



Factors Influencing Implementation of Health and Safety Policies amongst Road Construction Companies in Lagos State, Nigeria

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Abstract

Safety of workers in any kind of construction activity cannot be underrated, especially in a country like Nigeria where a large proportion of the construction industry employs the working population and a large number of people are at varying degrees of risk to their lives and health. The study aimed to investigate the factors preventing effective application of safety and health policies amongst road construction companies; and methods of improving of health and safety on Lagos State construction sites. The study was conducted using a cross-sectional research design. 120 questionnaires were distributed at random among pertinent clients and construction industry professionals in the study area. Out of this, 80 valid responses were received. Data were examined utilizing correlation analysis and relative importance index. Findings showed that poor safety culture amongst employees and unsafe conditions culture amongst employees ranked first among the factors preventing the effective implementation amongst road construction companies in Lagos. Also, the work environment is ranked second, as the most effective way to improve worker safety. The result further showed that employing a safety manager on site is ranked third as effective method of improving workers safety on site. It was concluded that guaranteeing the construction company on site compliance with safety standards requires the enforcement of occupational health and safety regulations. To ensure that safety rules are adhered to and that plants, machinery, and equipment undergo regular maintenance, a safety manager should be hired and safety committees should be established.

Keywords: Construction sector, health and safety, policy, road, site workers

1. Introduction

The construction industry is said to be prone to accidents. Research on Health and Safety (H&S) reiterating that H&S performance on construction sites is a worldwide occurrence, in the field of construction management suggests that enhancing worker safety and health practices may lead to fewer incidents at construction sites. (Rashid & Umar, 2024; Singh, Sharma & Sharma, 2024; Olajide, 2019; Kukoyi & Smallwood, 2016). According to Olutuase (2014) and Muhammed and Ashiru (2018), Numerous relevant studies have reaffirmed the significance of creating a safe workplace due to the inherent risk and hazard variables that surely underpin every work setting and their detrimental effects on an organization's overall performance. This study examines the safety and health regulations adopted by road construction firms in Lagos state and the importance of health and safety policies to employees as well as management of construction companies in Lagos state.

Protecting the wellbeing of employees in their various workplaces is the focus of safety, health, and the

environment. Because the construction business is a high-risk sector that includes residential construction, alteration, repair, bridge erection, roadway paving, excavation, and demolition, safety is extremely important, water-proofing, large scale painting, commissioning, decommissioning, disassembling and installing.

Manpower is the most important factor on every building site. In the absence of safety, the dangers and hazards at a building site have the potential to kill or seriously injure people. At a building site, risks and dangers can also result in delays, additional costs, and, of course, a loss of labour. One of the resources needed for a construction company to succeed is health and safety, which protects both employers and employees and works to keep everyone safe.

The primary right of workers is protection from the dangers that arise during building, yet for many years, construction workers have been fighting for this right, and many of them have died as a result. The costs of safety are those incurred to implement measures to prevent accidents during construction, to comply with legal requirements regarding accident prevention, and to improve health and safety conditions in all areas of the work performed in order to maintain a healthy working environment (Adje et al., 2024; Shamsuddin et al., 2015)

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Since building is one of the main drivers of economic growth, development, and activity, the role of construction infrastructure in the development process has gained fresh impetus (Umeokafor et al., 2014). The authors also pointed out that the construction and engineering services sectors are crucial to the nation's economic growth and development. Millions of unskilled, semi-skilled, and skilled workers can find employment prospects in the construction business. Additionally, it is essential for making money in both the formal and informal sectors. It adds to the foreign exchange profits from the sale of engineering services and building materials. The existence of a dependable and competitive local construction industry that can provide high-quality service and value for money in the development and maintenance of the physical infrastructures is crucial for the realization of the country's vision in a developing country like Nigeria. Its contribution to socioeconomic development extends beyond its proportion of the country's total output (Okechukwu, 2014).

According to Muhammad et al. (2015), the construction sector is essential to a nation's growth and development because of the rising rate of urbanization in almost every sector of the Nigerian economy, with some seeing particularly strong growth. Additionally, he listed the three areas where Nigerian building and construction activity have grown significantly which include: Lagos; the commercial nerve-centre of the country, Abuja, the Federal Capital Territory, has seen a remarkable surge in construction activity over the last ten years, with the city's population growth leading to an unparalleled extension into new communities and the Niger-Delta region; the Nigeria oil industry base. Despite the high rate of occupational illness in the construction sector, which can have a catastrophic impact on workers, their families, and employers who may be fined or prosecuted, efforts have typically concentrated more on safety hazards than on workplace hazards that lead to illness. Due to the unique nature of the construction business, occupational safety is essential. While many trades and abilities must be practiced in a safe atmosphere, individual contributions influence the projects' success. Occupational safety and health (OSH) should be based on sound legislative frameworks that demand maximum adherence in order to protect the health, safety, and welfare of employees and others who may be indirectly impacted by workplace activities (Umeokafor et al., 2014). One of the requirements for prequalifying qualified contractors to be awarded construction projects in Nigeria is a health and safety strategy or policy (Spillane et al., 2011; Kadiri et al., 2014; Saqif, Amisa & Helmi, 2023).

In poorer developing countries, the issue of fatalities and hazardous working conditions is typically more persistent than in wealthier, more developed countries. Nigeria is in a worse state than it was in 2006, when the national executive council passed the national construction code enabling registered builders to create

health and safety plans in addition to other builder documents to reduce and manage accident causes during the construction phase is still not being properly implemented. The construction sector employs a sizable section of Nigeria's working population, and many of them are subject to various degrees of risk to their lives and health (Aniekwu, 2007; Saqif et al., 2023). In most underdeveloped countries, including Nigeria, adherence to safety regulations during construction is typically not prioritized because it is seen as a burden (Umeokafor, 2012; Muzafar, 2019), hence the need for this study.

In order to promote the health and safety of employees and staff of road construction companies in Lagos State, this project aims to evaluate the health and safety policies used by these companies and to proffer feasible solution to high incidence of accidents, occupational health hazards that occur during road construction

2. Literature Review

Comparing construction projects to those in other related businesses, the former are known for having subpar H&S records. This can be ascribed to a number of factors, including an unregulated workplace, risk, employee conduct about H&S commitment, cultural and religious views, and project-related concerns (Kukoyi & Smallwood, 2016). The results showed that the main employers' behavioral safety compliance factors are management commitment and organizational commitment, safety communication, safety leadership, effective safety training, safety motivation, safety management system, safety rules and regulations, safety and health officer, and personal protective equipment. These factors of employer behavior that contribute to encouraging employees' behavior towards safety compliance to occupational safety and health in the construction industry were ranked in ascending order of importance. Safety issues cannot be effectively addressed without employers interfering with a specific pattern of behaviours as crucial criteria needed to change employees' behaviors (Zin & Ismail, 2012).

There are difficulties in identifying best practices and establishing an ongoing process of mutual learning from the very beginning of the benchmarking framework definition to the final conclusions (Shen et al., 2013). Agwu and Olele (2014) discussed fatalities in the Nigerian construction industry, according to the research, safety culture is the collection of values, customs, attitudes, roles, and social and technological practices that are aimed at reducing the amount of time that management, staff, clients, and members of the public are exposed to hazardous or harmful situations. It is assumed that when Nigerian construction businesses invest in machines and technology (socio-technical investments) and incorporate a positive safety culture, the company's (reduced rate of fatalities) and employees' (lower rate of risky acts) safety performance will improve.

Ogundipe *et al.*, (2018) identified forty-nine factors that, as demonstrated in Lagos State, Nigeria, work against safety practices in developing countries. These factors were divided into five categories: factors related to the work environment, factors related to safety law enforcement, factors related to workers' lack of technical skills, and factors related to management structure. Despite having a health and safety policy framework in place on building sites, the majority of construction enterprises regrettably do not follow it. Even though the equipment required for a functional, safe, and healthy building site has been established, full compliance is still below average (Muhammad *et al.*, 2015).

Olutuase (2014) investigated a Nigerian construction company's safety management system using both qualitative and quantitative methods in order to assess the system's compliance with international standards. In order to identify the study's five main components and fifteen aspects, primary and secondary data were gathered via structured questionnaires, in-person interviews, and observation. Correlation analysis and the relative importance index were used to analyze the data. The findings demonstrate that even though the organization has a safety management system, it is ill-organized, which leads to its inefficiency and inadequate documentation.

3. Research Method

The study coverage was restricted to road construction companies in Lagos in order to evaluate how well both domestic and international road construction companies used the health and safety regulations they had accepted. The fact that the great bulk of construction activity in the nation occur in Lagos state served as justification for the restriction. Due to Lagos State's abundance of connected roads, both domestic and international road construction companies have moved there. Nigerian road construction firms with headquarters in Lagos State were chosen.

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Primary data for this study was gathered through site visits, interviews, and structured questionnaires from the professional in the construction industry which include the Civil Engineer, Structural engineer, Builder, Quantity Surveyor and Architect. The purpose of the structurally constructed questionnaires was to gather personal information about the respondents in order to show their profile and potentially gain

experience with issues related to evaluating the application of health and safety regulations implemented by both domestic and international road building firms. A total of 120 copies of the questionnaire were distributed to various client groups and professionals in Lagos State who have years of expertise managing building projects. via SPSS, mean scores and the Relative Importance Index (RII) were used to analyze data gathered through random sampling procedures. The validity and reliability of the questionnaire are based on the measuring scale used to assess how well domestic and international road construction companies implement health and safety standards. The significance of each linked variable in relation to the health and safety procedures of construction workers on a project was evaluated using the Independent Samples Test (Mojidi & Fidelis, 2019). In order to ensure a comprehensive approach to respondents' perspectives, A five-point rating system, where 1 represents "strongly disagree" and 5 represents "strongly agree," is employed and adjusted to rate different aspects from the viewpoints of clients, contractors, consultants, and on-site employees.

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$$\text{Mean Score} = \frac{\text{Ranking} \times \text{Number who chose the ranking}}{\text{total number of respondents}}$$

$$\text{RII} = \frac{1n_1 + 2n_2 + 3n_3 + 4n_4 + 5n_5}{5n} \quad (1)$$

The item with the highest RII value is rated first when the RII values are ranked, and this order continues until the item with the lowest RII value is ranked last.

Spearman rank Correlation: The Spearman rank correlation coefficient was calculated in order to examine the degree of link between the variables. According to Mojidi and Fidelis (2019), the Spearman rank correlation coefficient is computed using

$$rs = 1 - \frac{(6\sum d^2)}{(n^2 - n)} \quad (2)$$

where n is the number of rank pairings, d is the difference in rankings assigned to variables for each reason, and r is the Spearman rank correlation coefficient between two parties. The 5% significant

Table 1: Factors preventing effective implementation of health and safety policies amongst road construction companies in Lagos state

Variables	Mean	SD	RII	Rank
Poor safety culture among employees	4.7750	5.7323	0.955	1
Work environment of the employees	4.7125	.48244	0.943	2
Management structure of the construction companies	4.6500	.55347	0.930	3
Poor safety law enforcement	4.4000	.5677	0.880	4
Poor implementation of health and safety policies.	4.3875	.70250	0.878	5
Lack of understanding the use of PPE	4.3500	.76473	0.870	6
Negligence of the contractor and laborers	4.2500	.75473	0.850	7
Lack of Innovative Technology	4.2125	.63033	0.843	8
Use of faulty tools and equipment	4.1875	.91532	0.838	9
Noncompliance to safety rules and regulations	4.1500	.81287	0.830	10
Faulty construction techniques	4.7750	.65107	0.955	11

Table 2: displays the mean score, relative relevance index, and ranking values of the variables investigated in ways to increase worker safety on construction sites.

Variables	Mean	SD	RII	Rank
Employment of a safety manager on site	0.880	.732	0.176	1
Establishment of safety committees	0.823	.553	0.165	2
Enforcing occupational health and safety guidelines	0.810	.702	0.162	3
Conducting periodic safety seminars	0.808	.755	0.162	4
Adequate training of workers	0.798	.915	0.160	5
Availability of clinical services	0.795	.813	0.159	6
Improvement on channels of communication	0.795	.651	0.159	7
Client involvement in safety management	0.795	.919	0.159	8
Provision of safe storage for flammables, explosives and combustible	0.788	.856	0.158	9
Regular site safety audits	0.778	.675	0.156	10
Creation of localized health and safety committees	0.775	.834	0.155	11
Provision of incentives to motivate workers	0.770	.739	0.154	12
Proper site management	0.748	.747	0.150	13

threshold is used to define the degree of significance (Zin & Ismail, 2012).

4. Data Analysis and Results

From the results of the survey carried out, the profession of the respondents includes Civil Engineer, Structural engineer, Builder, Quantity Surveyor and Architect. The study revealed that the civil engineer and builder has the highest number of respondents with a percentage of 30% followed by the architect with a percentage of 20% with eligible professional qualifications from 23 Consulting firms and 57 contracting companies. The years of experience of the respondents ranged from 10 years to 20 years in the road construction companies. Additionally, it was discovered from the interview that roughly half of the participants had completed a sizable number of projects within the previous six years. This suggests that they would be somewhat knowledgeable about the application of health and safety regulations that both domestic and international road building businesses have embraced.

Table 1 lists the factors that hinder road construction enterprises in Lagos State from effectively implementing health and safety rules. The variables involved in the data analysis are ranked ranging from poor safety cultures among employees, poor safety law

enforcement to faulty construction techniques with the proportionate relative importance index.

5. Discussion and implications of findings

Since the construction business is thought to be accident-prone and studies on health and safety in the field of construction management confirm that subpar H&S performance on construction sites is a worldwide phenomenon, bettering worker safety and health practices may lead to fewer incidents at construction sites.

Construction sector is viewed as an accident-prone industry, studies on H&S in the field of construction management reiterate the poor H&S performance on construction sites as a global phenomenon, hence, improving workers, H&S practices could result in reduced accidents at construction sites (Kukoyi & Smallwood, 2017). From table 1, Poor safety culture amongst employees ranked first among the factors preventing the effective implementation amongst road construction companies in Lagos State due to unregulated workplace, risk, employee conduct about H&S commitment, cultural and religious views (Kukoyi & Smallwood, 2016). Work environment of the employees is also one of the major factors that affect health and safety of workers as it ranked second out of all the eleven factors which corroborates the

findings of Zin and Ismail (2012) that safety issues cannot be effectively addressed without employers interfering with a specific pattern of behaviours as crucial criteria needed to change employees' behaviours

Tang (2020) asserts that numerous related researches have reaffirmed the significance of providing a safe workplace due to the inherent risk and hazard variables that unquestionably underpin every work environment and their detrimental effects on an organization's overall performance. Unsafe conditions culture amongst employees ranked first among the factors preventing the effective implementation amongst road construction companies in Lagos state this is in agreement with the studies of Jamil et al. (2025), Umeokafor *et al.* (2014) and Erol (2019), that there is a poor safety culture in the Nigerian construction industry, work environment of the employees is also one of the major factors that affect health and safety of workers as it ranked second out of all the eleven factors preventing effective implementation of health practices.

This study opined that employing a safety manager on site is the most effective method of improving workers safety on site as shown in table 2. According to studies by Kunle et al. (2018) and Singh et al. (2024), the establishment of safety committees is the second most effective way to improve worker safety, while enforcing occupational health and safety guidelines is ranked third. It is also crucial to make sure that the construction company is meeting safety standards. These findings are consistent with the idea that one Safety Manager should be employed on every construction site.

6. Conclusion

According to the study's findings, worker health and safety are critical to the success of any construction project, and the biggest obstacle to successful implementation among Lagos State's road construction enterprises is a lack of a strong safety culture among employees. Out of the eleven elements that hinder the efficient implementation of health practices, the work environment of employees ranks second, making it one of the primary factors affecting workers' health and safety.

This study also concluded that employing a safety manager on site is the most effective method of improving workers safety on site. Establishment of safety committees is another effective method of improving workers safety, while it is crucial to enforce occupational health and safety regulations to make sure the construction company complies with safety criteria

7. Recommendations

This study hereby recommends the following methods as workable strategies for ensuring that road construction businesses effectively apply health and

safety policies workers' health and safety in Lagos State

1. Holding regular health and safety policy workshops for staff members to improve adherence to safety regulations on a road building site.
2. Frequent training of employees on safe work practices can enhance their ability to recognize hazards and lessen harmful behaviors and situations at work.
3. Employment of a safety manager is important to enhance compliance with safety policies and improve workers safety on site.
4. Establishment of safety committees is another effective method of improving workers safety
5. To make sure that the construction company complies with safety regulations, regulatory agencies must enforce occupational health and safety rules.

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