	488	2040	0.84	3 rd
d	Implement effective communication channels and reporting systems for safety-related issues, ensuring that employees can report hazards without fear of reprisal.	150	190	70	50	28	488	2010	0.82	4 th
e	Ensure that all workers have access to appropriate personal protective equipment (PPE) and that its use is enforced.	140	190	70	60	28	488	1980	0.81	5 th
f	Leverage technology to improve safety management systems, including mobile applications for hazard reporting and safety training.	130	180	80	70	28	488	1940	0.80	6 th
g	Create and disseminate clear safety policies and procedures that align with ILO OSHMS guidelines and local regulations.	130	180	80	70	28	488	1940	0.80	6 th
h	Introduce incentive programs that reward employees and teams for adhering to safety protocols and achieving safety milestones.	120	180	90	70	28	488	1910	0.78	8 th
i	Work closely with local regulatory authorities to ensure alignment with safety regulations and guidelines and to receive guidance on best practices.	110	190	90	70	28	488	1880	0.77	9 th
j	Foster a safety-first culture within organizations by emphasizing the importance of safety in every aspect of operations.	100	190	90	80	28	488	1850	0.76	10 th

Where SA= Strongly Agree, A = Agree, UD = Undecided, D= Disagree, SD= Strongly Disagree

The result in Table 2 outlines the key strategies for improving adherence to ILO OSHMS and occupational safety and health practices in Abuja's construction industry. The findings from the study indicate that construction companies in Abuja need to prioritize continuous training and knowledge development, as evidenced by the high ranking of strategies focused on ongoing training programs (RII = 0.87). This suggests that companies should invest in comprehensive safety training to enhance workers' understanding of ILO OSHMS principles, hazard identification, risk assessment, and safe work practices.

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Additionally, the emphasis on systematic safety audits and inspections (RII = 0.85) highlights the importance of monitoring and ensuring compliance with safety guidelines. Companies must establish robust audit mechanisms to identify non-compliance issues, enabling timely corrective actions to improve safety standards.

Another key finding is the importance of creating safety-driven organizational structures, with the formation of dedicated safety committees (RII = 0.84) being highly regarded. This implies that companies should set up formal safety committees that engage workers at all levels to promote a safety culture. Additionally, implementing effective communication and reporting systems (RII = 0.82) is critical, as it enables workers to report hazards or unsafe practices without fear of reprisal. This proactive approach to risk management can help address potential hazards swiftly. Providing access to personal protective equipment (PPE) and enforcing its use (RII = 0.81) is also crucial in reducing accidents and injuries on construction sites, reinforcing the need for companies to ensure PPE availability and compliance.

Technological integration is another significant implication, with a strong endorsement for leveraging technology (RII = 0.80) in safety management. Companies should explore digital tools, such as mobile apps for hazard reporting and safety training, to enhance safety processes. The introduction of incentive programs (RII = 0.78) also suggests that rewarding employees for adhering to safety protocols can motivate compliance and foster a safety-conscious environment. Furthermore, collaborating with local regulatory authorities (RII = 0.77) ensures that companies align with safety regulations and stay informed about best practices. Finally, fostering a safety-first culture (RII = 0.76) is critical, as companies must embed safety into their core values, making it a priority in every aspect of their operations. Together, these strategies will help improve occupational safety and health practices in the construction industry in Abuja.

V. CONCLUSION AND RECOMMENDATION

The study concludes that developing and implementing ongoing training programs that cover the principles of ILO OSHMS, hazard identification, risk assessment, and safe work practices as well as conducting systematic safety audits and inspections to assess compliance with ILO OSHMS guidelines are the topmost strategies for enhancing the adherence of construction companies in Abuja to ILO OSHMS and improving occupational safety and health practices in Abuja. The study recommends that construction companies should develop and implement ongoing training programs that cover the principles of ILO OSHMS, hazard identification, risk assessment, and safe work practices as well as form a dedicated safety committee within construction companies to foster a culture of safety and engage employees at all levels.

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