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Effect of Occupational Safety and Works' Performance in Manufacturing Firm in Ekiti State, Nigeria

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Abstract

The study investigated the impact of occupational safety on work performance within manufacturing firms in Ekiti State, Nigeria. The specific objectives include assessing the influence of occupational hazard prevention, analysing the effect of safety training, evaluating the safety policy program, and examining the impact of physical and mental health related to occupational safety on workers' performance in manufacturing companies. The study population consists of all owners of registered Small and Medium Scale Enterprises (SMEs)/NBC in Ado Ekiti LGA, Ekiti State, Nigeria. The study population consists of 928 individuals, as reported by SMEDAN (2017). The figure encompasses both proprietors and administrators of these enterprises within the Ado Ekiti metropolitan region. The sample size of this study, determined using Taro Yamane, comprised 279 registered SMEs in the Ado Local Government Area, picked by a simple random sampling procedure. Data analysis is the process of organising, structuring, and interpreting the vast amount of collected information. Upon gathering the requisite data, it was subsequently coded, edited, analysed, and rephrased to rectify faults and maintain consistency. Frequency and percentage were employed to analyse the respondents' bio-data, while simple regression analysis would be utilised to evaluate the formulated hypotheses. The study's findings indicated that occupational hazard prevention scored 0.600, with a t-value of 15.095 and a p-value of 0.000; training safety scored 0.637, with a t-value of 18.105 and a p-value of 0.000; and the safety policy program scored 0.681, with a t-value of 21.252 and a p-value of 0.000. The study indicated that occupational safety has a considerable effect on workers' performance in production. The study determined that acquiring occupational health and safety (OHS) information from healthcare professionals, accessing healthcare services for work-related health concerns, and receiving OHS information from healthcare volunteers are significant contributors. Participate in a training session on occupational health and safety offered by an external organisation to get knowledge and insights into tactics and recommendations for reducing work-related stress. The training promoted the exchange of professional experiences among colleagues and was exceptionally appropriate for the training process.

Keywords: Occupational safety, work performance, safety policy program, physical and mental health

Introduction

Industrialisation has served as the catalyst for growth in numerous emerging nations, such as Nigeria, prompting successive administrations since independence to seek methods for advancing their industrial sector. Tawiah and Baah (2011) projected that in 2012, over two million dead job-related accidents and illnesses occurred annually, a figure reflective of the industrialised mindset and enthusiasm prevalent across many governments, including Nigeria. They anticipate that this number will persist in increasing due to ongoing industrialisation. It is essential to remember that the primary human right, as per natural justice, is the right to Existence and the pursuit of tranquilly, regardless of harm, misfortune, or persistent illness. This signifies that life is of paramount importance and must be meticulously controlled and safeguarded in all pursuits. Despite the significance of human life, over 2.2 million individuals are annually robbed of this right due to workplace accidents and work-related diseases and injuries. Recent accidents and injuries at galamsey sites, mining operations, transportation businesses, timber firms, agricultural activities involving

heavy machinery, milling industries, construction sites and fire outbreaks in market centres in Nigeria exemplify the deprivation of human life and natural rights.

Safety denotes the absence of the possibility or danger of injury or loss (Aswathappa, 2004). He characterised industrial or employee safety as the safeguarding of workers from the hazards of industrial accidents. Safety in manufacturing firms should be a paramount concern for all stakeholders in the business; nonetheless, it is regrettable that, particularly in Nigeria, insufficient attention is devoted to this issue. Manufacturing companies require oversight from pertinent authorities, regulatory bodies, organisations, scientists, professionals, and business leaders to implement safety and health management programs and regulations governing the industry and all operational activities (Scribd Inc. 2012).

Public knowledge and comprehension are essential prior to implementing reforms to enhance working conditions. This comprehension was founded on ongoing studies in occupational health. In 1700, Bernardino Ramazzini, an Italian physician acknowledged as the "father of occupational medicine," emerged. He performed the initial systematic investigation of occupational sickness. His treatise was titled *Discourse on the Disease of Workers*. Ramazzini shown foresight by enquiring about the patient's occupation during the diagnostic process. He believed that there is a correlation between an individual's occupation and their health status. Notwithstanding his effect, the interest in information regarding worker health developed gradually (Morris, 1976 as referenced by Allender & Sopraldley, 1996).

Given that organisations' occupational safety regulations incur costs, it is essential to evaluate the actual effect of these rules on employee performance. The researchers chose specific manufacturing enterprises in Ado Ekiti metropolitan, one of Nigeria's largest industrial hubs, as the study location. The selection of this company is predicated on its designation as one of the entities receiving a red rating from the Environmental Protection Agency concerning its initiatives in occupational safety and adherence to environmental standards, while simultaneously being recognised as the fourth largest exporter of kiln-dried lumber and the foremost exporter of processed lumber/moulding (TIDD, 2013); an accomplishment that can be ascribed to the efficacy of its workforce. The study will examine employee absenteeism, commitment, job satisfaction, and physical and mental health as proxies for occupational safety, whereas the dependent variable will be worker performance.

Statement of the Problem

Laryea and Mensah (2010) conducted observational studies on 14 construction sites in Ghana regarding health and safety; Puplampu and Quartey (2012) presented a review or conceptual paper; Amponsah-Tawiah and Dartey-Baah (2011) examined wood processing, safety practices, and injuries among timber workers in Ghana. The research conducted by Amponsah-Tawiah and Mensah (2016) focused on the Ghanaian Mining Industry regarding organisational commitment and occupational health and safety practices. The latest study by Amankwah et al. (2019) on air quality trends and lung function analysis was confined to the Nwabiagya District in the Ashanti Region. The majority of these studies were undertaken from an ecological standpoint rather than a human resource perspective.

Humans govern ecological systems, and with appropriate policies implemented by an organisation to guarantee a secure working environment for employees, performance could be enhanced for the benefit of individuals, society, and the nation. Although certain businesses may have the financial capacity to cover workplace injury costs, no compensation will resurrect the deceased or restore lost limbs. Consequently, the necessity for health and safety protocols to guarantee employee safety is more pressing than ever in Ghanaian workplaces. Consequently, a deficiency exists in the literature concerning current empirical investigations into the impact of health and safety policies in the construction industry on employee performance in Ghana. This study addresses the gap by investigating the impact of occupational health and safety on employee performance within the Ghanaian construction industry. This study enhances the literature of employment, health and safety, well-being, and satisfactory working circumstances for employees. The results of this study are anticipated to guide both policy and practices on health and safety in Ghana's construction sector during and post-pandemic.

Research pertaining to Occupational Health and Safety (OHS) includes Lin (2012), which indicates that loyalty positively influences adherence to safety regulations and individual safety obligations via safety culture. Moreover, safety culture positively influences performance. Likewise, Subrahmaniam (2016) demonstrated the influence of occupational health and safety on employee performance. Chaughey (2015) asserts that occupational health and safety influences job satisfaction. Jalalkamali (2016) demonstrates that job satisfaction influences employee performance. Walters (2016) discovered that work safety does not directly influence performance, but rather affects it through a supportive working environment. This study is to investigate the impact of occupational health and safety on employee performance and to evaluate work satisfaction as a mediating variable in the relationship between occupational health and safety and employee performance.

Kitaw (2016) demonstrated that developed nations, including North America, Europe, and Australia, possess superior strategies and funding for workplace safety prevention. Consequently, the necessity for health and safety protocols to guarantee employee safety is more pressing than ever in Nigerian workplaces. Consequently, there exists a deficiency in the literature concerning current empirical investigations into the impact of health and safety procedures in manufacturing firms on employee performance in Nigeria. This study addresses this gap by investigating the impact of occupational health and safety on employee performance across Nigerian manufacturing firms. Consequently, this study enhances the existing literature on employment, health and safety, well-being, and equitable working circumstances for employees. This study aimed to determine the impact of occupational safety on employee performance in manufacturing firms in Ekiti State.

Research Objectives

The broad objective of the study is to examine the effect of occupational safety and works' performance in manufacturing firm in Ekiti State, Nigeria while the specific objectives are to:

- i. examine the effect of occupational hazard prevention on workers' performance among Manufacturing companies;

- ii. investigate the effect of training on safety on workers' performance among Manufacturing companies;
- iii. examine the safety policy programme on workers' performance among Manufacturing companies;
- iv. examine the effect of physical and mental health of occupational safety on workers' performance among Manufacturing companies.

Significance of the Study

The world has transformed into a compact entity, resembling a global village, and liberalisation has intensified competitiveness across all economic sectors. Consequently, organisations today exert considerable effort to achieve adequate productivity. Consequently, it is anticipated that the data and information derived from this study will assist in controlling employee occupational safety. The study will also aid in the modern management process, which must reconcile the expectations of individuals with those of the business. The study's conclusions should facilitate the development of effective occupational safety protocols in the workplace, allowing workers to swiftly adapt to technological changes and enhance productivity. Furthermore, this project aims to enhance organisational value and will aid firms in dispelling the prevalent notion that employee welfare compliance is the foremost priority of occupational safety protocols. The results may assist personnel in comprehending their responsibilities to adhere to safety protocols. Organisations will recognise that employee safety in the workplace influences productivity levels. The study's conclusions and recommendations, combined with the analysed and interpreted data, will provide a basis for future research. This will generate novel insights that will significantly influence the management domain.

Scope of the Study

The research was conducted to examine the impact of occupational safety practices on worker performance. This was accomplished by identifying occupational safety activities, assessing the impact of these practices on worker performance, identifying challenges in their implementation, and exploring suitable techniques for executing occupational safety practices within the organisation. The participants in this study comprised senior managers, mid-level managers, supervisors, and subordinate personnel.

Literature Review

Conceptual Clarification

Concept of Occupational Safety

There is no universally accepted definition of workplace safety. There are as many definitions of OHS as there are professionals in the field. Consequently, numerous definitions exist in the literature. Occupational Health is defined by the Joint Committee of the International Labour Office and the World Health Organisation as "the promotion and maintenance of the highest degree of physical and mental well-being of workers in all occupations and workplaces" (Lukas et al., 1997). Keitany (2014) defined Occupational Safety and Health (OHS) as the discipline concerned with the anticipation, recognition, evaluation, and control of workplace hazards that may adversely affect the health and well-being of employees, while also considering the potential impact on surrounding communities and the

broader environment (Lamm, 2000). In the preamble to the second edition of Fundamentals of Occupational Safety (OHS), Ali (2008) defined it as the science concerned with the anticipation, recognition, evaluation, and control of hazards originating in or from the workplace that may compromise the health and well-being of workers, while considering the potential effects on surrounding communities and the broader environment.

The previous subheading defined OHS as the discipline focused on the anticipation, recognition, evaluation, and control of workplace hazards that may adversely affect the health and well-being of employees, while also considering the potential effects on nearby communities and the broader environment. The essence of this term is in the concept of mitigating hazards in the workplace to enhance worker health. This indicates that a hazard is the detrimental element of the work environment that inflicts harm on workers and others in the vicinity.

Occupational health and safety refer to measures implemented to safeguard employees' lives and ensure favourable working conditions. Health is a fundamental right of all individuals. The advancement of health-promoting services is integral to combating the three principal afflictions of poverty, ignorance, and disease, which remain prevalent in developing nations (DeGlanville, Schilling, and Wood, 1992). A health and safety policy is a formal declaration by an employer affirming the organization's dedication to safeguarding the health and safety of employees and the public. It is a sanctioned commitment by management to its employees concerning their health and safety. A health and safety program encompasses the health and safety components of an organisation, together with objectives that enable the company to fulfil its goal of safeguarding its employees in the workplace. The Occupational Health and Safety Act 2007 delineates the basic obligations for businesses for occupational safety and health, including the reduction of workplace accidents, diseases, and impairments, the promotion of employee well-being, and the enhancement of a conducive work environment for employees and nearby individuals. Employers must conduct a health and safety risk assessment in collaboration with the occupational health and safety committee to identify existing workplace dangers.

Upon identifying hazards, exposure controls must be articulated within the health and safety program to unequivocally demonstrate management's commitment to employee wellbeing, illustrate the compatibility of safety and business performance, delineate the company's safety beliefs, principles, objectives, strategies, and processes across all organisational levels, clarify employer and employee accountability and responsibility for workplace health and safety, ensure compliance with the Occupational Health and Safety Act, and establish safe work practices and procedures to mitigate workplace injuries and illnesses (Glanville, Schilling, & Wood, 1992).

Dimension of Occupational Safety

Occupational Hazard Prevention

The previous subheading defined OHS as the discipline focused on the anticipation, recognition, evaluation, and control of workplace hazards that may adversely affect worker health and well-being, while also considering the potential effects on surrounding communities and the broader environment. At the core of this definition is the

concept of managing dangers in the workplace to enhance worker health. This indicates that a hazard is the detrimental element of the work environment that inflicts harm on workers and others in the vicinity.

Occupational hazard refers to a material substance, procedure, or scenario in the workplace that increases the risk of disease or accidents, potentially affecting workers even years after their departure (Asuzu, 2002). Hazard is the inherent characteristic or capability of a product, procedure, or scenario to inflict injury, bad health consequences on individuals, or damage to objects. Hazard refers to the potential to inflict harm, adverse health effects, injury, property damage, impairment of equipment, products, or the environment, as well as production losses or heightened liabilities. A hazard is defined as any source of possible damage, harm, or ill health impacts to an individual or entity under specific conditions in the workplace. Hazards include pressurised hydrocarbons, elevated items, electricity, hazardous compounds, noise, radiation, and operating at heights. The Navy and Marine Corps Public Health Centre (2010) defined a hazard as a source of danger capable of causing injury or harm. Occupational risks are threats to human health and well-being linked to particular professions.

Physical Hazards: Physical hazards are sometimes regarded as less significant than chemical hazards; however, this is inaccurate. They can and do result in various health issues, injuries, or even fatalities. The spectrum of physical agents is extensive and should not be underestimated; however, the primary agents responsible for occupational diseases and injuries are noise, light, vibration, radiation (both ionising and non-ionizing), and microclimatic conditions arising from severe temperatures. (World Health Organisation, June 2013).

Chemical Hazards: Approximately 100,000 distinct chemical items are utilised in contemporary workplaces, and this figure is increasing. Significant exposure to chemical risks is most common in companies that handle chemicals and metals, make specific consumer products, produce textiles and synthetic fibres, and operate within the construction sector. Chemical hazards can be categorised into: particles (including fibres, fumes, and mist such as carbon black, welding fume, and oil mist), metals and metalloids (including arsenic, cadmium, chromium, mercury, and zinc), organic solvents and compounds (such as acetone, hydrocarbons, and benzene), and inorganic gases (such as carbon monoxide, hydrogen sulphide, and sulphur dioxide).

Biological Hazards: Exposure to over 200 biological agents, including viruses, bacteria, parasites, fungus, moulds, and organic dust, occurs in specific professional settings. The most prevalent occupational diseases arising from such exposures include hepatitis B and C viruses, tuberculosis infections (especially among healthcare workers), asthma (in individuals exposed to organic dust), and chronic parasitic diseases (notably among agricultural and forestry workers).

Psychosocial Hazards: Psychosocial hazards encompass both psychological and social risks. Psychological dangers have increased due to the growing prevalence of time constraints and work pressure during the previous decade. Monotonous tasks, those demanding sustained focus, irregular hours, shift work, and employment involving potential violence (such as law enforcement or correctional

roles), solitary labour, or excessive accountability for human or financial matters may also yield detrimental psychological consequences.

Mechanical and Ergonomics Hazards: Unprotected machinery, hazardous structures in the workplace, and perilous instruments are among the most common occupational risks in both industrialised and developing nations. Approximately 10 million work accidents occur annually in Europe, including some commuting incidents. The implementation of safer working methods, enhancement of safety systems, and modifications in behavioural and management practices could decrease accident rates by 50% or more in high-risk industries over a relatively little period.

Training on Safety

All individuals required to perform the task or process for which the safe operating procedure was established must get training and guidance on its safe execution. This may encompass a verification of competency (VOC) for operational procedures, including loaders, operators, electrical and mechanical personnel, labourers, and managers. An employee may possess skills yet neglect organisational safety protocols due to a lack of health and safety training, which informs them of safe practices on-site. An organisation that fails to provide such training may lack the resolve to impose disciplinary measures for deliberate unsafe actions.

Safety Policy Programme

Health and safety in the workplace are no longer novel concerns for organisations; nonetheless, they are still approached as a contemporary issue in Nigeria due to the manner in which they are implemented. Nonetheless, a progressive enhancement in consciousness and practice seems to be occurring. This segment of the research aims to analyse and delineate the legislation pertaining to occupational health and safety.

Occupational health and safety measures were initially implemented in Nigeria during its period as a British colony. These programs guaranteed the deployment of occupational health professionals to industrial facilities and various commercial enterprises, including plantations, for oversight purposes. The first endeavours culminated in: I. Ongoing education for staff and the establishment of organisations for occupational health practitioners in Nigeria, including physicians, nurses, safety officials, hygienists, and others.

II. A growing demand for the establishment of Occupational Health and Safety divisions within the Nigerian government, specifically in health ministries at both state and national levels, as well as the enhancement of health systems in local governments.

These initiatives resulted in the enactment of the Labour Act of 1974, the Factories Act of 1987, and the Workman's Compensation Act of 1987. The Factories Act was established to implement general and specific regulations concerning the health, safety, and welfare of individuals employed in locations legally designated as "factories," for which a registration certificate is mandated by law.

The Act also encompasses general regulations pertaining to cleanliness standards, crowding/overcrowding, ventilation, lighting, floor drainage, and sanitary facilities, stipulating that all factories must provide potable water and washing amenities. General provisions exist concerning the securing, installation, utilisation, maintenance, and storage of

equipment, transmission machinery, unguarded machinery, hazardous liquids, automated machines, hoists and lifts, chains, ropes, lifting tackles, cranes, steam boilers, steam receivers, and air receivers. Standards exist for the training and oversight of novice workers, secure access to work environments, fire prevention, safety protocols in the event of a fire, and the provision of first aid kits. The law mandates the establishment of sufficient measures for the extraction of dust or fumes from industries, the provision of goggles for eye protection during specific processes, and the prevention of airborne toxic or harmful chemicals. It is obligatory to report all incidents of accidents and industrial diseases to the nearest factory inspector for investigation.

In the January 2011 edition of the Global Policy Brief journal, Ngozi Onyejeli states that the Workmen's Compensation Act mandates compensation for workers injured during their employment. Nonetheless, there remains a lack of enhancement in equipment safety throughout the majority of industries. Recent studies indicate progress in major, mostly multinational industrial and commercial firms in Nigeria, but minimal advancement in small-scale and indigenous sectors. The government is still anticipated to enforce rules and policies pertaining to employee safety in the workplace.

Concept of Physical and Mental Health

The notion of mental health and 'mental sickness' is not novel; its origins can be traced back to early human prehistory. The concept of mental illness originated from the primitive notion of animism, as seen in Hindu medical writings, or the belief in evil spirits in ancient Egyptian medicine. The initial idea regarding this relationship posited that individuals experience mental instability due to 'angry gods seizing their minds' (Kisker, 1964). This perspective was prevalent during the Homeric era, some three millennia ago and a millennium prior to the advent of Christ. Five hundred years later, during the era of Hippocrates, advancements were made to comprehend the issue of 'mental disease.' Mental health refers to an individual's ability to adapt to the demands and possibilities of life. Individuals vary in their adaptation to life's challenges; some manage to adjust effectively and attain greater satisfaction in socially acceptable ways. They are 'normal' or psychologically well individuals. Mental health is the harmonious development of individual personality and emotional dispositions that allows one to coexist peacefully with others. Mental health encompasses not only interpersonal relationships but also the individual's connection to their community, the broader society, and the social institutions that significantly influence their life, dictate their lifestyle, and shape their perceptions of happiness, stability, and security. Mental health is a more intricate concept than physical health. It is significantly more challenging to quantify. While we can typically identify severe instances of mental illness it is challenging to classify persons who exhibit normalcy in other aspects yet struggle to comprehend another person's perspective or demonstrate sensitivity to the emotional requirements of others. Such issues, if sufficiently severe and chronic, would unequivocally signify poor mental health.

Workers' Performance

According to Campbell and Wiernik (2015), performance is characterised as "behaviour." It is an action undertaken by

the employee that differentiates performance from outcomes. Outcomes are affected by numerous factors, including an individual's performance. Furthermore, when conceptualising performance as behaviour, the researcher has permitted exclusions. Performance is not necessarily confined to easily observable individual behaviours. It may consist of cognitive outputs such as responses or decisions. A multitude of scholars have examined employee work performance in previous years as a component of their research. According to Borman and Motowidlo (1993), task performance and contextual performance are two categories of employee behaviour essential for organisational productivity.

The performance of employees is influenced by various aspects in the workplace. It is characterised by executing job responsibilities in accordance with the specified job description (Saeed et al., 2013). Performance refers to the ability to complete a task within established parameters. Employee performance is affected by numerous factors. Their emotional connection to the organisation and the anticipated financial benefits of remaining employed there influence their work performance (Karunaratne & Wickramasekara, 2020). The performance of employees is affected by the manager's demeanour, the organisational culture, individual challenges, job responsibilities, and monetary incentives (Saeed et al., 2013).

Employees' job performance deteriorates due to workplace health hazards, such as noise, which induces headaches and respiratory issues, or the anxiety of encountering such elements, potentially resulting in chronic health complications. Establishing a healthy and secure workplace enhances employee performance, thereby benefiting the employer. Francis (2011) confirmed that "an unhealthy work environment is a concern to us all." Productivity will decline if individuals cannot perform effectively at work owing to chronic headaches, watery eyes, respiratory problems, or anxiety around exposure to substances that could pose long-term health risks. Consequently, fostering a healthy work environment is both ethical and advantageous for the company.

Job performance is expected to enhance when an organisation implements effective occupational health and safety measures, as these initiatives create a secure work environment that boosts employee confidence and productivity. Consequently, improvements in efficiency and morale should lead to enhanced job performance, as noted by Amponsah-Tawiah and Dartey-Bawiah (2011). Employees knowledgeable about their job's health and safety protocols and the equipment they employ can function more effectively and efficiently, leading to enhanced performance (Hudson, 2012).

The physical health of employees might adversely impact their performance. When staff performance declines, it adversely impacts overall organisational performance. Health hazards are generally linked to chemical, physical, biological, or psychological factors (Francis, 2011).

Theoretical Literature

Theory of Accident Causation

This study utilised Heinrich Domino's theory of accident causation to clarify the reasons and behavioural factors associated with workplace accidents and health and safety issues. Heinrich Domino's theory of accident causation clarifies the factors and stages that lead to industrial accidents. Factors identified encompass the interaction

between humans and machinery, the association between severity and frequency, hazardous behaviours, costs associated with accidents, and the impact of safety on efficiency. Approximately 88% of fatalities stem from hazardous work practices, 10% from dangerous events, and 2% from natural disasters or acts of God (Heinrich, 1959).

The concept outlined the five phases of a workplace accident: contextual and social factors (knowledge and skills), physical condition or hazardous conduct, individual negligence, technical malfunction, and subsequent harm (Taylor, Easter & Hegney, 2004). Heinrich asserts that interrupting the sequence chain is essential for accident prevention. Thus, eliminating dangerous behaviours and settings can diminish accidents and associated injuries. The two fundamental assumptions of the Heinrich Domino theory of accident causation state that, first, workers (humans) are the primary contributors to accidents. Moreover, management is responsible for accident prevention (Jhamb & Jhamb, 2015). Thus, employees' good behaviour, based on awareness or knowledge, is crucial for averting workplace mishaps.

Safety analysis techniques

Subsequent to the Second World War, several safety analysis methodologies were established, predicated on the assumption that the accident process was sequential. DeBlois (1926), an American, was the first to propose that an accident should be interpreted as a series of events. This concept was then reiterated in Heinrich's manual (1931) and ultimately culminated in the renowned domino metaphor (1941). The domino metaphor was the initial technique for accident investigation (for a review, see Gulijk et al., 2012). FMEA was created in the 1940s, succeeded by Energy Analysis, Fault Tree Analysis (FTA), and Hazard and Operability Analysis (HAZOP) in the early 1960s. These strategies were designed to identify disruptions in the process flow to subsequently analyse and enhance safety alongside operability. During that period, the reliability of intricate systems in the military and aerospace sectors was significantly inadequate. As chemical processes in the process industry were ramped up, many became unstable, resulting in regular occurrences of 'loss of containment.' An FMEA analyses technological systems, focussing on both individual components and broader functional blocks. The method is intended to address fundamental enquiries regarding 'how a unit may fail' and 'the subsequent consequences' (Harms-Ringdahl, 1993). Each potential failure mode in a (sub)system is examined, and the impacts on the system are categorised according to the severity of these consequences. FMEA was adopted for military applications by the US Army in the late 1940s (Anonymous, 1949). The significant advancement occurred in the 1960s, coinciding with the development of manned lunar missions as part of the Apollo project. In the late 1970s, Ford employed the approach in safety analysis following the catastrophic Pinto incident. The petrol tank of this vehicle was positioned behind the back bumper, resulting in frequent explosions during head-on crashes. The FMEA method is presently implemented throughout multiple industrial sectors. The Energy Analysis method is a comprehensive safety analysis tool rooted in the renowned 'hazard-barrier-target' framework established by Gibson (1961) and Haddon (1963). Exposure to the agent 'energy' constitutes the initial factor in instances of damage or accidents. This strategy

involves initially partitioning an installation or factory into distinct physical areas. Energy sources are specified for each area, along with the current obstacles. Experts classify energy levels on a four-point scale from 0 (no hazard) to 4 (severe hazard). The classification of the 10 prevention measures is applied to the current and intended barriers, characterised as 'none', 'additional', 'reduced', etc. The guidance words pertain to materials, production functions, and layout considerations (HarmsRingdahl, 1993; Swuste et al., 1997; Venkatasubramian et al., 2000; Kjellen, 2000).

Research Methods

Area of Study

Ado Ekiti serves as the capital of Ekiti State, Nigeria. It serves as the headquarters of the Ekiti Central Senatorial District in southwestern Nigeria. Ado Ewi is a historic city established by Ewi Awamaro, the progeny of Biritikolu. Awamaro, known as the restless one, departed Ile-Ife with his father Ewi Apa Biritikolu and his uncle Oranmiyan, travelling to both Ita Orogun and Benin after a brief stay with Oloba in Oba-Ile, now Akure.

Oranmiyan (Oba of Benin) and Biritikolu first inhabited the forests of Benin; however, conflicts among their communities prompted their separation, leading Biritikolu to seek a new residence westward at Utamodi (Oke Papa). Ewi Biritikolu and one of his offspring governed there. Ewi Awamaro migrated to Ilesun (now Ado-Ekiti) after a brief residence in Udoani (Ido Ani) and Agbado during the extensive migration. Upon Ewi Awamaro's departure from Agbado, few elders stayed behind to rest and subsequently named the settlement Agba Ado (Elders' Camp), which is currently referred to as Agbado-Ekiti. In 2006, the population was 308,621. The inhabitants of Ado Ekiti predominantly belong to the Ekiti sub-ethnic group of the Yoruba.

Research Design

Singh (2016) posits that research design is fundamentally a declaration of the inquiry's purpose and the methodologies for gathering data, analysing it, and disseminating the findings to fulfil its objectives; thus, the study employed a descriptive survey research design. The descriptive survey primarily focusses on watching, detailing, and documenting features of a situation as it unfolds naturally, rather than providing explanations. The design facilitates a substantial volume of responses from a diverse demographic. Simultaneously, it offers a more precise representation of occurrences at a specific moment.

Population of the Study

The study population consists of all owners of registered Small and Medium Scale Enterprises (SMEs) in Ado Ekiti Local Government Area, Ekiti State, Nigeria. The study population consists of 928 individuals, as reported by SMEDAN (2017). The figure encompasses both proprietors and administrators of these enterprises within the Ado Ekiti metropolitan region.

Sample size and Sampling Techniques

A sample is the subset of the population chosen for examination. It is moreover a subset of the population elements chosen for study participation. The sample size for this study, utilising Taro Yamane, will consist of 279 registered SMEs in the Ado Local Government Area,

selected through a simple random sampling procedure. The Taro Yamane formula and its calculation are presented as follows:

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

Where:

n = sample size

N = the population size

e = level of significance

$$n = \frac{928}{1 + 928(0.05)^2} = 279$$

Research Instrument

This study use a survey questionnaire as a research tool to gather primary data due to the geographical dispersion of the population under investigation. The research population is

dispersed across a broad geographical expanse, and a questionnaire is deemed the most practical instrument for timely engagement. The survey was segmented into two parts. Section A will include the bio-data of the respondents, while Section B will have items designed to address each study topic.

Method of Data Collection

The questionnaires were distributed over a duration of one week. The researcher distributed the questionnaire with the assistance of three research aides. To guarantee appropriate administration, the researcher will provide training to the research assistants on the proper administration of the questionnaire. All administered questionnaires are anticipated to be recovered.

Table 1: Measurement of Variables.

Variables	Measurement	Sources
Independent	Measuring scale	
Occupational hazard prevention	Occupational hazard prevention	Suthakorn, W., Songkham, W., Tantranont, K., Srisuphan, W., Sakarinkhul, P. & Dhatsuwan, J. (2020)
Training	Training	Tello, F. P. H., Moscoso, S. C., García1, I. B. and Chaves, S. S. (2006)
Safety policy programme	Safety policy programme	Meng, X., Zhai, H. and Chan, A. H. S. (2019)
Physical and mental health of occupational safety	Physical and mental health of occupational safety	Adamopoulos, I.P., and Syrou, N.F. (2023)
Dependent		
Work Performance	Work Performance Measuring scale	Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Henrica C.W. (2013)

Source: Author’s Compilation, (2024).

Method of Data Analysis

Data analysis is the process of organising, structuring, and interpreting the vast amount of collected information. Upon gathering the requisite data, it was subsequently coded, revised, analysed, and rephrased to rectify faults and ensure uniformity. Frequency and percentage were employed to analyse the respondents' bio-data, while simple regression analysis would be utilised to examine the formulated hypotheses.

Model Specification

The research utilised the model developed by Iskamto, Ghazali, Afthanorhan, and Narti (2020), which investigated the impact of occupational safety and health on performance. empirical inquiry The multiple regression model is presented as follows:

$$WP = f(OHP, TG, SPP, PMH) \dots\dots\dots 3.1$$

Where:

OHP = occupational hazard prevention

TG = training

SPP = safety policy programme

PMH = physical and mental health of occupational safety

WP workers’ performance

$$EPR = \alpha_0 + \alpha_1OHP + \alpha_2TG + \alpha_3SPP + \alpha_4PMH + U \dots 3.2$$

α_0 = Intercept

$\alpha_1 - \alpha_4$ = Coefficient of independent variables

U = Error term

Results and Discussion

Demographic Distribution of Respondents

A total of three hundred thirty-five questionnaires were distributed to employees of hotels in the Ikeja local government area of Lagos, with two hundred fifty-one completed responses returned, indicating a response rate of 75%. Table 2 illustrates the demographic distribution, indicating that one hundred eighty respondents (71.7%) are male, while seventy-one respondents (28.3%) are female, suggesting a predominance of male respondents in this research.

The age distribution of answers indicated that one hundred and twenty-eight (51%) are aged 21-30 years, one hundred and seven (42.6%) are aged 31-40 years, and sixteen (6.4%) are aged 41-50 years. The educational qualifications of respondents revealed that thirty-three (13.1%) possess an OND, thirty (12%) hold an HND, one hundred and thirty-four (53.4%) have a First Degree, and fifty-four (21.5%) are Second Degree holders.

Data on years of experience reveal that two hundred eleven respondents (84.1%) have worked at the hotel for 1-5 years, while forty respondents (15.9%) have been employed for 6-10 years. The marital status of the respondents indicated that one hundred sixty-two (64.5%) are single, while eighty-nine (35.5%) are married, suggesting that singles outnumber married individuals in this study.

Table 2: Demographic Distribution of Respondents.

	Frequency	Percent
Gender Distribution		
Male	180	71.7
Female	71	28.3

Total	251	100.0
Age Distribution		
21-30Years	128	51.0
31-40Years	107	42.6
41-50Years	16	6.4
Total	251	100.0
Qualification		
OND	33	13.1
HND	30	12.0
First Degree	134	53.4
Higher Degree	54	21.5
Total	251	100.0
Years of Experience		
1-5Years	211	84.1
6-10Years	40	15.9
Total	251	100.0
Marital Status		
Single	162	64.5
Married	89	35.5
Total	251	100.0

Occupational hazard prevention and Workers' performance

In order to examine this hypothesis, the scores of the participants on two variables, Occupational hazard prevention and employee work performance, were calculated and then analyzed using basic regression analysis. According to the data in Table 3, the correlation coefficient (R) is 0.691, indicating a highly favorable and strong association between occupational hazard prevention and employee work performance. R² represents the proportion of the total variation in the dependent variable that can be accounted for by the variation in the independent variables. The obtained results indicate that the R² value is 0.478, suggesting that occupational hazard prevention accounts for 26.1% of the variance in workers' performance among Manufacturing companies. This is supported by the adjusted R² value of 0.476, which demonstrates the model's goodness of fit. This adjusted value implies that, after correcting errors and making adjustments, the model can only explain 47.6% of the variance through occupational hazard prevention. The remaining 52.4% is attributed to the error term in the model, as shown in Table 3.

The unstandardized beta coefficient for occupational hazard prevention is 0.600, with a t-value of 15.095 and a p-value of 0.000, which is less than the significance level of 0.05. The results indicated a positive correlation between occupational hazard prevention and employee work performance. This implies that obtaining occupational health and safety (OHS) information from healthcare professionals,

having access to healthcare services for work-related health issues, and receiving OHS information from healthcare volunteers are all important factors. Attend a training program on occupational health and safety organized by another organization to gain knowledge and insights on strategies and guidelines for mitigating work-related stress. The work corroborates with the work of Aldriantoa, Setiawanb, Fipianaa, Arifina, and Lusaa (2022) the results of the study, it is known that partially occupational safety and health have no significant effect on employee performance. In addition, it is also known that simultaneously there is a significant influence between the variables of Occupational Safety and Health on Employee Performance Katsuro, Gadzirayi, Taruwona and Mupararano (2010) study found out that OHS related problems negatively affect workers' productive capacity in the food industry resulting in reduced worker output. Workers develop a negative attitude and low morale towards work. High incidents of accidents at work also occur.

Based on the analysis of Table 3 in objective one, and using the F-Stat. 227.867 and p-value 0.000 < .05, it is evident that the null hypothesis, which states that occupational hazard prevention does not have a substantial impact on employee work performance, is false. Therefore, we reject the null hypothesis. Given this information, we have concluded that the alternative hypothesis stating that Occupational hazard prevention has an impact on workers' performance among Manufacturing companies is valid.

Table 3: Occupational hazard prevention and Workers' performance.

Variable	Coeff.	Std Error	t-value	p-value
Constant	1.285	0.085	15.172	0.000
Occupational hazard prevention	0.600	0.040	15.095	0.000
R	0.691			
R Square	0.478			
Adj. R Square	0.476			
F Stat.	227.867(0.000)			

Dependent variable: Workers' performance among Manufacturing companies

Training safety and Workers' performance

In order to examine this hypothesis, the scores of the participants on two factors, namely training safety and workers' performance among Manufacturing companies, were calculated and analyzed using basic regression analysis. According to the data in Table 4, the correlation

coefficient (R) is 0.754, which demonstrates a strong and favorable association between training safety and employee work performance. R² represents the proportion of the total variation in the dependent variable that can be accounted for by the variation in the independent variables. The obtained results indicate that the R² value is 0.568, suggesting that

training safety accounts for 63.4% of the variance in workers' performance among Manufacturing companies. This is supported by the adjusted R² value of 0.567, which demonstrates the model's goodness of fit. However, after correcting errors and making adjustments, the model can only explain 56.7% of the variance through training safety. The remaining 43.3% is attributed to the error term in the model, as shown in Table 4.

The unstandardized beta coefficient for training safety is 0.637, with a t-value of 18.105 and a p-value of 0.000, which is less than the significance level of 0.05. The findings indicate that there is a direct correlation between safety training and workers' performance among Manufacturing companies. This suggests that the training facilitated the exchange of professional experiences among colleagues and was highly compatible with the training process. The results support the work of Alewo and Makinde (2019) research reveals the selected organisations has a working

occupational health and safety practices but has an average management commitment to the safe work practices of employees. Kumarasinghe and Dilan (2022) study found a positive impact of occupational health and safety practices on the job performance of operational level employees in the construction industry. Putri, Triatmanto and Setiyadi (2017) result shows that occupational health and safety, work environment and discipline are simultaneously significant to the employee performance. Discipline holds the dominant factor which affects employee performance.

Based on the analysis of Table 4 in objective two, and using the F-Stat. 327.803 and p-value 0.000 < .05, it is evident that the null hypothesis, which states that training safety does not have a substantial impact on workers' performance among Manufacturing companies, is false. Therefore, we reject the null hypothesis. Based on this, we have accepted the alternative hypothesis that training in safety has an impact on workers' performance among Manufacturing companies.

Table 4: Training safety and Workers' performance among Manufacturing companies.

Variable	Coeff.	Std Error	t-value	p-value
Constant	1.178	0.078	15.156	0.000
Training safety	0.637	0.035	18.105	0.000
R	0.754			
R Square	0.568			
Adj. R Square	0.567			
F Stat.	327.803(0.000)			

Dependent variable: Workers' performance among Manufacturing companies

Safety policy programme and Workers' performance

In order to examine this hypothesis, the scores of the participants on two variables, namely the safety policy programme and employee work performance, were calculated and analyzed using basic regression analysis. According to Table 5, the correlation coefficient (R) is 0.803, indicating a highly positive association between the safety policy program and employee work performance. R² represents the proportion of the total variation in the dependent variable that can be accounted for by the variation in the independent variables. The results indicate that R² is 0.645, meaning that the safety policy program accounts for 64.5% of the variance in workers' performance among Manufacturing companies. This is supported by the adjusted R² value of 0.643, which demonstrates the model's goodness of fit. However, after correcting errors and making adjustments, the model can only explain 64.3% of the variance in workers' performance among Manufacturing companies. The remaining 35.7% is attributed to the error term in the model, as shown in Table 5. The unstandardized beta coefficient of the safety policy program is 0.681, with a t-value of 21.252 and a p-value of 0.000, which is less than 0.05. The results indicate a positive correlation between the safety policy program and workers' performance among Manufacturing companies. This indicates that while assisting new employees in becoming acquainted with the construction site, there may be instances where insufficient

attention is given to the safety of co-workers when encountering potential hazards during the construction process. In such cases, it is advisable to engage in discussions with colleagues to identify a safer approach for carrying out the work.

Based on the analysis of Table 5 in objective three, and considering the F-Stat. value of 451.669 and a p-value of 0.000 < .05, it is evident that the null hypothesis, which states that the safety policy programme does not have a substantial impact on employee work performance, is false. Therefore, we reject the null hypothesis. Given this information, we have concluded that the safety policy program does indeed have an impact on workers' performance among Manufacturing companies. Therefore, we have accepted the alternative hypothesis. The study in line with the work of Gbadago, Amedome and Honyenuga, (2017) study found out that the level of employee awareness of OHS Policy was 79.5 percent. The measures were seen to have been implemented adequately. Workers faced numerous hazards such as safety hazards, mechanical hazards, biological hazards, ergonomic, physical hazards and psychological hazards. Management was found to be constrained financially in the implementation and maintenance of OHS measures. Dwomoh, Owusu and Addo (2013) also inverse relationship between reducing the number of accidents and injuries through health and safety promotions and employee's performance.

Table 5: Safety policy programme and Workers' performance.

Variable	Coeff.	Std Error	t-value	p-value
Constant	1.075	0.072	14.992	0.000
Safety policy programme	0.681	0.032	21.252	0.000
R	0.803			
R Square	0.645			
Adj. R Square	0.643			
F Stat.	451.669(0.000)			

Dependent variable: Workers' performance among Manufacturing companies

Physical and mental health of occupational safety and Workers' performance

In order to examine this hypothesis, the scores of the participants on two variables, namely physical and mental health, related to occupational safety and workers' performance among Manufacturing companies were calculated and analyzed using basic regression analysis. According to the data in Table 5, the correlation coefficient (R) is 0.790, which suggests a highly favorable and strong association between the physical and mental health of occupational safety and workers' performance among Manufacturing companies. R2 represents the proportion of the total variation in the dependent variable that can be accounted for by the variation in the independent variables. The obtained results indicate that the R² value is 0.623, suggesting that the physical and mental health of occupational safety accounts for 62.3% of the variance in workers' performance among Manufacturing companies. This is further supported by the adjusted R2 value of 0.622, which represents the goodness of fit of the model. It indicates that after correcting errors and making adjustments, the model can explain only 62.2% of the workers' performance among Manufacturing companies,

while the remaining 37.8% is attributed to the error term in the model, as shown in Table 5.

The unstandardized beta coefficient for the relationship between physical and mental health and occupational safety is 0.711. The t-value for this coefficient is 20.302, and the p-value is 0.000, which is less than the significance level of 0.05. The findings indicated a positive correlation between occupational safety and the physical and mental well-being of employees, and their job performance. This implies that individuals experience tiredness when waking up in the morning, and throughout the workday, some individuals may feel as if they are being treated as impersonal 'things'. Based on the analysis of Table 5 in objective three, and with an F-Stat of 412.185 and a p-value of 0.000 < .05, it is evident that the null hypothesis stating that the physical and mental health of occupational safety does not have a substantial impact on workers' performance among Manufacturing companies is false. Therefore, we reject the null hypothesis. Therefore, we have concluded that there is a significant relationship between the physical and mental health of occupational safety and workers' performance among Manufacturing companies, supporting our alternative hypothesis.

Table 5: Physical and mental health of occupational safety and Workers' performance.

Variable	Coeff.	Std Error	t-value	p-value
Constant	1.105	0.073	15.059	0.000
Physical and mental health of occupational safety	0.711	0.035	20.302	0.000
R	0.790			
R Square	0.623			
Adj. R Square	0.622			
F Stat.	412.185(0.000)			

Dependent variable: Workers' performance among Manufacturing companies

Conclusion and Recommendations

Conclusion

The study determined that obtaining human resource safety (OHS) information from healthcare professionals, having access to healthcare services for work-related health issues, and receiving OHS information from healthcare volunteers are important factors. Attend a training session on occupational health and safety conducted by another organization to get knowledge and insight into strategies and guidelines for minimizing work-related stress. The training facilitated the exchange of professional experiences among colleagues and was highly suitable for the training process. The human resource training facilitated the acclimation of new employees to the construction site's working environment. However, there is a tendency for these individuals to overlook the safety of their co-workers when encountering potential risks during the construction process. In order to address this issue, it is advisable to engage in discussions with colleagues to identify safer approaches for conducting the work. Upon awakening, they experience tiredness and perceive themselves as mere 'things' in their work environment.

Recommendations

Based on the results of the study, the following suggestions are proposed:

Occupational safety and health programs should have the dual objective of preventing and safeguarding against

potential risks. The primary focus should be on implementing preventive measures at the workplace level. Workplaces and working environments should be strategically organized and engineered to ensure optimal safety and well-being. It is essential to actively encourage the ongoing enhancement of workplace safety and health. It is essential to periodically update firm health and safety policies, laws, and technical standards in order to prevent occupational injuries, diseases, and fatalities. These updates should be in line with social, technical, and scientific advancements, as well as other changes in the workplace. Developing and implementing effective standards will require regular toolbox talks, emergency drills, and workplace inspections to promote awareness.

Accurate information on dangers and hazardous materials, workplace surveillance, policy compliance monitoring, and associated activities are crucial for establishing and enforcing successful policies. Health promotion is a fundamental aspect of occupational health practice. It is imperative to exert efforts to improve the physical, mental, and social well-being of workers at hospitality industry. Workers who experience harm should have access to compensation, rehabilitation, and curative treatments. Workplace injuries, mishaps, and illnesses that are caused by or occur while employment. Efforts should be made to mitigate the repercussions of occupational hazards.

Education and training are essential elements of secure and conducive working environments. It is crucial to educate

workers and employers on the need of implementing secure working protocols and the methods to do this. Accurate data is essential for both preventing and treating occupational injuries and diseases. Additionally, it is necessary for the development of efficient policies and to guarantee their implementation.

Education and training require information. Workers, employers, and competent authorities each have certain responsibilities, duties, and obligations. As an illustration, workers are required to adhere to defined safety protocols; employers are obligated to furnish secure work environments and guarantee access to initial medical assistance; and the responsible authorities must create, convey, and regularly assess and revise occupational safety and health policies.

Strict adherence to policies is necessary. An inspection system is necessary to ensure adherence to occupational safety and health regulations and other labor laws. The duties of senior management, middle management, supervisors, and workers at all levels should be viewed as complementary and mutually supportive in the shared objective of promoting occupational safety and health to the maximum extent feasible within the limitations of company circumstances and procedures. Given that workplace risks can occur, it is the duty of upper management to guarantee a secure and conducive working environment. This implies that it is necessary for them to take measures to avoid and safeguard workers from potential dangers and occupational hazards. However, the role of senior management extends beyond this. It involves understanding occupational dangers and making a commitment to guarantee that management processes prioritize safety and health in the workplace. Decisions about the selection of technology and the organization of work should be guided by an understanding of the safety and health implications.

Management must allocate adequate resources, both financial and human, to ensure the effective operation of the workplace safety and health program. It is necessary to create and execute dynamic management strategies in order to maintain the consistency, significance, and up-to-dateness of all the components that establish the occupational health and safety requirements for hospitality in Ekiti State.

Collaboration between management and workers or their representatives in the workplace is crucial for ensuring a safe and healthy working environment in the field of occupational safety and health. Additionally, it can aid in creating and sustaining a positive social atmosphere and in attaining broader goals. It is currently customary to establish joint safety and health committees and appoint workers' safety delegates, which can effectively encourage workers' active participation in safety and health initiatives.

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