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## EVALUATING THE IMPACT OF OCCUPATIONAL HEALTH AND SAFETY MEASURES ON WORK PERFORMANCE IN KAM WIRE INDUSTRY, ILORIN

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### **Abstract**

*An organization becomes significantly effective by reducing the rates and severity of occupational accidents, diseases, workplace violence, stress related illnesses through availability of safety and health measures or schemes since the workplace depends on its employees as working partners and fellow members of the organization community. This in turn improves the quality of employees' work performance in the organization. The study therefore seeks to ascertain the influence of health and safety schemes on employees' work performance in Kam Wire Industry, Ilorin in Kwara - State. This was with the population of 318 and the sample size of 177 which was determined with the use of Taro Yamane's formula. Simple random sampling technique was employed for the study with the utilization of structured questionnaire to elicit the needed information from the respondents. The descriptive statistics used comprised simple percentages and tables, while inferential statistics utilized were multiples regressions. The findings of the study showed that staff of Kam Wire Industry could effectively and easily assess the company's occupational health and safety measures. The findings of the study pointed out further that there is a significant effect of industrial health and safety measures on employees' work performance in the industry ( $R^2 = .148$ ;  $F = 16.413$ ,  $p < 0.05$ ). The study therefore recommends: that efforts should always be made to involve employees as well in the decisions making that directly affect them; and that regular inspection and maintenance should frequently be carried out on the safety and health management facilities of the company. This is to make the facilities to be up-to-date.*

**Keywords:** accident reduction; health and safety measures; injuries; industry; and work performance.

**JEL Classification Codes:** H11, K32

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## 1. INTRODUCTION

The frequent record of industrial accidents has necessitated the need for putting in place different occupational health and safety measures or practices in the workplaces as the enhanced employees' work performance and the increased organizational productivity are largely dependent on the health and ability of the workforces. Though the International Labour Organization (ILO) together with the World Health Organization (WHO) have been in the forefront of improving the wellbeing and security of workers all over the world, the improvement in the employees' productivity and occupational health and safety (OHS) has been the main interest of different organizations, particularly in the developing countries. These establishments are commonly characterized by features such as unsuitable workplace design, ill-structured jobs, incongruity between job demands and worker's abilities, hostile work environments, poor human-machine system design, and inappropriate management programs. However, the identification of the cause or causes for the high rate of accidents and poor industrial safety records is crucial in the workplaces, especially in the less developed countries like Nigeria since lack of experience from these countries' technology and machinery is mentioned to be a cause. Besides, these factors often lead to workplace hazards, poor employee health, mechanical hardware injuries, and disabilities, which invariably reduce the workers' productivity and work / product quality, thus increasing the cost (Shikdar & Sawaqed, 2003).

Occupational health and safety refers cross-disciplinary area that ensures the safety, health and welfare of people that are engaged in work or employment as the goal of all its programmes is to foster a safe work environment. Also, this is deals with prevention of work related injuries and diseases; it therefore facilitates the protection and promotion of workers with the intent to improve these employees' working conditions and environment. Occupational health entails the promotion and maintenance of the highest degree of physical and mental health and social well-being of workers in all occupations (Eric, 2015). The major problem being faced by most organizations in today's world of work is how to enlist both the hearts and minds of all their workers as occupational exposures and ergonomic, physiological as well as psychosocial factors are found in the work environments. As being made known by Health and Safety Executive (2008), these factors are capable of threatening employees' safety and health or lessen their well-being and productivity either independently or in combinations. According to Eric (2015), more than 160 million of 3 cases of work associated illnesses are recorded yearly in the workplaces with over 2 million workers dying every year due to work related ill-health and injury, while thousands of these deaths are occasioned by accidents.

The issue of occupational health and safety practices appears to have been ignored by nearly all countries and organizations in the African continent. As reported by ILO (2013), about 63,900 work deaths are experienced in all African countries with the estimate of 1,560,000 employees being disabled by work injuries. All these are not unconnected to the fact that most countries and organizations in Africa do place greater emphasis on productivity and profitability above their workforces, undermining the health and safety standards, policies and programmes. Nigeria as a country cannot be said to be out of these challenges as employees' health and safety has not been given proper or required attention by different actors in the workplaces. Therefore, in order for management in the organizations in the country to address these problems, occupational health and safety measures are required to enhance both the capacity and performance of workers. Hence, this study is designed to evaluating the impact of occupational health and safety measures on work performance in Kam Wire Industry, Ilorin, Kwara

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State, Nigeria. Kam Wire Industry Limited is a manufacturing company in Nigeria located at 10, Asa Dam Road, Industrial Area, Ilorin. It majors in the manufacturing of products such as cold roll steel coil, nails and binding wires, galvanizing and roofing sheet coil. The lone research question for the study is:

- i. what is the staff's assessment of occupational health and safety measures in Kam Wire industry?

### 1.1 Objectives of the Study

The main objective of the study is to examine the impact of occupational health and safety measures on the performance of employees in Kam Wire Industry, Ilorin, while the specific objective is to:

- i. establish the influence of health and safety schemes on employees' work performance in industry.

### 1.2 Hypotheses of the Study

The formulated hypothesis for the study is:

$H_{01}$ : occupational health and safety schemes do not have effect on employees' work performance in Kam Wire Industry, Ilorin.

## 2. LITERATURE REVIEW

### 2.1 Conceptual Clarifications

#### 2.1.1 Occupational Health and Safety

Health is a condition of complete physical, mental and social well-being, and not just an absence of disease or infirmity, while safety refers the state of being safe and protected from harm or danger as this is more specific and is a relative freedom from or protection against hazards in the workplaces. However, occupational health and safety is a concept that has been described differently by various authors. For example, ILO (2013) defined occupational health and safety as a discipline with an extensive scope that encompasses a number of specialized fields. This includes the promotion and maintenance of physical, mental and social well-being of employees in every occupation; the prevention of adverse effects on workers' health which could have been caused by their working conditions; the protection of workers in their employment from risks occasioned by factors that are adverse to their health; and the placement and maintenance of employees in an occupational environment that is suitable to their physical and mental needs.

The effective management of safety and health of employees requires far more than minimizing the number of job related accidents and injuries in the workplace, but it is a positive concept that includes social and personal resources as well as physical capabilities having to do with the ability to have and reach goals, meeting personal needs and cope with everyday life (Eric, 2015). Employee health and safety is part of employees' welfare. The employees' welfare is therefore the general state of

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workers' well-being. This is inclusive of their good health and comfort as well as their stability and prosperity. Consequently, the function of maintaining employees' health and safety is expected to be treated as being part of the key function of ensuring employees' welfare as this was historically used to encompass the employees' physical working conditions such as facilities related to sanitation, canteens, bars, vending machines, sports clubs, dispensaries, shortening of working hours, and any other initiatives of job satisfaction and improvement of quality of work life in the places of work (Eric, 2015).

### **2.1.2 Occupational Health and Safety Measures**

The occupational safety and health measures are the programmes that are designed to minimize the impact of work related illnesses and accidents arising from the work (Armstrong, 2012). This is supported by Bernandun (2007) who maintains that occupational safety and health measures are the activities or practices that are undertaken by the organization with a view to reduce unsafe conditions or acts in the workplace as this is often time considered as an employer's primary line of defense in accident prevention. He maintains further that in guaranteeing safe and healthy environments for employees, management of the organization is required to pay special attention to vulnerable workers in the workplace either as a result of ill-fitting personal protective equipment, their lack of education, physical limitations or due to cultural reasons.

According to Liukkonen (1996), occupational health and safety also include all the people and schemes that are directly or indirectly involved in making the work environment safe. Occupational health and safety programs goes a long way to reduce organizational cost through the job-related diseases or accidents which are expensive and are capable of having direct and indirect effects on the lives of organization's workers. These comprise practical business efforts targeted at realizing acceptable occupational health and safety such as health and safety committees, employees' wellness scheme, medical surveillance, health and safety policies, employees' assistance plans, health and safety training, and health and safety audits.

### **2.1.3 Employees' Performance**

Employees' work performance refers what an individual actually does in the organization to move such establishment forward or higher. As a concept, this has been defined differently by various authors in the field of management. For instance, Eysenck (1998); Maathis and Jackson (2000); and Bohlander Shell and Sherman (2001) see performance as a factor in worker management which is linked to the ability of the employees to realize his personal work goals, fulfilling expectations and attaining job set targets in addition to the accomplishment of the business's standard. Likewise, Sarmiento and Beale (2007) describe job performance as the result of two elements, which are made up of the abilities and naturally gained skills that an individual owns, and has control over to undertake a superior and greater job. Similarly, Campbell (1990) opines that performance means what an organization employs a person to do, and to do adequately. These have to do with actions that are connected to the goals that the organization sets and that are measurable when it comes to making reference to the quotas that are made to the organization by each workforce.

According to Armstrong (2006), work performance involves the manner in which an employee actually carries out his allocated job, duties and responsibilities and the result of the effects in achieving the overall organizational objectives. In line with Bernandin (2007), employee performance denotes the record of result which is obtained from the function of certain work or certain activities in certain period of time. This is a set of behaviours that are relevant to the organizational goals or the organizational unit in which an individual works. That is, a process for establishing a shared workforce understanding regards what is to be accomplished at the level the organization. It is inclusive of aligning both the organizational objectives together with the employees' agreed measures, skills, competency requirements, development plans and the delivery of results.

Armstrong (2006) identifies reports, 360-degree feedback, and balance score card among others as measurable tools for determining progress. These performance measurement tools are designated to measure input, output, outcome, efficiency or effectiveness. He maintains that performance measurement is necessitated for firm's better decision making, accountability and organizational learning and improvement. It is also important for provision of means of performance comparison, though the measurement of performance is not easy for business organizations with multiple objectives of profitability, employee satisfaction, productivity, growth, social responsibility and ability to adapt to the ever changing environment among other objectives. Although performance is most often conceptualized in terms of financial measures with some scholars proposing a comprehensive performance construct that incorporates non - financial measures such as market share, product's quality, customers' satisfaction, customers' loyalty and image of the company.

## 2.2 Empirical Review

In the research work of Eric (2015) titled “effect of occupational safety and health programmes on employees' performance at Kenya Power Company limited”, a regression analysis was used to establish the effects of occupational safety and health on employee performance. The findings of the study indicated that occupational safety and health programmes in the company have a positive relationship on the employees' performance. The findings as well revealed that there is a strong relationship between health and safety programmes and employee performance. The study therefore recommended alignment of the company's occupational safety program to their business strategies for the employees' enhanced performance.

Iheanacho and Ebitu (2016) examined the effects of industrial safety and health on employees' job performance in some selected companies in Cross Rivers State, Nigeria. The survey design was adopted for the study, while its sample size was One Hundred (100). The Pearson Moment correlation coefficient was used to test the hypotheses of the study. The findings of the study showed that with the available industrial safety and health strategies in the studied establishments, there is high work performance by the employees. The study recommended that employers of the companies in the study area should always ensure adequate industrial safety/health strategies management so as to be able to protect the lives of their employees at work thereby reducing employees' turnover and to also be able to promote further their staff performances.

Also, Gbadago, Amedome and Honyenuga (2017) assessed the impact of occupational health and safety measures on employee performance at the South Tongu District Hospital. The focus was to establish the level of employees' awareness of the OHS Policy of the Ghana Health Service, and to determine whether the OHS Policy has been implemented in the organizational setup, identify the kinds

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of hazards that employees face due to the nature of their works, and to identify the challenges bedeviling the implementation of OHS measures by management, and to examine the impact of the OHS measures on employees' performance. The study utilized both stratified and simple random sampling methods to sample 116 employees. The results of the study established that the level of employee awareness of OHS Policy was high and that the measures in place in the establishment were adequately implemented. The results showed further that staff members in the studied hospital face so many hazards such as safety hazards, mechanical hazards, biological hazards, ergonomic, physical hazards and psychological hazards. The result of the study pinpointed financial challenge as the organization's main constraint to the implementation and maintenance of OHS measures in the hospital.

### 3. METHODOLOGY

The adopted research design for the study is survey method; the population for the research consisted Three Hundred and Eighteen (318) staff of Kam Wire Industry, Ilorin, Kwara State. The figure was based on the given or supplied information. Taro Yamane's formula was used for the determination of the sample size for the study which was One Hundred and Seventy Seven (177), where

$$n = \frac{N}{1 + N(e)^2},$$

and  $n$  = Sample size,  $N$  = Population of the study  
 $e$  = Tolerable error (5%)

Primary source of data collection was used for the study. The primary data were through the utilization of questionnaire to elicit relevant information from the staff of the studied company. To analyze the gathered data for this study, percentages, mean, standard deviation and multiple regressions were used. The simple percentage was employed to describe the demographic features of the employees, while mean, standard deviation and multiple regressions were employed to analyse the collected data. SPSS version was used to run the analysis of the gathered data. However, the questionnaire was utilized as an instrument of primary data collection, while textbooks and relevant journal articles were employed as the secondary data.

A total number of One Hundred and Seventy Seven (177) copies of the questionnaire were administered on the respondents, but just One Hundred and Fifty – Eight (158) copies were satisfactorily filled and returned. The statistical tools used for the analysis of the data for the study were multiple regressions.

#### 4. FINDINGS AND DISCUSSION

**Table 1: Socio-Demographic Information of the Respondents**

Variable	Level	Frequency (f)	Percentage (%)
Gender	Male	104	65.8
	Female	54	34.2
	<b>Total</b>	<b>158</b>	<b>100.0</b>
Age (Years)	20-30	39	24.6
	31-40	67	42.4
	41-50	35	22.2
	51 and Above	17	10.8
	<b>Total</b>	<b>158</b>	<b>100.0</b>
Marital Status	Married	72	45.6
	Single	54	34.2
	Divorced	25	15.8
	Widowed	7	4.4
	<b>Total</b>	<b>158</b>	<b>100.0</b>
Educational Qualification	SSCE	26	16.5
	OND	31	19.6
	HND/BSc	62	39.2
	Masters	39	24.7
	<b>Total</b>	<b>158</b>	<b>100.0</b>
Years of Working Experience (Years)	0-5	20	13.5
	6-10	35	23.6
	11-15	74	50.1
	Over 15	19	12.8
	<b>Total</b>	<b>158</b>	<b>100.0</b>

**Source: Field Survey, (2019)**

Table 1 illustrates the socio-demographic data of the respondents. It is shown that out of 158 of respondents that participated in this study, 65.8% were males, while 34.2% were females. It is therefore an indication that the majority of the respondents in this study were males. The analysis of age distribution of the respondents shows that 24.6% were of age 20-30 years, 42.4% were of age 31-40 years, 22.2% were of age 41-50, while 10.8% of the respondents were of age 51 years and above. The distribution according to marital status of the respondents shows that 45.6% were married individuals, 34.2% were singles, and 15.8% were divorcees, while 4.4% of the respondents were widows. Also, the educational qualifications distribution of the respondents shows that 16.5% had SSCE, 19.6% had OND, 39.2% had HND/BSc, while 24.7% had Master's degree. Likewise, 13.5% of the respondents had between 0-5 years of working experience, 23.6% had been working for between 6-10 years, 50.1% had

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11-15 years of working experience, while 12.8% of the respondents had 15 and above years of working experience in the organization.

**Research Question:** What is the staff's assessment of occupational health and safety measures in Kam Wire Industry?

**Table 2: Staff's Assessment of Occupational Health and Safety Measures in Kam Wire Industry**

S/N	Items on Effectiveness of Health and Safety Management	Mean	SD
1.	In our organization, decision making on health and safety management are kept only at the top	3.44	0.72
2.	In our organization, rules and procedure on health and safety management are clearly documented and are known to all employees	3.27	0.65
3.	In our organization, organizational tasks are divided into separate jobs.	2.84	0.98
4.	The management of our firm freely share information on health and safety management	3.20	0.72
5.	Employees work in collaboration with others on health and safety management	2.85	0.87
6.	Our firm has clear norms and values on health and safety management	3.57	0.73
7.	Information allows for better use of health & safety management	3.09	0.93
8.	In our organization employees are skillful	3.37	0.77
9.	Our systems improves overall productivity	3.30	0.72
10.	Our systems improves inter-departmental coordination	3.23	0.80
	Grand Mean	<b>32.16</b>	
	Average Grand Mean	<b>3.22</b>	

*Cut off Point: 1.00-2.59- Not Effective, 3.00-5.00- Effective*

**Source: Authors' Computation, (2019)**

Table 2 indicates the result of the staff's assessment of occupational health and safety measures in Kam Wire Industry. As shown in Table 2, the weighted grand mean and average grand mean values respectively are 32.16 and 3.22. Considering the cut-off point, it is shown that there is an effective and satisfactory assessment of occupational health and safety measures / schemes of Kam Wire Industry, Ilorin by the company's staff members. This finding corroborates the result of Gbadago, Amedome and Honyenuga (2017)'s research that the level of employees' awareness of OHS Policy was high and that the measures being put in place in the studied establishment were adequately implemented.

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#### 4.1 The Testing of the Stated Research Hypothesis

**H<sub>01</sub>:** Occupational health and safety schemes do not have significant effect on employees' work performance in Kam Wire Industry, Ilorin.

**Table 3: Summary of Regression Analyses on Effect of Industrial Safety and Industrial Health on Employees' Work Performance (N = 158)**

Variable	B	SEB	B	t	P
Constant	18.542	7.187		2.580	.011
Industrial safety	25.313	4.425	10.442	5.720	.000
Industrial health	-24.750	4.339	-10.413	-5.704	.000
R		.385			
R <sup>2</sup>		.148			
F		16.413*			

\*p < .05. Dependent Variable: Employees' productivity

Source: Authors' Computation, (2019)

Table 3 shows the result of the effect of industrial safety and health on employee's work performance in Kam Wire Industry, Ilorin. It revealed that effect of industrial safety and health on employee's work performance yields a coefficient of a multiple correlation square ( $R^2$ ) of .148. This value is statistically significant at 0.05 probability level. In other words, industrial safety and industrial health variable can explain for 14.8% of the observed variance in employee's work performance. Considering the standardized beta ( $\beta$ ) values of the two independent variables, this result also shows that industrial safety ( $\beta = 10.442$ ) exerts more significant effect on employee's work performance than industrial health ( $\beta = -10.413$ ). This result therefore concludes that there was a significant effect of industrial safety and industrial health on employee's work performance in Kam Wire Industry, Ilorin. This result supports the observations of Eric (2015), and Iheanacho and Ebitu (2016). The finding of Eric (2015) in his study pointed out that occupational safety and health programmes in the studied company have a positive relationship on the employees' performance, while it could be established by Iheanacho and Ebitu (2016) in their research that there is higher work performance by the employees of the studied establishments with the available industrial safety and health strategies in those organizations,

#### 5. CONCLUSION AND RECOMMENDATIONS

Sequel to the findings of the study, it could be gathered that when employees in the organization have the feeling that their cares or safety is of great importance to the management, this signifies a positive management of occupational health and safety system which in turn brings or facilitates a safer working conditions of the employee with varying advantages such as reduction in work stress, enhanced employees' drive, low rate of absenteeism at work, better health, increased job satisfaction, reduction in workplace accidents, less medical expenses, effective and efficient work performance, positive workers behaviour towards work. So, it could be concluded: that staff of Kam Wire Industry, Ilorin could

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effectively and easily assess the company's occupational health and safety measures that are made available in the establishment, and that there is a significant effect of industrial health and safety on employee's work performance in the industry. Resulting from the findings of the study, it is therefore recommended that:

- i. efforts should be made to always involve employees as well in the decisions that directly affect them as far as health and safety issues are concerned. It will go a long way for these employees to have full knowledge or information required for assessing the schemes. This is premised on the fact that the decision making on health and safety management in Kam Wire Industry is kept only at the top management level of the organization and the company does not openly share with the employees the information about health and safety provisions or outcomes.
- ii. since the health and safety measures availability in the organization has positive effect on the employees' work performance, regular inspection and maintenance on the safety and health management facilities should be carried out so as to make these to be up-to-date and prevent them from obsolesce. This will not only facilitate the continuous prevention of workplace injuries, diseases and deaths of workers, it will as well sustain the tempo of work performance in the industry.

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