

Effect of Safety and Health Planning on Performance of Construction Firm in Anambra State

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ABSTRACT: *The study examined effect of safety and health planning on performance of construction firm in Anambra state. The objectives were to; Assess the effect of safety planning on performance of construction firms in Anambra State; Determine the effect of health planning on performance of construction firms in Anambra State; Investigate the degree to which training programmes affect performance of construction firms Anambra State. The study adopted survey research, data were generated from primary and secondary sources. The method for data collection was questionnaire which was administered randomly among the staff of the selected firms. The population of the study was 1486, The sample size of the study was two hundred and eighty-six (286). While two hundred and seventy-six (276) were retrieved. The hypotheses were tested using multiple regression analysis method at 0.05% level of significance. The findings of the study revealed that, Safety planning significantly improves the performance of Anambra State's construction companies. Health planning has no appreciable beneficial impact on Anambra State's construction companies' performance. safety training programs significantly improve the performance of Anambra State's construction companies. The study concluded from its findings that safety and health planning has significant positive effect on performance of construction firm in Anambra state. The study recommended that Employees should be held accountable for their own actions, and managers should be held accountable for the safety performance of their companies. There must always be backup medical staff on hand at construction sites in case of emergencies. In order to prepare their workers to handle accidents on building sites, management of construction companies should make it a priority to periodically assign safety training personnel.*

KEYWORDS: safety planning, health planning, construction firms, safety trainings programmes

INTRODUCTION

The building business necessitates greater human engagement during the production stage due to its labor-intensive nature. However, the construction sector is now the most dangerous or highly hazardous industry due to the sheer number of casualties incurred during the execution of building projects worldwide (Rao, Sreenivasan and Babu, 2015). Because of its special characteristics, building is considered one of the riskiest businesses globally (Olutuase, 2014). For scholars as well as practitioners, construction safety is always a serious concern. Every day, construction workers must deal with a variety of health and safety risks. Worldwide, building projects result in around 60,000 fatal injuries each year (Lingard, 2013). According to the United States Department of Labor's Occupational Safety and Health Administration (OSHA), one out of every ten construction site workers sustains an injury each year. According to data from the American Bureau of Labor Statistics, there are over 150,000 injuries on construction sites annually. These numbers support the claim that one of the riskiest and most accident-prone industries to work in is construction. Every project's success depends on the safety of the construction workers on the sites. Work can only be done effectively when employees are well and in a sound frame of mind (Okoye, Ezeokonkwo, & Ezeokoli, 2016). The cross-disciplinary field of safety and health planning is dedicated to safeguarding the welfare, health, and safety of those who work or are employed. Fostering a safe work environment is the aim of all safety and health planning initiatives (Frend & Kohn, 2016). Occupational health refers to illnesses that are brought on by the workplace or surroundings that gradually worsen a worker's health. Every company has an obligation to give its workers a safe and healthy work environment free from risks, dangers, and illnesses. This study becomes necessary, therefore, as any strategy adopted by an organization that does not address the issue of employee safety will be ineffective and inefficient. This study attempts to fill this paucity of information with respect to construction firms in Anambra State.

Hazards on the job site must be eliminated, reduced, or replaced as part of safety and health planning. Establishing a workplace that minimizes active risks and hazards and using mitigating factors to either lessen or eliminate them are both advised. Safe and healthy workplaces are often taken for granted in Nigeria. Enhancing a business's safety and health strategy guarantees increased revenue, a stronger reputation, and happier workers. It's depressing how the workforce views safety procedures, and it makes one wonder if they really consider safety concepts when they're at work. It is needless to stress how frequently we witness artisans in public areas like manufacturing plant floors, building sites, road repair sites, and even mechanic shops, along with workers who are ill-prepared for their jobs. This shows how little Nigerian workers value safety culture. The prevention, management, and rehabilitation of illnesses and injuries related to the workplace are all expected to benefit greatly from occupational health care. If safety and health planning issues are not addressed in the workplace, businesses may perform poorly as a result of low output, bad service, etc. These effects could have been brought on directly by being exposed

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to dangerous substances and safety hazards. Thus, the study looks at how safety and health planning affects building companies in the state of Anambra.

Objectives of the Study

The broad objective of the study is to examine the effect of safety and health planning on performance of construction firm in Anambra state. The specific objectives of the study are to:

- i. Assess the effect of safety planning on performance of construction firms in Anambra State.
- ii. Determine the effect of health planning on performance of construction firms in Anambra State.
- iii. Investigate the degree to which training programmes affect performance of construction firms Anambra State.

Research Hypotheses

The following null hypotheses were formulated to guide the objectives of the study and strengthen the analysis:

Ho₁: Safety planning has no significant positive effect on performance of construction firms in Anambra State.

Ho₂: Health planning has no significant positive effect on performance of construction firms in Anambra State.

Ho₃: Training programmes to safety has no significant positive effect on performance of construction firms in Anambra State.

REVIEW OF RELATED LITERATURE

Theoretical Framework

This work is anchored on expectancy theory, and Integral Safety Theory

Integral Safety Theory

The construction of a well-rounded and efficient safety management system is aided by the very straightforward yet incredibly potent integral safety theory. By creating a safe and healthy work environment that is consistent with peak performance and is continuously improved, this performance-oriented approach to safety management gives businesses a durable competitive edge in a global marketplace (Thompson, 2010). It incorporates every facet of safety precautions to provide a secure workplace and raise worker output. Because it includes every employee in an organization in creating and preserving a secure, healthy work environment that simultaneously fosters increased productivity, it is universally accepted (Thompson, 2010). The theory's main goal is to achieve excellence in safety by integrating and implementing safety measures in an efficient manner. It adheres to the same standards as total quality management (TQM) and gives businesses using it a competitive edge by creating a safe and healthy work environment that promotes ongoing and long-term organizational performance improvement (Thompson, 2010)

Empirical Review

Obinwune, Ohanyere and Anah, (2023) examined occupational health and safety management practices and employee' productivity of lubricant firms in Anambra State, Nigeria. The objectives were to examine the effect of occupational health and safety management practices on employee' productivity of lubricant firms in Anambra State. The study adopted survey research, data were generated from primary and secondary sources. The method for data collection was questionnaire which was administered randomly among the staff of the selected firms. The population of the study was 1220, The sample size of the study was two hundred and thirty-four (234). While one hundred and eighty-three (183) were retrieved. The hypotheses were tested using multiple regression analysis method at 0.05% level of significance. The findings of the study revealed that, Health and Safety training has significant positive effect on employee' productivity of lubricant firms in Anambra State ($t=2.136$, $p, 011$). Risk management has significant positive effect on employee' productivity of lubricant firms in Anambra State, ($t=3.292$, $p, 009$) Management commitment to safety has significant positive effect on employee' productivity of lubricant firms in Anambra State, ($t=4.505$, $p, 000$). The study concluded from its findings that occupational health and safety management practices have positive and significant effect on employee' productivity of lubricant firms in Anambra State. The study recommended frequent hazard trainings and unscheduled site visit by regulatory bodies to ensure that organizations comply with safety regulations. Stakeholders should also become intentional about reducing occupational hazards so that the image of the industry can be improved from one that is risky and hazardous to a sector that is decent and safe for its workers.

Kumarasinghe and Kuliypitiya (2022) determined the impact of occupational health and safety practices on the job performance of operational level employees in the construction industry, Sri Lanka. The study was carried out among a sample of 100 operational level employees in selected construction sites in Sri Lanka. The study provided a comprehensive questionnaire to assess the impact of health and safety on the job performance of the operational level employees by using random sampling technique. Secondary data were used from company past data and information, web site, journals, and subject-related books such as company health and safety procedures, health and safety training, and accident records. Data analysis was done by using SPSS. The study found a positive impact of occupational health and safety practices on the job performance of operational level employees in the construction industry.

Okechukwu, Eteng, Anochiwa, Njemanze, Agbanike, Eyisi, Agha, Chukwuand Igu, (2021) examined the impact of organizational health and safety on employees' performance for sustainable development. The methodology used by the study is mainly the analysis of secondary data which was derived from relevant literatures and journals and internet. The study contends that sound organizational health and friendly safety environment will promote positive attitude to work while poor organizational health and safety will bring about negative behavior to work such as absenteeism, intent to leave the organization and poor commitment to organizational goal. The study therefore recommends that management should ensure a safe work environment

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which will increase positive attitude to work. The study also recommends that government should strengthen its regulations and legislations on organizational health and safety in the industries and work places. These measures will contribute immensely towards enhancing sustainable development in Nigeria and beyond.

Adesola, Onwuegbuna and Abodunrin, (2021) investigated the impact of Occupational Safety and Health Regulation on labour productivity in Nigeria. Specifically, the objectives of the study are to: examine the impact of Occupational Safety and Health Regulation on labour productivity, identify the challenges of labour productivity in an organization and suggest measures that can be employed by the organization to ensure that the occupational safety and health rights are protected. The study utilizes survey research design of ex post facto type with the use of questionnaire to collect data for the study. The data collected was analyzed using Frequency count, percentages, mean and standard deviation. The study finds out that, there is a high extent of impact of occupational safety in relations to labour productivity in Nigeria. The study also reveals that, there is a high extent of impact of health regulations in relations to labour productivity in Nigeria. It is also revealed in the study that, occupational health and safety really affects productivity if not properly implemented, and the study finds out that, there are some palliative measures that can be employed by the organization to ensure that occupational safety and health rights are protected. The study therefore recommends that, Government should establish a monitoring team that will visit these operational business organizations unannounced to evaluate their safety policies and measure as well as their levels of compliance.

Okechukwu, and Onyia, (2022) examined the relationship between occupational health safety practices and employee performance in manufacturing firms in Enugu State. The specific objectives include: Evaluate the relationship between safety planning and output of manufacturing firms in Enugu state, Nigeria, and investigate the relationship between training programme and quality of service in manufacturing firms in Enugu state, Nigeria. The target population of this study consists of senior and junior staff of the selected food and beverage manufacturing firms in Enugu State. Out of a population of two thousand, five hundred and fifty-four (2,554) staff, the sample size of 486 was chosen after applying the Bill Godden (2004) formula for the determination of an adequate sample size. Three hundred and ninety-two (392) returned their questionnaire and accurately filled The Pearson correlation coefficient was used to assess the reliability (r). It also yielded a good reliability coefficient of 0.84. Regression analysis was used to examine the data. The findings revealed that there is a positive significant relationship. In Enugu State, Nigeria, there is a link between safety planning and manufacturing output. There was a positive significant relationship between training program and quality of service in manufacturing firms in Enugu state, Nigeria, $r(95, n =486) =427.877, P0.05$, $r(95, n =486) =575.996, P0.05$. According to the findings, safety planning and training programs had a positive impact on the output and service quality of food and beverage manufacturing firms in Nigeria's Enugu state. As a result, the study recommended that management provide regular

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education and training on occupational health and safety issues in order to prevent workplace
injuries and thus increase productivity.

METHODOLOGY

Research Design

This study used a survey research design, together with personal observation and questionnaires to collect data and explore respondent convenience in terms of scheduling and clarifications.

Sources of Data

This investigation used data that came from a variety of sources. This included using a questionnaire and doing a library search. But as part of the field research, questionnaires were used to gather, validate, and cross-check the data that was collected for this report. Primary (field survey) and secondary (desk survey) sources provided the data for the study. Primary data are those that are acquired straight from the main source or creators. Getting firsthand knowledge of the organization under investigation and its operations is the goal of gathering them. The majority of the primary data were collected using questionnaires that were created using data from desk surveys, which were conducted after careful consideration of the study's goals and objectives.

Population of the Study.

The population of this study was drawn from the workers in the selected construction firms in Anambra state.

Table 3.1: Population Distribution of the selected construction firms

S\No	Names of Manufacturing Firms	Number of Employees
1	Peteroz construction	170
2	CCC	230
3	New idea construction	203
4	Seaman mining construction	190
5	CDC construction	197
6	Conifer konstruktion	150
7	Nchedo construction company	125
8	Jorg construction	154
9	Era engineering	143
10	Hans engineering	127
	Total	1486

Source: online or internet source

Determination of Sample Size.

The sample size for this study was determined using the Borg & Gall formula of (1973). Statistically, the Borg & Gall (1973) formula for sample size is given by

$$n = (Z_x)^2(e) [N]$$

$(Z_x)^2$ = Confidence level at 0.05

e = Error margin (0.05)

N = Population of Interest = 1486

X = Significance Level

Sample Size and Sampling Technique

Since it will be challenging to cover the full population of (1486) given the nature of this study, it was necessary to select a representative sample that was fairly representative of the community. As a result, the Borg & Gall (1973) formula for estimating sample size was used to establish the sample size for the study, as follows.

$$n = (1.960)^2 (0.05) [1486]$$

$$n = (3.8461) (74.3)$$

$$= 285.76523 \implies 286$$

$$n = 286$$

Sampling Technique

A stratified sampling method was used in the study. Each respondent in each of the states could be chosen impartially thanks to the stratified random sampling technique.

Method of Data Analysis.

In order to examine the respondent biodata and the four research topics, the researcher employed descriptive statistics in this study, including frequency counts and simple percentages. The Statistical Package for Social Science (SPSS 23 windows) was used for all analyses.

PRESENTATION ANALYSIS AND INTERPRETATION OF DATA

This chapter presents the data that was collected from the respondents using the disseminated questionnaire. 286 copies in all were given out to workers of Anambra state building enterprises. However, 276 copies of the survey were discovered. Consequently, data analysis and interpretation were limited to the completed and returned questionnaire. The validity and reliability of the study are extremely guaranteed, even though a sizable percentage of the questionnaires were not returned.

Table 4.1 Summary of the Regression Result

The result of the multiple regressions formulated in chapter three is presented in the tables below.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.900 ^a	.811	.809	.19466	.811	390.120	3	273	.000	1.776

a. Predictors: (Constant), STP, SAP, HEP

b. Dependent Variable: PCF

According to Table 4.1, the independent variable's 30% impact on the dependent variable is measured by the R2 coefficient. This suggests that differences in safety training programs, health planning, and safety planning account for 30% of the variation in safety and health planning. An adjusted R2 of 81% was used to support this. Using Durbin-Watson statistics, the model was examined for autocorrelation. Table 4.5.1's Durbin-Watson statistics of 1.7 indicated that the model's variables are not auto-correlated and that it is a reliable predictor.

4.2 ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44.348	3	14.783	390.120	.000 ^b
	Residual	10.345	273	.038		
	Total	54.693	276			

a. Dependent Variable: PCF

b. Predictors: (Constant), STP, SAP, HEP

Table 4. 2's f-statistics value of 390.120, along with an f-statistics probability of 0.000, indicates that the independent variables have a noteworthy impact on the dependent variables. These dependent variables, safety training programs, and health planning, can all be used to jointly explain the variations in profitability.

4.3 Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.646	.142		4.560	.000
	SAP	.862	.032	.813	2.677	.007
	HEP	.029	.051	.057	0.562	.575
	STP	.106	.053	.209	2.014	.045

a. Dependent Variable: PCF

A'priori Criteria: These are established by the business theories that are now in use and also specify the direction and size of the business parameter that is being examined. According to the a' priori expectation, safety planning in the above table has a positive sign with a value of 0.862, meaning that an increase of one unit in safety planning improves construction firms' performance by 86%. With a value of 0.29, health planning has a positive sign; this suggests that an increase of one unit in health planning improves construction businesses' performance by

29%, which is consistent with the a priori anticipation. Given that the value of safety training programs is 106, there is a positive sign; this suggests that an increase in the number of safety training programs enhances the performance of construction firms by 10%, this conform to theoretical expectation.

The performance of construction enterprises is positively and significantly impacted by the safety planning variable, as indicated by the regression t-test of 2.677 with a probability value of 0.007 for safety planning. Regression analysis on health planning yields a value of 0.562 and a probability of 0.575. This suggests that the performance of construction companies is positively and significantly impacted by health planning. Programs for safety training have a probability value of 0.045 and a regression value of 2.014. This suggests that safety training initiatives have a major and favorable impact on construction companies' performance.

Test of Hypotheses

Test of Hypothesis One

H₀₁: Safety planning has no significant positive effect on performance of construction firms in Anambra State.

Safety planning exhibits statistical significance with a $\beta=0.862$, t-statistics of 2.677, and a probability value of 0.007. Consequently, we agree with the alternative hypothesis, which claims that safety planning significantly improves the performance of Anambra State's construction companies.

Test of Hypothesis Two

H₀₂: Health planning has no significant positive effect on performance of construction firms in Anambra State.

The coefficient of determination, t-statistics, and probability value in the following table are used to test this hypothesis. Health planning is statistically significant with $\beta=0.029$, t-statistics of 0.562, and probability value of 0.575. As a result, we reject the null hypothesis and accept the alternative, which contends that health planning has no appreciable beneficial impact on Anambra State's construction companies' performance.

Test of Hypothesis Three

H₀₃: Safety Training programmes to safety has no significant positive effect on performance of construction firms in Anambra State.

Safety Training programmes are statistically significant with $\beta = 106$, t-statistics of 2.014, and probability values of 0.045. As a result, we reject the null hypothesis and accept the alternative, which claims that safety training programs significantly improve the performance of Anambra State's construction companies.

CONCLUSION AND RECOMMENDATION

The study's result demonstrated the necessity of regularly reevaluating the health and safety planning of the construction companies in the studied area due to the critical role that these plans play in the growth of the firms. It is clear from the study's findings that proactive approaches to managing safety procedures are advantageous when it comes to health and safety planning in construction companies, which reduces the likelihood of accidents and encourages proactive measures to prevent similar incidents in the future. When hiring new employees, especially for businesses with functional control systems and safety policies, assumptions must not be made. Ensuring that all newly hired employees on project sites receive the required health and safety training, including instruction on how to wear safety gear, is crucial. According to the study, safety should be given top priority and should supersede operational, commercial, environmental, or social pressures. Employees should be held accountable for their own actions, and managers should be held accountable for the safety performance of their companies. There must always be backup medical staff on hand at construction sites in case of emergencies. In order to prepare their workers to handle accidents on building sites, management of construction companies should make it a priority to periodically assign safety training personnel.

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