



The Effect of Health and Safety Rules on the Nigerian Construction Industry

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THE EFFECT OF HEALTH AND SAFETY RULES ON THE NIGERIAN CONSTRUCTION INDUSTRY

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ABSTRACT

This paper examines the health and safety rules in the Nigerian construction. The objective of the study is to assess the effect of rules on the performance of the Nigerian construction industry. This study adopts a questionnaire survey to elicit information from construction professionals. 45 responses received and fit for analysis. Percentile means chart and means score were used in analysed the data received and appropriately ranked. The survey revealed that the level of awareness of the respondents about the health and safety act and its composition is 47% while education and training have the highest mean score of 3.73 as a method of improving safety practices. It also revealed that reduce the threat of legal action has the highest mean score of 3.91 as the effect of the health and safety rules. Its, therefore, suggested that all safety rules must be complied with and regulatory bodies must make the necessary effort to enforce the safety rules. It is also suggested that the government should continue to update all health and safety rules to meet with prevailing challenges in the construction industry. This study concludes that excellent safety practices can improve the safety performance of the Nigerian construction industry.

Keywords: employees, workplace, safety, health and construction industry

INTRODUCTION

Rules are set up so that the rights of individuals can be respected and accountabilities are satisfied [1]. Small groups incline to embrace ordinary rules, that are not legally binding whereas governments of a nation or states establish comprehensive rules, that can be enforced [2,3]. The essence of the regulation is to ensure individuals in society live and perform under the set of standard rules [4,5]. Violations are said to happen when individuals intentionally break rules or diverge from processes. The violation of safety and health rules or techniques is one of the major causes of injuries and accidents at work [6]. Violations can be categorized as situational, routine, or exceptional [7]. Routine violations happen if the breaking of the rules or divergence from processes has been developed to a usual method of working. Exceptional violations happen very rarely if something has gone wrong and situational violations happen if the work condition makes it challenging or impossible to obey the rules or processes. The consequence of contravention of the rules is in the form of a sanction imposed by the government of a nation or states considers being proportionate with the gravity of the breach [8,9].

Occupational health and safety rules imposed responsibilities on the organization to safeguard the health and safety of their personnel in the course of their duties as well as the general public [10–12]. The health and safety rules also imposed responsibility on the employees to comply with the rules

and ensure international best practices [13–16]. Therefore, there must be a collaboration between the employers and the employees concerning health and safety rules in the workplace [17,18]. Sometimes, employees are frequently in a quite low bargaining position. This means that there is a likelihood form of various exploitation by employers. It is therefore significant to know that employees have some rights which must be respected. The right to health and safety in the working environment is one such right. [19] submits that a right could be implicit to be a moral claim. The definition of this can be in two ways. First, the perception that rights are moral proposes they might not be conventionally acknowledged. Second, rights are claims that associate with definite duties on the part of the individual against whom these rights are apprehended. Therefore, claims are relational for the reason that one individual's right is also another individual's duty. The worker's right to a healthy and safe workplace is an establishment's obligation to offer such a workplace. It is morally bad to consider employees as mere things or items to be used to accomplish corporate aims [20].

[21] highlighted that accident and injury rates in developing nations like Nigeria are high compared to Australia, the UK, and the US. This is due to poor health and safety culture among the building operatives in the Nigerian construction industry [22]. The severity, distribution, and frequency of accidents and illness are very alike from year to year [23]. There are influences responsible for the consistency in these rates, therefore, it is essential to recognize those reasons and to conclude if they can be amended to moderate the frequency of injury. Rules have been the core mechanism to try and accomplish safe methods of work in the last century [17]. They remain significant, regardless of increasing dependence now positioned on engineering self-regulation after the advice of the Robens Committee in 1972 in the United Kingdom. [24] launch reservation on the earlier factory law that depends on enormous figures of comprehensive rules, each intended at resolving a particular hazard, generating a frame of a comprehensive law that must be continuously extended and explained to deal with fresh problems.

[4] established that violation of legal standards accounted for 13 to 19 percent of 645 work-related deaths in California lower than the rate reported in unpublished work of non-fatal and fatal accidents that were 15-30 percent [25]. The study also revealed that 50 percent of the violation could have been noticed if the inspectorate officers had visited the organizations before the occurrence of the accident. Similarly, the [17] study revealed that 53 of the 98 injuries were reflected to be traceable to the violation of the regulation. The study also further revealed that failure to comply with the rules resulted in a 2.24-fold increase accident rate and 58 percent of violations in the study involved a regulation that was considered particular enough to expect the accident situation suggested that several severe injuries can be averted by using the rules as a guide. This is an important estimation, providing a suggestion of the degree to which better conformity with rules can moderate the injury rate.

[26] revealed that different perceptions, behaviour, and actions displayed by construction employees lead to serious accidents on-site. This different cultural background has an impact on the construction safety climate. [27] elaborated that sufficient attention to these differences supports understanding of the different methods to prevent accidents. The construction industry in Nigeria is reasonably experiencing growth. Regrettably, enforcement of health and safety rules is not a prevailing activity in Nigeria [28]. Similarly, [29] opined that occupational health and safety legislation meant for the Nigerian construction sector is inadequate and the present Act does not have a positive impact on the health and safety in the industry. Hence, attributing to the high number of injuries and accidents in the construction sites. Presently, the Factories Act of Nigeria is the statutory law governing health and safety regulations in Nigeria. In the general application of the Act, article 83 expressly stated that Act shall only apply to the factories [30]. Numerous parts of the Acts need a review to cope with the

present realities and challenges [21]. The penalties under the sections of the act do not provide any meaningful deterrent to potential violators of any workplace health and safety standards and therefore, cannot serve as a deterrent to others.

There are three conventions stated the important principles of occupational safety and health according to the International Labour Organization namely: Convention No. 155, Convention No. 161, and Convention No. 187. Convention No. 155 on Occupational Safety and Health offers for the implementation of a clear national occupational safety and health rule, as well as, activity to be engaged by governments and within organizations to encourage occupational health and safety to improve working conditions. The Nigerian government ratified to the convention on 3rd May 1994 in the strong trust that safe and healthy working conditions are important to the achievement of economic growth and social justice. In furtherance to this, the Federal Republic of Nigeria 1999 constitution Section 17.3c “the state shall divert its policy towards ensuring that the health, safety, and welfare of all peoples in employment are protected and not abused or endangered ”[31].

The Rules shall guarantee harmonization of employees’ safety rights which must conform with international standards. Hence, the role of the regulatory authority is essential in regulating numerous provisions of the rules for securing the health, safety, and welfare of employees in Nigerian workplaces. Therefore, policy formulation and enforcement of rules are essential in guaranteeing the effectiveness of regulations. [11] opined that lack of enforcement of safety rules flourish non-compliance, the consequence of it is the upsurge injuries associated with work. If compliance with the rules is perceived to be connected with the absence of accidents and illness, the main question at this point is whether that conformity is a result of establishments making an intentional effort to conform with rules, or regardless of the conformity is purely an effect of what appears to be worthy engineering practice or completely common sense. If it is obvious that rules are playing a significant role in the prevention of accidents and illness, it is significant to ponder whether a decrease in the illness and accident rate can be attained by increasing the scope of rules still further. [32] recommend that rather than the emphasis on what must be regulated, the important question is what constitutes this rule would take or what kind of standards would be contained in OHS rule?. [33] identified that effective rules must have the following: keep to the least need to realize anticipated objectives, reduce regulatory influence upon rivalry, be attentive on outcomes, be compatible with the international standards, it must not limit international trade, it must be frequently reviewed, it must be flexible and capable of modification and it must seek to standardize governmental discretion. The merit of good enforcement of safety rules is manifested in the countries with outstanding health and safety information like Germany, the United Kingdom, the United States of America, and numerous other developed countries [34].

Occupational Safety and Health Department of the Federal Ministry of Labour and Employment is the competent national authority responsible for safety regulation in Nigeria. Section 49 of the Factories Act has the powers to make Regulations for the health, safety, and welfare of workers. Furthermore, the enforcement of safety rules in Nigeria presently is below standard [18]. This could be that enforcement is not the primary practice in Nigeria [26]. Developed countries had established recommended levels of exposure for employees which cannot be surpassed without legal action. In third world nations, exposure standards are often not enforced or excessively sloppy to be of use [35]. Therefore, effective enforcement of safety rules in Nigerian construction is very important due to the high rate of injuries and illness. Developing nations do not have a huge, well-funded regulatory agency that is present in developed nations. Enforcement will entail the training of employees and the backing of governments at all levels. Compliance is meaningfully related to managing awareness of regulatory stipulation, but not just with the possession of a copy of the important rules. Compliance

is considerably associated with the training of management in health and safety, then with the adherence of a deductive set on principles of decent safety management. [17] opined that an accident menace is amenable to regulatory control suggests that a concrete remedy is available. The valuable methods of finding a concrete answer to a safety difficult are for the inspectorate to embrace the practice of regularly inspecting worksites related to those where illness and accidents have occurred. Concerning labour inspection, it can be proactive and reactive techniques [36]. Proactive inspections are aimed at plants in which violations are most possible but are carried out even though no evidence of violation occurs. Apparently, it involves additional inspections and requires substantial resources. Reactive inspections are carried out in reaction to complaints concerning accidents or violations which can be initiated by a third party [37]. This is considerably less expensive and can still prove efficient under some conditions [36]. [38] opined that proactive monitoring must be in principle only and undertaken if reasons exist whereas reactive monitoring could be ineffective. If establishments are ill-informed regarding the rules and methods to obey them, a proactive monitoring approach can have the benefit of offering information to the organization and accomplishing a significant educative role [39]. Inspectorate officers must also pay serious attention to the violations which cause severe accidents. It is also important that information concerning the relationship between serious injuries and violations must be made available to the employees and employers. This is for them to see the proof of the morals of compliance. The information can be useful for small organizations where injuries and illness experience, safety, health, and expertise are inadequate.

“In 1971 the new building Codes of Practice on safety, drawn up with due consideration being given to the development of technology and mechanization of building and erection works... Millions of copies of this document, which are equally binding for all, have been printed”[40]. Hence, the document printed was to create awareness for all the stakeholders in the construction industry. A study by [41] revealed that not more than 5 percent of construction firms building and are acquainted with the provision of the Act. Whereas 25 percent only aware of the Act without knowing its composition. A study by [42] highlighted that 79.5 percent of the respondents are not aware of the regulatory agency responsible for the enforcement of occupational health and safety in the industry. [43] opined that there are missing gaps in health & safety education and practices in the Nigerian construction industry. Hence, the incidence rate can be traced to a low level of awareness of occupational safety and health in the country.

The study aim is to assess the effect of health and safety rules on the Nigerian construction industry. The objectives of the study are: to access the level of awareness of safety rules and regulations in the Nigerian construction industry, to identify the deficiency of the of factories act of 1990, to identify methods of improving safety practices in the Nigerian construction industry, and to examine the effect of health and rules on the Nigerian construction industry. The study focus on the effect of health and safety rules on the Nigerian construction industry. The study addresses the major project stakeholders in the construction industry. Which include Quantity surveyors, Architects, Engineers, Builders, and health and safety experts.

The population for the study was the construction professionals in the building industry from the federal capital territory, Abuja, Nigeria. The target respondents consisted of Quantity surveyors, Architects, Engineers, Builders, and Health and Safety Experts. A well-structured 60 questionnaires were administered for the collection of the data on safety awareness, methods of improving safety, and the effect of safety rules on the Nigerian construction industry. The method of improving safety practices and the effects of safety rules were identified from the literature and presented for the respondents to appraise on a 5-point Linker scale. The levels of significance were acknowledged by

the extent of their mean scores, with the highest mean illustrates the most significant factor.

MAIN RESULTS

The results from the data analysis obtained in the study are presented. Out of 60 questionnaires that were distributed only 45 were completed and returned representing a 75% response rate. Table 1 illustrates a summary of the demographic characteristics of the respondents.

Table 1 The demographic characteristics of the respondents

	Frequency	Percent	Cumulative
Academic Qualification			
HND/BSC	14	31.1	31.1
PGD	3	6.7	37.8
MASTER	19	42.2	20
PHD	9	20	100
Professional Affiliation			
Quantity Surveyor	14	31	31.
Architect	12	26.7	57.7
Builder	3	6.7	64.4
Engineer	16	35.6	100
Registration Body			
QSRBN	12	26.7	26.7
ARCON	12	24.4	51.1
COBON	3	6.7	57.8
COREN	14	31.1	88.9
OTHERS	5	11.1	100
Year of Experience			
0-5	3	6.7	6.7
6-10	9	20	26.7
11-15	9	20	46.7
16-20	15	33.3	80
21 and above	9	20	100

From the table 1 above, 31.1% are HND/BSC, 6.7% PGD, 642.2 Master,20% PhD. The professional affiliation of the respondents is 31% Quantity surveyors, 26.7% Architects, 6.7% builders, and 35.6% engineers. 26.7% of the respondent are registered Quantity surveyors, 24.4% are registered Architects, 6.7% registered builders and 11.1 % belong to other bodies. 6.7% of the respondents had worked for 0-5 years, 20% represent 6-10 years, 20% worked between 11-15 years, 33.3% for 16-20 years, and 20% for 21 years and above.

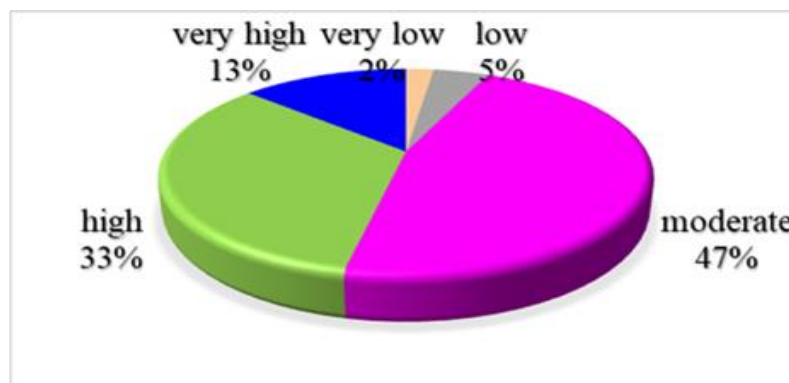


Figure 1 Awareness of health and safety rules and its compositions

Figure 1 above represents the percentage distribution of the respondents according to the awareness of the health and safety act and its compositions. 47% has moderate knowledge of health and safety rules, 33% has high, 13% very high, 5% low, and 2% very low knowledge health and safety rules.

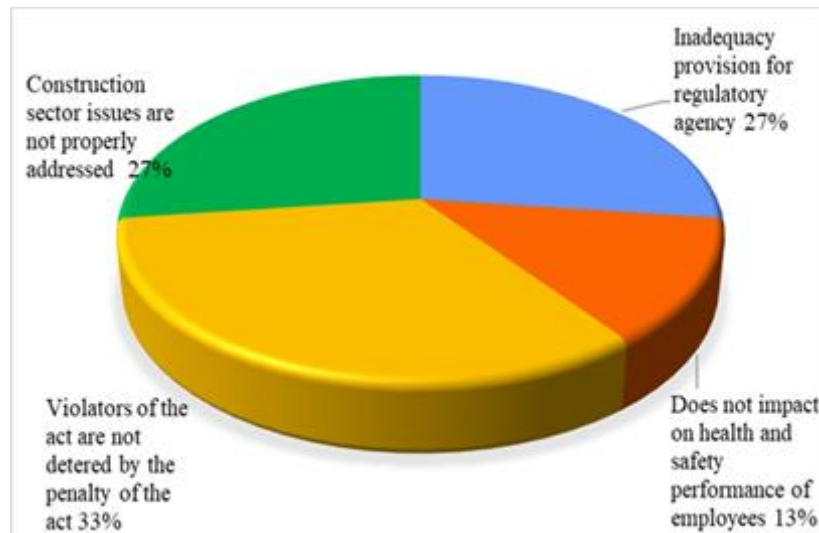


Figure 2 Deficiency of the Factories act of 1990

Figure 2 illustrates the deficiency of the Factories act. Violators of the act are not deterred by the penalty has the highest percentage of 33%, construction sector issues are not adequately addressed and inadequacy provision for the regulatory agency has 27% each and does not impact on the health and safety of employees has 13%.

Table 2 Methods of improving safety practices

S/no	Research Questions	SD (1)	D (2)	M (3)	A (4)	S A (5)	Total Response	Mean Score	Ranking																																																																						
1	Management commitment	3	5	12	11	14	163/45	3.62	4																																																																						
		3	10	36	44	70				2	Employee commitment	2	3	12	17	11	167/45	3.71	2	2	6	36	68	55	3	Education and training	2	6	8	15	14	168/45	3.73	1	2	12	24	60	70	4	Learning from accident	1	5	13	16	10	164/45	3.64	3	1	10	39	64	50	5	Zero vision	5	8	9	17	6	146/45	3.24	5	5	16	27	68	30	6	Performance measurement	2	5	11	17	10	163/45	3.62	4
2	Employee commitment	2	3	12	17	11	167/45	3.71	2																																																																						
		2	6	36	68	55				3	Education and training	2	6	8	15	14	168/45	3.73	1	2	12	24	60	70	4	Learning from accident	1	5	13	16	10	164/45	3.64	3	1	10	39	64	50	5	Zero vision	5	8	9	17	6	146/45	3.24	5	5	16	27	68	30	6	Performance measurement	2	5	11	17	10	163/45	3.62	4	2	10	33	68	50										
3	Education and training	2	6	8	15	14	168/45	3.73	1																																																																						
		2	12	24	60	70				4	Learning from accident	1	5	13	16	10	164/45	3.64	3	1	10	39	64	50	5	Zero vision	5	8	9	17	6	146/45	3.24	5	5	16	27	68	30	6	Performance measurement	2	5	11	17	10	163/45	3.62	4	2	10	33	68	50																									
4	Learning from accident	1	5	13	16	10	164/45	3.64	3																																																																						
		1	10	39	64	50				5	Zero vision	5	8	9	17	6	146/45	3.24	5	5	16	27	68	30	6	Performance measurement	2	5	11	17	10	163/45	3.62	4	2	10	33	68	50																																								
5	Zero vision	5	8	9	17	6	146/45	3.24	5																																																																						
		5	16	27	68	30				6	Performance measurement	2	5	11	17	10	163/45	3.62	4	2	10	33	68	50																																																							
6	Performance measurement	2	5	11	17	10	163/45	3.62	4																																																																						
		2	10	33	68	50																																																																									

Table 2 illustrates the methods of improving health and safety practices. Education and training rank the highest with a mean rating of 3.73, employee commitment has a mean score of 3.71, learning from the accident has 3.64, management commitment and measuring performance has 3.62 each and zero vision was the least with a mean score of 3.24

Table 3 The effect of health and safety rules on the Nigerian construction industry

S/no	Research Questions	SD (1)	D (2)	M (3)	A (4)	S A (5)	Total Response	Mean Score	Ranking
1	Reduced number of accidents	2	4	12	15	12			
		2	8	36	60	60	166	3.69	3
2	Reduced costs	1	8	8	23	5			
		1	16	24	92	25	158	3.51	5
3	Reduced risks	1	5	9	21	9			
		1	10	27	84	45	167	3.71	2
4	Increased reputation	1	5	12	18	9			
		1	10	36	72	45	164	3.64	4
5	Increased productivity	3	3	10	17	12			
		3	6	30	68	60	167	3.71	2
6	Reduced threat of legal action	2	6	12	14	14			
		2	12	36	56	70	176	3.91	1

Table 3 shows the effect of health and safety rules on the Nigerian construction industry. Reduction of Legal threat has the highest mean score of 3.91, reduce risks, and increased productivity has a mean score of 3.71 each. Reduced number of accidents has a mean score of 3.69, increased reputation has 3.64 while reduced cost has a 3.51 mean score.

The result of the survey in figure 1 revealed the level of awareness of health and safety rules and its composition of the respondents has the highest 47% percent which is still below average. This aligns with the study by [41] that only 5% of the construction firms acquainted with the composition of the act. Therefore, there is a need for more sensitization by the relevant authorities to raise the level of awareness of the professionals in the construction industry about the health and safety act. Figure 2 shows that 33% of the respondents strongly agree that the violators of the act are not deterred by the penalty imposed. This in line with [21] which highlighted that numerous sections of the act need review. The result of the survey in Table 1 indicated that education and training have the highest mean score of 3.73. This implies that training and education are very important methods of improving safety practices and ensure the prevention of accidents. The result of the survey aligns with the positions of the following; [44] highlighted that employees must have adequate training in health and safety matters, [45] opined that to prevent occupational injuries and illness, the provision of adequate health and safety information is vital for all employees, [46] elucidated that construction work, likewise other several professions, requires employees to be trained in ensuring activities to be carried out efficiently and successfully, a study by [47] revealed that those employees that attended training on health and safety program reported behaving unsafely fewer often than employees who had not, [17] concluded that good management

practices and management training are most probable to avert injuries which are related with the violation of rules. [48,49] suggested that the prevention of occupational injuries and illness can be achieved by training and education. Education refers to methods to enablement of learning and the improvement of intellectual abilities to utilized knowledge [50–52], while training denotes systematic methods to the development of skills needed for the improvement of performance [53,54]. Therefore, an organization must make all efforts that employees are equipped with adequate training and education to ensure safety practices and prevention of accidents in construction sites. The findings of the study also provided insight into the effect of health and safety rules in the Nigerian construction industry. The Survey of the respondents in Table 3 shows that the reduced threat of legal action has the highest mean score of 3.91 as the effect of health and safety rules. This was also the conclusion of [55] that the organization complied with the rule only to shun legal penalties, similarly, [56] elucidated that organizations might take actions that go above compliance if there is an economic reason for doing.

CONCLUSION

Health and safety rules are essential for influencing safety practices in construction sites. Construction organizations must have a comprehensive knowledge of the statutory requirements that relate to their operations and also required to be legally compliant. All necessary resources required must be provided by the organizations in the training and education of construction employees on health and safety rules so that they can aware of how their behaviour can affect themselves, co-employees and passerby, and the entire organization. Employees and employers who violate health and safety rules and regulations must be penalized to serve as a deterrent to other workers and organizations. All construction activities must not start unless all safety provisions are completed. The use of personal protective equipment must be made compulsory for the employees. Regular visitation of sites by the inspectorate officers to ensure compliance with health and safety rules. Safety rules must be continuously undergoing review to meet the prevailing challenges in the construction industry. An organization must see compliance with health and safety rules for humanitarian purposes as well as monetary and moral obligations. It is also essential to find whether there are some injuries involved hazards that are not covered by the factories' act of 1990 which need to be incorporated in the subsequent review of the health and safety rules. Health and safety professionals must have relevant information required for the complete understanding of workplace illness and accidents and their influence on the construction sector in Nigeria. This understanding will support professionals play an active role in keeping both labour and management focused attentively on health and safety in the workplace

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