




# OCCUPATIONAL HEALTH POLICIES AND ENVIRONMENTAL SAFETY STANDARDS AS PREDICTORS OF EMPLOYEE PERFORMANCE IN THE NIGERIAN MANUFACTURING SECTOR

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## ABSTRACT

**Background and Aim:** The importance of work in the lives of employees cannot be over-flogged; thus, the safety of the environment where their jobs are carried is crucial and serves as a principal ingredient for maximising employees' performance. The study was anchored on the theory of reasoned action, the human factors theory and Incident theory of accident causation.

**Methodology:** A total of 173 employees of five manufacturing organisations in Ota Area of Ogun State were selected for the study through the purposive sampling method. The data obtained from respondents were analysed using descriptive and inferential statistics.

**Results:** Findings revealed that there exists a strong positive effect of occupational health policies on employee performance with ( $r = .909$ ,  $p\text{-value} < 0.05$ )

and also, there is a strong correlation between environmental safety standards and employee's performance with ( $r = 0.915$ ,  $p\text{-value} < 0.05$ ).

**Conclusion:** The study concluded that the manufacturing industry is expected to constitute and inaugurate a safety committee to take charge of issues bordering on health and safety; therefore, ensuring the right storage procedures of inflammable liquids and other dangerous materials and arming employees with enough information and insight on the risks inherent in their jobs through education and periodic trainings would help in minimizing accidents in the workplace.

**Keywords:** *Occupational health and safety, employees' performance, environmental standards, manufacturing industry, indispensable tools, policies.*

## Introduction

Employees are the engine of development in any organisation, and as a result, they spend over 88% of the lives working for the upliftment and advancement of their respective organisations. Thus, to ensure commitment, optimal performance, job satisfaction, emotional stability and preventing high rate of absenteeism and emotional exhaustion; occupational safety and health standards remain an indispensable and a necessary tool. When management provides a safe work haven for employees, it helps to improve the working pattern, system and lives of all and sundry and promote the culture environmental

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safety and serve as a fulcrum for national development Amoo, Fadayomi, Ola-David & Olurinola<sup>3</sup>.

The inability of organisations to follow occupational health and environmental safety standards usually results in accidents that place severe financial burdens on both employees as well as the firms. Statistical report by the International Labour Organisation ILO<sup>27</sup> provided that on an annual basis, about 2.2 million deaths are recorded from accidents and diseases resulting from the work environment; while about 275 million suffer non-fatal but serious injuries and about 165 million experience short and long term illness stemming from toxic work terrain. In validating the above statement, another submission from the International Labour Organisation (ILO) estimated that about USD1.25 trillion is lost annually in terms of compensation, disruption of production process and medical expenses all which are connected with poor occupational health and environmental safety standards Olurinola, Fadayomi, Amoo, & Ola-David<sup>42</sup>. As submitted by Kelajaiye<sup>28</sup> occupational safety and health can be viewed as an interdisciplinary as well as an integrative scope of thought which involves the protection of health, safety and well-being of employees', and other entities which may be directly or indirectly affected by the activities of the organisation.

Kelajaiye<sup>28</sup> submitted that prior to 1833 enactment of the safety laws in England, it was presumed that accidents, misadventure, misfortune and mishaps were pre-destined and inescapable but the enactment and passage of the safety laws excoriated and condemned this archaic ideology. In the same vein, Idubor and Osiamoje<sup>26</sup> opined that many believe accidents occur as an act permitted by God; meaning that the occurrence of accidents is as a function of God's authorisation and till this day, a large number of people are still adherents and advocates of this presumption and supposition and this is because In Nigeria, religious inclinations and proclivity makes people often attribute everything to God's will and believing that it has been written or pre-destined to happen. Thus, in most cases, trivialise issues on safety compliance and view environmental standards as an unimportant requirement.

In every organisational life cycle, occupational safety, health and standard of the environment of production are noteworthy features of boosting employees' well-being on the job, and this aspect has been identified overtime as a tool for improving working conditions and employees' commitment towards optimum performance. In conceptualizing safety hazards, Cascio and Wayne<sup>11</sup> view them as the characteristics and outlook of the work environment which exposes employees' to great harm; this may manifest through hearing loss, eye or sight defects, cuts on body parts, burns, sprains and other forms of injuries and life threatening ailments. Health hazards are classified as those work environment situation gently influence or impact on employees' health; examples are cancer which comes as a result of continuous and unguarded inhaling of smoke, respiratory diseases through chemical inhale and other life threatening ailments which are typically bred by biological, physical, toxic chemicals and apprehensive working conditions Cole<sup>15</sup>. Environmental safety standards from an environmental standpoint implies the creation of an analytical, orderly and methodical approach for ensuring compliance with environmental regulations such waste management, and reduction in carbon foot prints Cole<sup>15</sup>. From the safety standpoint, it connotes the establishment of standardised efforts in the identification of hazards at work, reduction of accidents and exposure to harmful substances; it also involves the process of personnel training for prevention of accidents, responding to accidents, preparing for emergencies, usage of protective clothing and equipment Appleby<sup>4</sup>, Hanger<sup>23</sup>.

By the above definitions, many organisation takes the adoption and implementation of health, safety and environmental standards with flippancy would witness unexpected multifarious risks which may lead to the untimely death or exit of best hands. Safety is an essential and an indispensable tool for driving affective commitment and boosting employee morale towards timely task accomplishment but many manufacturing firms are oblivious of this fact; thereby giving little attention to safety and environmental regulations.

Effective management of safety requires huge organisational commitment to creating a safe working environment coupled with well-designed safety programmes which makes the payment of dividend and costs associated such as employee compensation and fines where required. Stressing further, accidents as well as other safety measures and concerns when management dissipate and channel adequate resources towards managing safety and putting in place a good safety culture Saeed<sup>46</sup>; CIDB<sup>16</sup>.

It should be noted that the manufacturing sector takes the second position among high accident recording sectors; and by this reason, the terrain is highly unsafe CIDB<sup>16</sup>. Several studies have been conducted on the relationship between safety climate and performances but most of these studies were on construction companies due to the high level of risk involved in the job; thus, studies examining employees' performance vis-à-vis occupational health and environmental safety standards as a predictor among manufacturing firms are limited; hence this study.

Nowadays, the environmental condition of many manufacturing firm is in a deplorable state and can be viewed as being toxic and harmful to employees' health status due to constant and continuous exposure to chemicals, heavy machine and equipment coupled with unstandardised environment or plant layout, poorly designed work processes and other dangerous, hurtful and deleterious substances such as wrongful application and usage of safety clothing as well as protective equipment, improper use of working apparatus.

Environment of manufacturing firms contain different activities which are carried out on daily basis; there is high level of risk inherent in these activities. As posited by Hon, Chan and Wong<sup>24</sup>, manufacturing firms care less about the accidents involved or encountered by employees in the course of performing tasks delegate to them; this nonchalant act brought about huge financial loss.

Another submission by Construction Industry Development Board<sup>16</sup> stated clearly that most firms in the manufacturing sector has failed to comply with stipulated guidelines on occupational health and environmental safety standards through unavailability of personal protective tool for employees because it is considered as being expensive and places additional burden on the organization. This implies that many manufacturing forms are yet to come to terms with the impact of non-compliance to industrial safety and how it may negatively affect employees' performance on the job. While many scholars have transferred the blame on non-implementation and execution of occupational health and environmental safety standards to top managements Choudhry, Fang, and Lingard<sup>13</sup>; Construction Industry Development Board<sup>16</sup> advanced that factors such as finance, lack of orientation on safety awareness by management; lack of technical skill, poor health and safety reporting mechanisms and safety instructors are major contributors in the non-implementation. Notwithstanding, Unnikrishnan, Iqbal, Singh, & Nimkar<sup>49</sup> opined that occupational health and environmental safety standards, ethics and management practices

should be enhanced to comply and conform with health and safety regulations, as this will help enhance and strengthen employee performance.

Based on the aforementioned arguments, this study examined employee performance through the lens of occupational health and environmental safety standards in the Nigerian manufacturing sector with the objective of investigating the nexus between environmental safety standards and employee's performance; and examining the effect of environmental safety standards and employee performance in Nigerian Manufacturing Sector. This study was premised on the Hypotheses stated below at 0.5 level of significance.

**HO<sub>1</sub>:** Occupational health and safety policies do not significantly affect employees' performance in the manufacturing sector.

**HO<sub>2</sub>:** There is no significant relationship between environmental safety standards and employees' performance in the manufacturing sector.

### **Justification for the Study**

The terrain of work of Nigerian manufacturing firms in this modern age and days are becoming toxic, harmful and noxious to employees health. As a result of constant exposure to lights and chemical substances, heavy machine and equipment, unstandardized workplace/plant layout, work processes and other injurious substances like wrong application and usage of safety protecting equipment, inappropriate utilization of working tools.

Most of the times, manufacturing environments are congested with multiple activities occurring concurrently, thereby resulting to unavoidable risks. This study becomes necessary in order to call the attention of managements, policy makers and government agencies in Nigeria to enforce law to save employees from terminal illnesses which are caused by the negligence and irresponsible nature of the management of manufacturing firms in Nigeria; and help cushion the effects of harmful chemicals from the activities of these firms.

### **Methodology**

Under this section, the methodical approach employed in carrying out the study was mapped out. It succinctly captured the research design, population of the study, area and location of the study, sampling procedures and techniques, method of collecting data for the study, research instruments and mode and methods for analysing the data obtained.

### **Research Design**

The research design utilised in this study was descriptive; and this is because the subject under review was explicitly explained under this design.

### **Inclusion and Exclusion Criteria**

Selection of respondents for this study was based on the inclusion and exclusion criteria; this was with the viewing to ensuring that selected individuals used as the unit of analysis for the study have the requisite knowledge of the subject matter. So, the table below presents the inclusion and exclusion criteria used in the study.

Inclusion Criteria	Exclusion Criteria
The inclusion criterion for this study was based on knowledgeable about the subject matter with employees from selected Departments who have ideas of the problem being addressed by the study.	This comprised individuals who were not employees of the selected manufacturing firms or those not working in the selected Departments and those who have no idea of the problem being addressed by the study.

Table 3.1: Inclusion and Exclusion Criteria

### Population of the Study

The population of this study comprised five selected manufacturing firms in Atan, Ota and Sango area of Ogun State, Nigeria. The population of the study was four hundred and twenty-five (425). For better understanding; the number of employees in each of the firms are listed and presented in the table below.

Manufacturing Firms	No of Employees by gender		Total
Royal Packaging Limited	43(m)	32(f)	75
Shonghai Packaging	47(m)	19(f)	66
Purechem Manufacturing Ltd.	97(m)	42(f)	139
President Paints Limited	37(m)	21(f)	58
Apex Paints Limited	54(m)	33(f)	87
<b>Total</b>	<b>425</b>		<b>425</b>

Table 3.2: Population of employees in each selected firm

### Source

Fieldwork, 2022

### Study Area

Location for this study was Ogun State and manufacturing firms within Atan, Ota and Sango area were selected; this was because of high level of concentration of manufacturing firms in those locations.

### Sample Size

From the population of four hundred and twenty five (425), a sample size of (203) two hundred and three using the Sample size determination by Krejcie and Morgan table, at 95% confidence level and 0.5% rate of error rate.

### Sample Size Determination

In determining the sample size for each firm, the study employed the use of probability proportional to size measure; this was in a bid to ensuring that the size measure of each firm is directly proportional to sample size selection; this was considered appropriate because it allowed for equal sample representation of each firm. Thus, in achieving equal representation, the formula below was used:

$$\text{No of questionnaires} \times \text{population of each firm} \text{ Grand total}$$

FIRMS	POPULATION	PROPORTION	SAMPLE SIZE
Royal Packaging Limited	75	$\frac{203(75)}{425}$	36
Shonghai Packaging	66	$\frac{203(66)}{425}$	32
Purechem Manufacturing Ltd.	139	$\frac{203(139)}{425}$	66
President Paints Limited	58	$\frac{203(58)}{425}$	28
Apex Paints Limited	87	$\frac{203(87)}{425}$	41
<b>TOTAL</b>	<b>425</b>		<b>203</b>

Table 3.3: Sample Size Determination for the Study

### Source

Researchers' Framework, 2022

### Data Collection Procedure

Data were obtained through a structured questionnaire from one hundred and seventy-three (173) employees from the production Department of five manufacturing organisations in Ota Area of Ogun State, Nigeria using the purposive and convenience sampling procedure.

### Sampling Technique

In selecting respondents for the study; purposive and convenience sampling methods were employed; these techniques were employed because the unit of analysis in this study were employees from the production Units in the five selected Firms. A total of Two hundred and (203) questionnaires were distributed to core production staff of selected manufacturing firms at Ota, Ogun State, Nigeria through the purposive and convenience sampling methods.

### Method of Data Analysis

Data obtained from the study were analysed through descriptive and inferential statistics while the hypotheses were tested using correlation and regression analysis respectively.

## Results

This section presents and discusses the descriptive statistics of the data obtained for the study. Summary of the descriptive statistics of the data obtained are presented in the tables below as follows:

### Hypothesis One

**HO<sub>1</sub>:** Occupational health and safety policies do not significantly affect employees' performance in the manufacturing sector.

Model	R	R Square
1	0.954 <sup>a</sup>	0.909

a. *Predictors:* (Constant), Occupational health policies

Table 4.1: Regression Result (Model Summary) Showing the Effect of Environmental Safety Standards and Employee Performance in Nigerian Manufacturing Sector

The above model summary presents the extent at which occupational health policies affects employee performance in the Nigerian manufacturing sector. The coefficient of determination ( $R^2 = 0.909$ ,  $p$ -value  $< 0.05$ ) illuminated that 90.9% variation in employee performance is accounted for by occupational health policies. This showed that occupational health policies significantly affect employees' performance in Nigerian manufacturing sector.

Model	R	R <sup>2</sup>	Adjusted R Square	Std.Error of the Estimate
1	0.954 <sup>a</sup>	0.909	0.909	0.413

b. **Predictors:** (Constant), Occupational health policies

Table 4.2: Regression Result (Model Summary) Showing the Effect of Environmental Safety Standards and Employee Performance in Nigerian Manufacturing Sector

The above model summary presents the extent at which occupational health policies affects employee performance in the Nigerian manufacturing sector. The coefficient of determination ( $R^2 = 0.909$ ,  $p$ -value  $< 0.05$ ) illuminated that 90.9% variation in employee performance is accounted for by occupational health policies. This showed that occupational health policies significantly affect employees' performance in Nigerian manufacturing sector.

Model	Sum of Square	df	Mean Square	F	Sig
Regression	293.143	1	293.143	1715.088	.000b0
Residuals	29.227	171	0.171		
Total	322.37	172			

a. **Dependent Variable:** Employees Performance

b. **Predictors:** (Constant), Occupational health policies

Table 4.3: ANOVA table showing the effect of Occupational Health Policies on Employees Performance in Nigerian Manufacturing Sector

Table 4.2 shows the overall significance of the model. The coefficient sum of squares is 293.143 while the number of observations is 172 with  $df = 1$ . The F value which measures the overall fit of the model is 1715.088 with significance value  $P < 0.05$ . This implies that the model is statistically significant. Thus, it was concluded that Occupational Health Policies positively and significantly affect Employees Performance in Nigerian manufacturing sector; so, the null hypothesis rejected because there is no significant effect on employee's performance by occupational health policies in the manufacturing sector.

Table 4.3 presents result of regression analysis of Occupational Health Policies on Employees Performance in Nigerian manufacturing sector. The result on the table reveals that Occupational Health Policies have positive and significant effect on Employees' Performance with  $\beta = .954$ , t statistic of 41.414 and computed p-value of 0.000 which is below the level of significance (0.05) adopted for this study. The table reflects that unit change in Occupational Health Policies leads to an increase in Employees Performance by 0.794 units ( $\beta = .794$ ). Moreover, the Table showed that Occupational Health Policies contribute 91% ( $R^2 = 0.909$ ,  $p$ -value  $< 0.05$ ) variance in Employees' Performance. Based on this result, the null hypothesis which holds Occupational health policies have no significant effect on employees' performance in the manufacturing sector was hereby rejected.

## Hypothesis Two

**HO<sub>2</sub>:** There is no significant relationship between environmental safety standards and employees' performance in the manufacturing sector.

	Effective Surveillance Of Established Hazard Controls Id Regularly Conducted	I Worked At Keeping My Job Skills Up -To-Date
Effective Surveillance of established Hazard Controls id Regularly Conducted	Pearson Correlation	
	1	0.915**
	Sig. (2 -tailed)	0.000
	N	173
	Pearson Correlation	0.915**
	Sig. (2 -tailed)	0.000
	N	173

Table 4.4: Correlations Table Showing Relationship Between Environmental Safety Standards And Employee Performance.

The above correlation table reflected that there exists a positive and significant relationship between environmental safety standards and employee performance with ( $r=0.915$ ,  $p$ -value $<0.05$ ). This implies that a significant relationship exists between environmental safety standards and employee performance in the Nigerian manufacturing sector.

## Discussions

Results of the present study revealed that there exists a positive and significant effect of occupational health policies on employee's performance. This implies that an employee of a manufacturing firm perceives that when their safety at the workplace is guaranteed, the tendency to optimize their performance will be greater. This can be understood in the strong positive result displayed between occupational health policies and employee performance ( $R^2 = .909$ ) as shown in table 4.1. Findings from the study substantiate the study of Mafini and Dhurup<sup>35</sup> who found among employees in the steel industry, that when occupational health policies safety standards are perceived to be satisfactory; optimal performance will be achieved. Findings from the study also align with the result of Greepherson<sup>20</sup> whose study result revealed that policies on occupational health reasonably impacts on the employees as well as the organization. Also, results from this study conforms with the findings of Bankole<sup>9</sup> whose study opined that occupational safety policies reduce conflict proneness and assist in realizing the strategic vision of the organization and enhance the quality of employee work life. On the final note, finding from the study is in agreement with the study of Azeez, Adeoye and Jayeoba<sup>8</sup> which posited that consideration for employees; safety at work is sacrosanct and crucial to achieving greater employee commitment.

The second objective which sought to examine the relationship between environmental safety standards and employee's performance; the findings indicated that environmental safety standards greatly influence employee performance and thus, there exist a strong correlation. For this reason, the alternative hypothesis was accepted. Furthermore, the theory of reasoned action submitted that when employees perceive that the required

environmental safety standards are in place to ensure their well-being at work; performance will be enhanced. This finding also aligns with Amponsah-Tawiah and Mensah<sup>3</sup> whose study revealed that occupational health policies and environmental safety standards of an organization greatly influences employees' performance and intention to stay; this is also dependent on the management perception and orientation. Finally, the study corroborates the opinion of Amabye<sup>2</sup> who opines that when occupational health policies and environmental safety standards of the organization are adequate and are in place and implemented; this will repose confidence in the employees that the organization has their well-being at heart; and employees' performance will be positively affected.

Findings from tables 4.1 and 4.2 respectively support the opinion and view that occupational health policies and environmental safety standards have significant influence and a direct relationship with employees' performance. This study further agrees and aligns with the standpoint of Fahim<sup>17</sup> whose study result presented that employees' performance is significantly influenced by an organization's provision for health and safety education and trainings, posting of safety notices and legislative information, maintenance of records on health and safety issues and adherence to government safety and health policies. Finally, the study recognized awareness barriers, behavioral barriers, barriers stemming from cultural orientations and management barriers as challenges bedeviling the effectiveness of implementing policies on occupational health and environmental safety standards in the Nigerian manufacturing sector.

### Conclusion

A standardised as well as an active policy on occupational health and safety standards cannot be achieved if manufacturing firms and their employees failed to take adequate responsibilities respectively. As it is required that the management files necessary reports on accidents, maintenance of record on health and safety related issues, making available safety notices and creating awareness on legislative information and also educating and training employees on the importance of health and safety at work; employees on the other hand must comply to health and safety guidelines and rules acknowledging that individual employee is solely responsible for their health and safety while on the job.

### Recommendations

Based on the findings of the study; the researchers recommend that:

1. Management of manufacturing firms should periodically organise trainings, seminars and workshops for employees and arm them with necessary information on health and safety measures required in their job.
2. Management of manufacturing firms should understand that employees have rights, thus, production activities should be carried out in a serene; and under healthy and favorable working condition for the promotion of employees' well-being and human dignity.

Consistent publishing of materials on safety consciousness in the minds of Employees should be provided by management

1. Awareness should be created for employees to understand health and safety practices as a dual responsibility of both employees and management, this will help in preventing a toxic work environment
2. Management of manufacturing firms should constitute and inaugurate a safety committee to take charge of issues bordering on health and safety.

**AUTHORS' CONTRIBUTION:**

The following authors have made substantial contributions to the manuscript as under:

**Conception or Design:** Olanipekun Lateef Okikiola, Genty Kabiru Ishola, Azeez Rasheed Olawale

**Acquisition, Analysis or Interpretation of Data:** Olanipekun Lateef Okikiola, Genty Kabiru Ishola, Azeez Rasheed Olawale

**Manuscript Writing & Approval:** Olanipekun Lateef Okikiola, Genty Kabiru Ishola, Azeez Rasheed Olawale

All authors acknowledge their accountability for all facets of the research, ensuring that any concerns regarding the accuracy or integrity of the work are duly investigated and resolved.

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