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Impact of Health and Safety Deviance Normalization on Labour Performance of Construction Projects in Abuja, Nigeria

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Abstract
This study assessed the impact of health and safety deviance normalisation on the labour performance of construction projects in Abuja, Nigeria, with the view of suggesting strategies for eliminating health and safety deviance normalisation. A total of 155 copies of the questionnaire were administered, and 150 copies were returned and used for data analysis, with a response rate of 97%. The analysis of the data was carried out with the use of percentage, mean item score, and Spearman's rank correlation analysis. The study identified fourteen (14) major causes of health and safety deviance normalization. All fourteen causes had a mean score (MS) ranging between 4.52 and 2.94, with an average mean score of 3.67, which implies the identified causes are important. The result of Spearman's rank correlation analysis revealed that there exists a positive, fairly strong and significant relationship between the causes of health and safety deviance normalisation and labour performance. At the 5% level of significance (p = 0.01; r = 0.567). The study identified six (6) strategies for eliminating health and safety deviance normalisation by the workers and management (average MIS = 4.09). The study concludes that there is a low level of occupational health and safety policy application and performance in the construction industry. This poor health and safety performance is caused by HS risk normalization promoted by factors such as prioritization of production over safety at construction sites, lack of training of labor, employees' attitude towards work, inadequate manpower at construction sites, planning issues during the construction process, employee demands, and lack of technical support to labor at the site.

Introduction

The construction industry is one of the most important sectors in any country, contributing significantly to economic and infrastructure development. The fast growth of construction activities is a result of a country's economic prosperity (Tanko *et al.,* 2020). The industry, according to Eze *et al.* (2017), is the economics' primary mover and the basis of economies' existence. Despite the industry's enormous significance in fostering fast growth and development, its operations have been shown to lead to a relatively high rate of accidents and fatalities when compared to other industries (Chen *et al.,* 2020). The sector has a lengthy history of poor health and safety (H&S) performance. Construction operations, according to Udo *et al.* (2016), are carried out in an open and exposed environment. Furthermore, according to Khosravi *et al.* (2014), construction employees complete their tasks in a hazardous and unhealthy atmosphere, which may lead to a decrease in productivity. The poor safety performance of the labour in construction industry can be attributed to deviance normalisation (risks normalisation) (Bell & Healey, 2006).

Deviance refers to rule breaking behaviour which fail to conform to the norms and expectation of a particular society. In sociology deviance describes an action or behaviour that violates social norms including a formally enacted rule. Deviance is generally perceived to be disruptive, weakens established norms and creates disorder.

Normalisation of Deviance (ND) is when deviation from agreed standard or working practice becomes incorporated into routine. The term ND was made popular by Sociologist Diane Vaughan (2018) in her analysis of the culture of NASA in the incidence of Shuttle Challenger (1986) in which she summed up the phenomenon perfectly stating "What began as a break in pattern becomes the pattern". The boundaries of what is acceptable risk gradually expands with time and the comfort zone widens, the deviance is institutionalized and become part of the culture, the way of doing things this makes normalisation deviance difficult to address before disaster occurs.

Construction projects in general, often suffer from poor performance in terms of time delays, cost overruns and quality defects. The causes of poor performance have often been analyzed, however few studies have addressed the influence of cultural norms and the processes through which unacceptable management practices or standards may have become acceptable, thus leading to poor performance. It is important to remember that normalisation of deviance does not happen only due to deliberate efforts to violate norms, but also due to corporate cultures that accept these counterproductive behaviors. Not every deviation, specifically the ones that are a natural phenomenon in project organizations, such as conflicts necessarily equate to normalisation of deviance. The problem arises when behaviors become culturally embedded and destructive but remain viewed as a normal part of organisational processes (Pinto, 2014). This study will therefore investigate the impact of health and safety deviance normalisation on labour performance of construction projects in Abuja, Nigeria.

The following objectives were formulated:

1. Identify the major causes of health and safety deviance normalisation;
2. Determine the relationship between the causes of health and safety deviance normalisation and labour performance

LITERATURE REVIEW

Causes of Health and Safety (H&S) deviance Normalisation in construction

H&S risks normalisation is not unconnected to the conditions under which construction projects are executed. According to Szóstak (2019), construction projects are executed under a diverse and unpredictable condition in the construction industry. Throughout the entire year, construction activities are going on under a fluctuating atmospheric condition (Szóstak, 2019), which cannot accurately be predicted. This includes even the works carried out at evening and night times, especially when completion time is of the essence. Continuous effective and efficient supervision and monitoring of the conditions under which tasks are carried out is a key to the effective management of H&S risks normalisation. This could be the reason why Gunduz and Laitinen (2018) advocated for supplementing risk assessment with continuous monitory of the conditions under which work items are discharged. It was further maintained that monitoring would unearth the underlying causes like unsafe acts, mechanical hazards, order, tidiness, and ergonomics.

The variety of activities, operational modes and conditions under which the different professionals and tradespeople involved in construction projects carry out their tasks; increases the occurrence and magnitude of H&S risks normalisation on construction projects. In Nigeria, like other developing countries, the construction industry is also dominated by small and medium enterprises (SMEs). These organisations are characterized and influenced by a lot of internal and external forces. Dominant among these are; lack of proper documentation, instability in government and legislation, poor control of the resource, financial problems, inefficient business management and control, unsuitable scientific knowledge application, poor contractual risks management and response strategies, absence of practical scientific skills, insufficient skilled professionals, the existence of statutory requirements hampering growth, debilitated contract, inefficient materials management, lesser resources and sole-leadership and - management system (Eze *et al.*, 2020; Aghimien *et al.*, 2019; Thwala & Mvubu, 2009). These, however, make the SMEs suffer a consciously higher health and safety risks deviance practices than their large foreign and multi-national construction organisations counterparts.

While most research efforts on health and safety in the construction industry have been concentrated on large foreign and multi-national construction organisations (Ozmec *et al.*, 2014), little has been done on SMEs (Legg *et al.*, 2015), especially in the geographical area of the present study. Risks normalisation impedes effective health and safety management practices. Health and safety risks normalisation is inherent in the characteristic of the activities of the SMEs, and are promoted by certain barriers to effective health and safety management practices. In order to improve health and safety performance of the construction SMEs in developing countries and beyond, this study assessed the factors promoting health and safety (HS) risks normalisation in the construction industry, using Nigeria as a case study.

Possible measures for overcoming H&S risks normalisation in the industry were recommended based on the findings. It is the understanding of this study that by knowing the major causes of health and safety risks normalisation and proffering solution to eliminate them would lead to an improvement in health and safety performance of the industry as a whole.

Furthermore, construction projects and SMEs performance will improve. Health and safety issue have been identified as one of the components of the social dimension of sustainable construction project delivery (Aghimien *et al.,* 2019). Therefore, the outcome of this study will also find use in achieving the social dimension of sustainability; this will complement the economic and environmental dimensions of sustainable construction.

Loosemore and Andonakis (2017) submit that the constant changes in the management and leadership of most SMEs in the contractual relationship have been blamed for the poor and inconsistent health and safety performance. Although, most projects where the SMEs play key roles are usually small and medium sized. This is supported by Belayutham and Ibrahim (2019) submission that construction SMEs occupies the general contractors' position on small and medium-sized projects, and in large projects where the larger firms are the main contractors, they are sub-contractors.

According to Belayutham and Ibrahim (2019), SMEs uses occupational health and safety methods that are less formal. Sunindijo (2015) submit that in the large and more organisation construction firms who are constantly being engaged in large projects requiring a wide-ranging and detailed health and safety approaches; health and safety performance is better unlike what is obtainable in SMEs. Construction projects being undertaken by SMEs have been reported to be prone and dominated by poor health and safety risks. This situation is attributed to the features and nature of the SMEs which can make health and safety risks normalisation to worsen. One of these features is poor financial strength. Financial issues have been attributed to be the major problems of the SMEs in implementing comprehensive health and safety management practices (Belayutham & Ibrahim. 2019; Jaroenroy & Chompunth, 2019; Surienty, 2012).

According to Gao *et al.* (2017), this set of workers find it difficult to read and learn OHS manuals because of language and intellectual incompetence which undermine good safety practices. Also, labour nomadism and the temporary nature of employment practices of the SMEs make it difficult to retain workers that are knowledgeable about the company's health and safety policies. Casualization of workers also contributes to HS risks normalisation. Contracting and sub-contracting organisations take advantage of casualization and temporary employment loopholes not to treat workers well. This according to Belayutham and Ibrahim (2019), makes it impracticable to keep and maintain workers over a long time. Also, the lack of unionism worsens the effort to manage safety among the SMEs (Loosemore & Andonakis, 2007; Sunindijo, 2015). Stiles *et al.* (2012) submit that Small organisations are not financially secured, engage temporary safety personnel, insufficient budgetary allocation for safety implementation, and safety measures are not formalized. Hence, the normalisation of health and safety deviances

RESEARCH METHODOLOGY

A quantitative research approach was adopted in this study. The population of this study includes construction companies and consultants in the study area. The population also includes architects, quantity surveyors, builders, engineers, artisans, and labourers working in the built environment in Abuja. Professionals in these fields were selected based on their

experience and level of involvement in their various companies. It is believed that the information from them was authentic and served a useful purpose for achieving the objective of the study. The register of Abuja's business directory has 255 construction firms registered business addresses. This makes up the population size for the study. The sample size for the study was 155, based on the Krejcie and Morgan's (1970) Table. On Krejcie and Morgan's (1970) table, the representative sample size for a population of 255 is 155. Since the population size of 250 is the nearest number to 255 on the Krejcie and Morgan (1970) Table shown in Appendix 1, then the sample size for this population size (155) was adopted for this study.
The sample for this study was made up of The use of structured questionnaires was employed for data collection in order to achieve the study's objectives. The questionnaire (designed in a five-point Likert scale format) addressed issues relating to the research objectives respectively. The collected data was analysed using the Mean Item Score (MIS) and Spearman's Rank Correlation

RESULTS AND DISCUSSION

Major Causes of Health and Safety Deviance Normalisation

The study identified fourteen (14) major causes of health and safety deviance normalisation. The result of the MIS on the major causes of health and safety deviance normalisation is presented in Table 1.

Table 1 Major Causes of Health and Safety Deviance Normalisation

Causes of Health and Safety Deviance	Mean	Rank	Decision
Prioritization of production over safety at construction site	4.52	1st	Most important
Lack of training of labour	4.38	2nd	Very important
Employees attitude towards work	4.36	3rd	Very important
Inadequate manpower at construction site	4.28	4th	Very important
Planning issues during construction process	4.08	5th	Very important
Employees demands	3.80	6th	Very important
Lack of technical support to labour at site	3.60	7th	Very important
Not seeing benefits in prevention labour force	3.52	8th	Very important
Language barriers between employer and employee	3.50	9th	Very important
Defensiveness of employees, and low literacy among labour	3.40	10th	Important
Poor organisational health and safety culture	3.06	11th	Important
Insufficient resources at construction site	2.98	12th	Important
Focusing of monthly safety meetings on employees' attitudinal change towards safety	2.96	13th	Important

lack of management commitment to OHS	2.94	14th	Important
Average	*3.67*		*Very important*

The major causes of health and safety deviance normalisation were gauged through the use of Mean Score analysis. The results of the analysis revealed that the major causes of health and safety deviance normalisation in construction projects in Abuja are prioritisation of production over safety at construction sites, lack of training of labour, and employees' attitude towards work, which were ranked 1st, 2nd, and 3rd, with mean score values of 4.52, 4.38, and 4.36, respectively. Conversely, the least identified causes of health and safety deviance normalisation were insufficient resources at construction sites, the focussing of monthly safety meetings on employees' attitudinal change towards safety, and lack of management commitment to OHS, which were ranked 12th, 13th, and 14th with a mean value of 2.98, 2.96, and 2.94, respectively. It was observed that these factors were the major causes of health and safety deviance normalisation in construction projects; all fourteen causes had a mean score (MS) ranging between 4.52 and 2.94, with an average mean score of 3.67, which implies the identified causes are important. The findings of this study corroborate with the findings of Belayutham & Ibrahim (2019; Jaroenroy & Chompunth, 2019; Surienty, 2012) on various causes of health and safety deviance normalisation.

Relationship between the causes of health and safety deviance normalisation and labour performance

The analysis of the relationship between the causes of health and safety deviance normalisation and labour performance was carried out using Spearman's rank correlation analysis. The result of the findings revealed that there exists a positive, slightly strong and significant relationship between the causes of health and safety deviance normalisation and labour performance. However, the correlation result shows that there is a tendency for improved labour performance by applying the suggested strategies. There is therefore a need for construction firms to intensify their level of compliance with the identified strategies for eliminating health and safety deviation normalisation provisions on building construction sites. The result of the Spearman's rank correlation analysis is presented in Table 2. The rank correlation value was positive and slightly strong (0.567). The correlation was therefore found to be significant at the 5% (0.05) level of significance (p = 0.01).

Table 2 : Results of Spearman's Rank Correlation Analysis

Analysis No.	Variables		Observations		Inferences	
	X	Y	R (%)	P_{VALUE}	Strength of Relationship	Remark
1	Prioritization of production over safety at construction site	kindly rate your daily performance on the going project	0.567	0.01	Strong	Significant

Strategies for Eliminating Health and Safety Deviance Normalisation

The study identified six (6) strategies for eliminating health and safety deviance normalisation by the workers and management (average MIS = 4.09). The result of the MIS on the level of application of health and safety practices in construction projects is presented in Table 3.

Table 3: Strategies for eliminating health and safety deviance normalisation

strategies	Mean	Rank	Decision
Transformation of information into knowledge by the workers	4.3400	1st	Effective
Compliance with health and safety standards by the workers	4.3200	2nd	Effective
Application of good process safety culture by the management	4.1200	3rd	Effective
Routine management review of metrics, and audit findings by the management	4.0600	4th	Effective
Implementation safe work practice by the management	3.9400	5th	Effective
Ensuring a period of organizational self-reflection regarding process safety performance by management	3.7600	6th	Effective
Average	4.09		Effective

Table 3 shows the strategies for eliminating health and safety deviance normalisation in construction projects in the study area. The findings revealed that the transformation of information into knowledge by the workers was the most effective strategy for eliminating health and safety deviance normalisation (MIS = 4.34). Following that, compliance with health and safety standards by the workers was ranked 2nd (MIS = 4.32) and the application of a good process safety culture by the management was ranked 3rd (MIS = 4.12). Implementation of safe work practises by the management and ensuring a period of organisational self-reflection regarding process safety performance by management were ranked 5th and 6th, with a mean value of (MIS = 3.94 and MIS = 3.76) as the least effective strategies for eliminating health and safety deviance normalisation.

CONCLUSION AND RECOMMENDATIONS

Normalisation of Deviance (ND) is when a deviation from an agreed standard or working practise becomes incorporated into a routine. In view of this, the study assessed the impact of health and safety deviance normalisation on the labour performance of construction projects in Abuja, Nigeria, with the view of suggesting strategies for eliminating health and safety deviance normalisation. The study concludes that there is a low level of occupational health and safety policy application and performance in the construction industry. This poor health

and safety performance is caused by HS risk normalisation promoted by factors such as prioritisation of production over safety at construction sites, lack of training of labor, employees' attitude towards work, inadequate manpower at construction sites, planning issues during the construction process, employee demands, and lack of technical support to labour at the site. In view of the findings and conclusions of this study, the following recommendations were made:use of a well-thought-out and comprehensive health and safety management strategy. This would guarantee a safe job execution plan, lower health and safety costs as a consequence of fewer incidents, and management should bear the responsibility for safety, not casual or temporary personnel.

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