

Understanding The Impact of Industrial health and Safety on Employees Performance: A Study of Selected Manufacturing Firms in Rivers State

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Abstract: The issue of health and safety of employees has been a major concern in manufacturing organization recently .this paper seek to investigate the impact of industrial health and safety on employees performance. The study adopted a structured questionnaire to obtain data from 282 workers. Statistical package for social sciences (SPSS) version 23.0 was utilized for data analysis. The study made use of description analysis to analyze the demographic characteristics of the respondents while regression and Pearson correlation moment was used to analyze the hypotheses of the study. The result of the study indicates that health and safety practices, especially training have significant effect on employees' job performance. It was concluded that employees' low performance can be attributed to both low health and safety practices and lack of personal protecting equipment (PPE) and management commitment to health and safety programs. The four independent measures of industrial health and safety as was used in the study were found to be influencing employee's performance. it was recommended among others that there should be constant health and safety training for both top , middle and low level staff . As this will equip the employees with health and safety culture, as no one is above accident.

Keywords: health and safety, employee's performance, commitment.

I. INTRODUCTION

The manufacturing industry is one of the major industry that has immensely contributed to the economic development of Nigeria .In recent year , statistics have shown that the number of manufacturers has increased significantly in contrast to eighties(1980s) .The industry have become increasingly significant giving the rate of unemployment and the need for economic prosperity . For decade now, the industry has remained among others as the fastest growing sector. This is due to the significant impact it has on economic development in Nigeria. However, there has been a great concern for health and safety in this industry as employees ware fare and work environment are determining the level of employees performance in organization this days. As noted by Hon et al (2010), organizations are in constant challenges of

limited safety resources ,poor housekeeping , low safety awareness, inadequate safety supervision , insufficient safety training etc these factors may have triggered and caused the high incidence rate of industrial injury , death and near miss in most manufacturing firms . Health and safety of employee especially in the work environment is a thing of primary concern to all. As noted by (ILO 2003), health and safety of employees constitute human security .This is because one of the universal right of every employee is the right to health and safe work environment. Industrial health and safety is concerned with an organizational responsibility of ensuring the awareness, prevention, safeguarding and protecting the wellbeing of workers and others from harmful chemical, exposure to ill work environment, polluted area etc. The fatality rate as a result of none or improper implementation of health and safety measures are constantly increasing resulting to in most cases death of workers. Over the year, Manufacturing industry has recorded among other industries work related fatalities and accident rate such as workers exposure to harmful chemical, fire explosion , trips and slips , machine cutting ,amputation ,burn , skin disorder , respiratory problems , poisoning , hearing loss , vision loss etc the consequences of this industrial related injuries is capable of having an overwhelming effect on the employees , as it might cost the victims their economic worth , loss of a body part , psychological distraction and even death. (Bureau of Labor Statistics (BLS 2016)

There has been a poor health and safety performance in the manufacturing industry in Nigeria, although as noted by Cooper and Philips (2004) the need for organizations to have a safety climate to enhance safety performance at work place is very vital to organizational wellbeing. Also promoting health and safety at work as suggested by (Garcia-Herrero et al 2012), will enable the organization to create safe and good working condition , capabilities and above all habits necessary for workers and organization to carry out operation efficiently and thus avoid event that can lead to harm . From this it is visible to assume that an organizational work environment can

affect habit of an employee which in turns influences the efficiency of the employees performance .This means that workers working in a safe condition are likely to perform in a way that will not cause them harm. Although unsafe behaviors have been associated to workplace accidents (Mohamed, 2002), unsafe behavior is just a dull end of the safety problem.

Having an effective employees health and safety program should be part of an organization top priority ,this is because it ensures less injury and safeguard life , improves workers productivity and the cost of solving and treating injuries resulting from non implementation of health and safety program. Thus, as suggested by (Anthony *et al.*, 2007) health and safety should focus on employees' involvement, continuous monitoring and wellness component. The essence of this is to make sure workers have safe and good work condition and ensure people are fit to perform their work without much risk to life.

Research Problem

The environment of manufacturing firm this days are becoming more dangerous and hazardous to health due to both the chemical substances , machine and equipment ,plant layout , work process, constant exposure to light and other harmful substances and improper use of safety protecting equipment and misused of working tools . Manufacturing area are most time congested with multiple activities occurring simultaneously , resulting to unavoidable risk such as limited space for bringing in or taking out produced goods from the factory. As noted by Hon et al (2010) Workers most at times may underestimate the possibility of accidents when handling proportionally small tasks in such situation.

These neglect has cause many organization both money and other resources. As noted by (cidb 2004) most manufacturing firms has failed to comply with safety rule by making available personal protective equipment for their staff viewing it as expensive. Thus, meaning organization are yet to recognize the impact of non or inefficient practice of industrial safety and health has on the employees performance in the organization .While most scholar have shifted the blame of not implementing the health and safety to top management. It has been observed that factors like finance, lack of managerial and technical skill and safety instructors has contributed in the non implementation.

Unnikrishnan *et al* (2014) however, stressed that health and safety management practices should be improved to comply with health and safety standards, as this will result to better employee productivity. Many manufacturing firms in Nigeria who failed to adopt health and safety has witnessed unexpected risks and hard which has led to death of most good employees (Appleby, 2013; Hanger, 2014). Safety is a very critical concern, especially in the manufacturing industry. However, many manufacturing firms pay no attention to and do not take serious action on the safety issues. As noted by (CIDB, 2018), Manufacturing industry has one of the highest

accident occurrences in the manufacturing industry, which makes the industry believed to be unsafe.

Despite several studies conducted to examine the relationship between safety climate and performances (Choudhry, Fang and Lingard, 2009; Dedobbeleer and Béland, 1991) , studies examining the relationships between industrial safety and employees performance in manufacturing firms have been limited . Hence this study seeks to examine the impact of industrial health and safety on employees' performance.

Objective of the Study

The following are the objective of the study

1. To examine the impact of safety training on employee performance
2. To examine the effect of management commitment to safety on employees performance
3. To examine the impact of safety awareness on employees performance
4. To investigate the influence of hazard exposure on employees performance

Hypothesis of the Study

The following hypotheses were stated:

Ho1: Safety training has no significant influence on employees' performance

Ho2: Management commitment to safety has no relationship with employees' performance

Ho3: There is no significant influence between safety awareness and employees performance.

Ho4: there is no significant relationship between hazard exposures on employees' performance.

II. LITERATURE REVIEW

Industrial Safety and Health

A safety work environment is an environment free of hazard and risk to workers .The concept of industrial health and safety is essential in reinforcing occupational health. However, work place environment is not totally free of risks and hazard thus providing an enabling environment that promotes well being of workers is very necessary for employees' performance. As noted by (WHO 1999), the healthy organization acknowledges all the elements of occupational health and safety in developing policies and programs for the wellbeing of its employees. Workers are happy and exhibit high spirit of satisfaction and motivation when the work condition they are is total free of hazard and safe from any form of organizational risk and injury. According to the discussion of Health and Safety Executive, (2004) industrial accident arises due to workers people's involvement with their work. Given the current reliability of the technical systems, the attention now is on human causes of accidents. It is estimated that up to 80% of accidents may be attributed, at least in part, to the actions or omissions of

people .thus , according to (Wameedh A.Khdair, 2011) , for organization to improve the quality of safety and health for all employees, organizations should implement a systematic, comprehensive safety program and health training program for new employees. To improve the awareness to hazards and help provide orientation to new and old workers the essence of safety and health quality systems.

Management Commitment

A successful implementation of safety and health requires a total involvement of those at the higher management level for it to be effective .however, as suggested by (Shekh, 2015), for safety program to be effective it is required that all organizational member must be involved by showing their support towards the program. It is important for the management to oversee the implementation of safety and health program. This is because issues arising from safety can be control by the management as they oversee the resources of the organization as noted by (Othman, 2012). The management can serve as a model for safety and enjoin workers to follow suit .Thus, will be of tremendous advantage to the organization as safety environment has the capacity of will improving their performances. Management commitment influences health and safety performance thus, reducing accidents, disease, worker absenteeism and injuries. Langford *et al* (2000) also discovered that when management is involved in health and safety practices, workers tend to submit their selves to the practice.

Hazards and Risk Exposure: In the manufacturing industry, workplace accident is cannot be avoided, workers are exposed to myriad of risk and dangers. While many workers may be exposed to accidents, injuries, illnesses and diseases Paivi (2006), noted that this constitute the major challenges of manufacturing industries. Unfortunately, only few percent of workers in this sector have access to adequate occupational health services. Despite their position in national development, they are exposed to life threatening challenges like poor working conditions/ environments which may lead to safety and health problems. Furthermore, due to lack of workers knowledge on the essence and need for safety practices, they are in constant exposure to all sort of hazard ranging from work postures, manual handling, and speed of work or hand tool use were identified in the various processes including bale breaking, waste pressing, and spinning, scouring and winding (Mtetwa2003).Hazards due to poor safety practices has continue to be a significant problem in manufacturing industry.

III. METHODOLOGY

The study was conducted in Port Harcourt, the capital of rivers state and the hub of manufacturing firms in the state. The study employed a well structured questionnaire to obtain data from 300 employees of some selected manufacturing firms in the region which was determined using the Taro Yamane formula from total population of one thousand two hundred (1200) employees of the selected manufacturing

firms, out of which, only two hundred and eighty two (282) were found useful for further analysis. The questionnaire was structured in five (5) sections (Section A – E). Section A captured the demographical characteristics of the respondents, Section B ten (10) relevant questions on safety and health practices, Section C contains relevant questions on management commitment and safety awareness, Section D contains relevant questions hazard and risk exposure and Section E contains relevant questions on employees performances in the organization . Data was analyzed with the help of statistical software known as SPSS 23.0. Descriptive analysis was used to analyze the demographical characteristics of the respondents while Pearson correlation moment and regression analysis was jointly used to test the impact and influences of the four hypotheses that were raised in the study.

IV. DATA ANALYSIS AND DISCUSSION

Table 1: Demographical respondents on Gender

Variable		Frequency	Percentage
Gender	Male	196	69.9
	Female	86	30.1
	Total	282	100

Table 2: Demographical respondents on Age

Variable		Frequency	Percentage
Age	18 – 28	80	28.4
	28 – 38	55	19.5
	38 – 48	98	34.8
	Above 48 Years	49	17.4
	Total	282	100

Table 3: Demographical respondents on marital status

Variable		Frequency	Percentage
Marital	Single	92	32.6
	Married	185	65.6
	Divorced	5	1.78
	Total	282	100

Table 4: Demographical respondents on Educational qualifications

Variable		Frequency	Percentage
Educational Qualification	SSCE	48	17
	OND/NCE	87	30.9
	B.Sc/HND	65	23
	M.Sc/MBA	82	29.1
	Total	282	100

Table 5: Demographical respondents on Years of experiences

Variable		Frequency	Percentage
Duration	1 – 5 Years	95	33.7
	6 – 10 Years	128	45.4
	Above 10 Years	59	20.9
	Total	282	100

Source: Field Survey, 2020.

The above tables show the demographical distinctiveness of the respondents. Out of 282 respondents 196(69.9%) are male while the remaining 86 (30.1%) which implies that majority of the employees in the selected firms are male. We can conclude that male dominate the case organization. Regarding respondents' age 80(28.4%) of the respondents are between age 18 and 28, 55(19.5%) of the respondents are between age 28 – 38, 98(34.8%) of the respondents are between age 38 and 48 while the remaining 49(17.4%) of the respondents are above 48 years of age. This implies that majority of the employees in the selected firm are above 48 years of age. Hence, matured employees dominate the case organization. Also, 91(32.6%) of the respondents are single, 185(65.5%) of the respondents are married while the remaining 5(1.78%) have lost their partner. This implies that majority of the respondents are married. This suggested that greater part of the employees in the selected organization are responsible and have family to cater for. Academically, 48(17%) of the respondents are SSCE certificate holder and have no higher institution certificate. 87(30.9%) of the respondents have Ordinary National Diploma (OND)/National Certificate in Education (NCE) certificate, 65(23%) of the respondents have Bachelor of Science (B.Sc.)/Higher National Diploma (HND) certificate while the remaining 82(29.1%) of the respondents have Masters of Science (M.Sc.)/Masters of Business Administration (MBA) certificate. This suggested that good numbers of the respondents are B.Sc/M.Sc certificate holder. This also means that the selected organization is dominated by elite people. Based on the number of years each respondent has spend in the organization, 95(33.7%) of the respondents have been working in this organizations between a year and 5 years, 128(45.4%) of the respondents have been working in the organization between 6 years and 10 years while 59(20.9%) of the respondents have been working in the organization over 10 years ago. This suggested that greater part of the respondents have spent between 6 years and 10 years in the organization. This implies that experienced people and those that know more about the organizations dominate the organization.

Hypothesis One: Safety training has no significant influence on employees' performance in manufacturing firms in rivers state.

Table 6.		Correlations	
		Safety Training	Employees performance
Safety Training	Pearson Correlation	1	.523**
	Sig. (2-tailed)		.000
	N	282	282
Employees performance	Pearson Correlation	.523**	1
	Sig. (2-tailed)	.000	
	N	282	282
**. Correlation is significant at the 0.05 level (2-tailed).			

Interpretation

Pearson correlation Value of hypothesis is 0.523 (52.3%). It shows that there is strong and positive relationship between the dependent and independent variables with r value of 0.523(52.3%) with significant level of 0.000 which is greater than 0.05 (5%).Hence, it is concluded that there is a significant relationship between safety training and Employees' performance. Therefore, the decision would be to a reject the null hypothesis (H₀), which states that, Safety training has no significant influence on employees' performance in manufacturing firms in rivers state. Also it implies that experiences gotten from training program have contributed 52.3% percent in increasing their performances, as it has reduces the risk associated with their work. Thus, the task of organization should be to constantly implement and administer employees' health and safety training to both new and old staff.

Hypothesis two: Management commitment to safety has no relationship with employees' performance in manufacturing firms in rivers state

. Table 7: correlation

		Safety Training	Employees performance
Management commitment	Pearson Correlation	1	.386**
	Sig. (2-tailed)		.000
	N	282	282
Employees performance	Pearson Correlation	.386**	1
	Sig. (2-tailed)	.000	
	N	282	282
**. Correlation is significant at the 0.05 level (2-tailed).			

Interpretation

Pearson correlation Value of hypothesis is 0.386 (38.6%). It shows that there is a moderate relationship between the

dependent and independent variables with r value of 0.386(38.6%) with significant level of 0.000 which is greater than 0.05 (5%).Hence, it is concluded that there is a significant relationship between management commitment safety practices and Employees’ performance. Therefore, the decision would be to a reject the null hypothesis (H_0), which states that, management commitment to safety has no relationship with employees performance in manufacturing firms in rivers state .From this, it means that the culture of management with regards to promoting and ensuring the development, implementation and total involvement in safety activities has contributed to 38.6 percent of workers performance. Thus, top management should see their selves as role model for the employees and create both better work environment and effective safety policies to increase their impact towards increasing employees’ performances.

Hypothesis Three: There is no significant influence between safety awareness and employees performance in manufacturing firms in rivers state

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	7.245	.497	14.564	.000
	Safety awareness	.278	.053	.363	5.276

a. Dependent Variable: employees’ performance.
 $R = 0.363$; $R^2 = 0.131$; $Adjusted R^2 = 0.127$; $Sig = 0.000$; $F Stat = 27.841$

Table 2 above shows the result of regression analysis that was done to test the third hypothesis of the study. It revealed that safety awareness has a significant effect on employees’ performance. Looking at the result above, R gives the value of 0.363(36.3%) which shows the level of relationship that exist between the two variables (safety awareness and employees performance), R square shows that for any variation that occur in employees performance, organizational safety awareness account for 13.1% to it while the remaining 86.9% of the variation are caused by other factors that are not captured in the model. The result also reveled the significant level which is 0.000 ($P<0.05$). Thus we thereby reject the null hypothesis which states that there is no significant effect of safety awareness and employees performance in manufacturing firms in rivers state. This suggest that a constant safety campaign in the organization goes a long way in instilling and making employees safety conscious in carrying out there task and thus increasing their performances .

Ho4: There is no significant relationship between hazard exposures on employees’ performance in manufacturing firms in rivers state.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	6.918	.904	7.650	.000
	Hazard exposure	.473	.096	.342	4.943

a. Dependent Variable: Employees performance

$R = 0.342$; $R^2 = 0.117$; $Adjusted R^2 = 0.112$; $Sig = 0.000$; $F Stat = 24.437$

Table above shows the result of regression analysis that was done to test the fourth hypothesis of the study. It revealed that hazard exposure has a significant effect on employees performance .Looking at the result above, R gives the value of 0.342(34.2%) which shows the level of relationship that exist between the two variables (hazard exposure and employees performance), R square shows that for any variation that occur in employees performance , Hazard exposure account for 11.7% to it while the remaining 88.3% of the variation are caused by other factors that are not taken into consideration in the model. The result also reveled the significant level which is 0.000 ($P<0.05$). Thus we reject the null hypothesis which states that there is no significant relationship between hazard exposures on employees’ performance in manufacturing firms in rivers state. This implies management should take more precaution and create both awareness and provide personal protecting equipment and every other shield that will aid and protect employees from ill threatening situations in the work place.

V.CONCLUSION

The study set to examine the impact of industrial health and safety practices on employees’ performances. After a careful review of related literatures and testing the hypotheses that were put forward in the study. The result of the analysis discovered that safety practices have a significant effect on employee’s performance. The four independent variables (safety training, management commitment, safety awareness and hazard exposure) which are measures of industrial health and safety that were used , had an impact and influences on employees performances in manufacturing firms in rivers state. this suggest that the low level of performances recorded in the manufacturing industry especially in rivers state , can be attributed to low health and safety culture by manufacturers within this scope .we therefore conclude that lack or inefficient practices of health and safety programs is the cause of low employees performance which has also affected organizational performance.

VI. RECOMMENDATION

Based on the findings of this study, the study therefore recommends the following;

1. Efforts should be made by manufacturing firm to provide different types of personal protecting equipment (PPE) for all staff .As this will help in reducing industrial accidents
2. There is need to constantly carry out health and safety training for both top , middle and low level staff . As this will equip the employees with health and safety culture, as no one is above accident.
3. A good working environment is wholesome for employees performance .thus effort should be made by management to better work place environment.
4. In the effort of implementing good safety practices effort should be made to draft out good production layout , harmful substances should be stored in separate location ,staff should be extrinsically be motivated for adhering to safety practices and equipment, lightening , sound systems should be properly be installed and placed.

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