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COLLEGE OF ART AND BUILT ENVIRONMENT

DEPARTMENT OF CONSTRUCTION TECHNOLOGY AND MANAGEMENT

KNUST

**THE EFFECT OF OCCUPATIONAL HEALTH AND SAFETY ON PRODUCTIVITY
OF PROJECT EMPLOYEES OF WILKINS ENGINEERING LIMITED**

By

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requirements for the award degree of

MASTER OF SCIENCE IN PROJECT MANAGEMENT

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DECLARATION

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Kwame Nkrumah University of Science and Technology, Kumasi or any other educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

The numerous cases of injuries, fatalities, recurrent absenteeism and enormous compensation costs that characterize most Ghanaian industries are a worry to the nation's economic development. These adverse repercussions of unhealthy and unsafe working environment continue to stifle employees' productivity and have the tendency of impeding economic

growth. Globally, about 4% of Gross Domestic Product (GDP) is lost due to poor workplace health and safety policies, which is just the immediate cost of hazardous and unhealthy job setting. To effectively tackle this menace, it is expedient to really know and understand the effects of occupational health and safety of an organization on employee's productivity.

Quantitative research strategy and structured survey design were used in gathering data from Wilkins Engineering Limited to determine the impact of general challenges of health and safety practices on employee productivity. The results revealed that 84.3% of respondents said there is extreme impact of H&S challenges on employee's level of productivity and performance. Also, 82.6% stated that challenges of H&S have extreme impact on their attendance to work. With regard to the concentration levels of employees, while 48.7% stated there is great impact, the remaining 51.3% of respondents said H&S challenges would have extreme impact on their concentration levels at work. Findings from the study indicate that health and safety are vital to one's productivity.

The study recommends that the organization should make Occupational Health and Safety a top most priority, as it is very pertinent in enhancing productivity and also safeguarding employees' health. Also, the organization should conduct frequent safety trainings for employees. Finally there should be a system that evaluates, monitors and controls risk at work places in order to reduce the decline in productivity associated with any kind of risk.

DEDICATION

This work is dedicated to my Lord and Saviour Jesus Christ, whose ever-sufficient grace has seen me through this research work successfully.

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The logo of Kwame Nkrumah University of Science and Technology (KNUST) is centered in the background. It features a yellow eagle with its wings spread, perched on a green shield. Above the eagle is a black mortar and pestle with a red flame rising from it. The entire emblem is encircled by a yellow banner with black text.

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I hereby declare full responsibility for any errors, omissions or misrepresentation that may be found in this work.

Mr. Baadu, Samuel Nyarko

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TABLE OF CONTENTS

| | |
|------------------------|-------|
| DECLARATION | ...ii |
| ABSTRACT | ..iii |
| DEDICATION | .iv |
| ACKNOWLEDGEMENTS | v |
| LIST OF TABLES | ..ix |
| | |
| CHAPTER ONE | |
| 1 INTRODUCTION | 1 |
| 1.1 Introduction | 1 |

| | |
|--|----------|
| 1.2 Background of the Study | 1 |
| 1.3 Statement of the problem | 3 |
| 1.4 Research Questions | 4 |
| 1.5 Aim of the study | 5 |
| 1.6 Objectives of the Study | 5 |
| 1.7 Significance of the Study | 5 |
| 1.8 Brief Research Methodology | 6 |
| 1.9 Scope of the study | 7 |
| 1.10 Limitations of the Study | 7 |
| 1.11 Organization of the Study | 8 |
| CHAPTER TWO | |
| 9 LITERATURE REVIEW | 9 |
| 2.1 Introduction | 9 |
| 2.2 Theoretical Review | 9 |
| 2.2.1 Maslow's Hierarchy Theory | 9 |
| 2.2.2 ERG Theory (Alderfer) | 10 |
| 2.2.3 Theory of Behavior-BASE Safety | 11 |
| 2.3 Empirical Review on Occupational Health and Safety | 12 |
| 2.4 Occupational Health and Safety Practices | 14 |
| 2.5 Concept of Occupational Health and Safety | 16 |

| | |
|---|----|
| 2.6 Importance of Occupational Health and Safety | 18 |
| 2.7 Measures to Promote Occupational Health and Safety | 21 |
| 2.8 Factors Affecting Implementation of Health and Safety Concept | 22 |
| 2.9 The Case of Ghana | 24 |

CHAPTER THREE

27 METHODOLOGY

..... 27

| | |
|--|----|
| 3.1 Introduction | 27 |
| 3.2 Research Design..... | 27 |
| 3.2 Population of the study | 28 |
| 3.3 Sample Size and Sampling Technique | 28 |
| 3.4 Source of Data..... | 29 |
| 3.5 Data Analysis Techniques | 29 |
| 3.6 Validity and Reliability of the Instrument | 30 |
| 3.6.1 Validity | 30 |
| 3.6.2 Reliability | 30 |

CHAPTER FOUR

31

DATA ANALYSIS AND DISCUSSION

31

| | |
|--|----|
| 4.1 Introduction | 31 |
| 4.1.1 Age of Employees | 31 |
| 4.2.2 Gender of Employees | 32 |
| 4.2.3 Educational Level of Employees | 33 |

| | |
|--|-----------|
| 4.2.4 Job level of Employees | 33 |
| 4.2.5 Working Experience of Employees or Respondents | 34 |
| 4.3 Occupational Health and Safety Practices At Wilikns | 35 |
| 4.3.1 Health and Safety Committee | 36 |
| 4.3.2 Health and Safety Training | 38 |
| 4.4 Awareness of Health and Safety Practices and Procedures | 39 |
| 4.5 Promotion of Occupational Health and Safety At Wilkins | 42 |
| 4.6 Effect of Health and Safety on Employee Productivity | 44 |
| 4.7 Correlation | 45 |
| 4.8 Regression Analysis | 46 |
| 4.9 Coefficients of Employee | 47 |
| 4.10 Reliability Test | 50 |
| CHAPTER FIVE | 51 |
| FINDINGS, CONCLUSIONS AND RECOMMENDATIONS | 51 |
| 5.1 Findings..... | 51 |
| 5.1.1 Occupational Health and Safety Practices | 51 |
| 5.1.2 Awareness on Occupational Health and Safety Practices and Procedures | 51 |
| 5.1.3 Promotion of Occupational Health and Safety | 52 |
| 5.1.4 Effect of Occupational Health And Safety on Productivity | 52 |
| 5.1.4.1 Effect of Health and Safety Practices on Employee Productivity | 52 |
| 5.2 Conclusions | 53 |
| 5.3 Recommendations | 54 |

| | |
|-------------------------|-----------|
| References | 55 |
|-------------------------|-----------|

KNUST

LIST OF TABLES

| | |
|---|----|
| Table 4.1 Age of Employees | 34 |
| Table 4.2 Gender of Employees | 34 |
| Table 4.3 Education of Employees..... | 35 |
| Table 4.4 Job Level of Employees..... | 36 |
| Table 4.5 Years of Experience..... | 36 |
| Table 4.6 Occupational Health and Safety Practices..... | 37 |
| Table 4.7 Health and Safety Committee..... | 39 |

| | |
|---|----|
| Table 4.8 Health and Safety Training..... | 40 |
| Table 4.9 Awareness of health and Safety Practices..... | 41 |
| Table 4.10 Promotion of Occupational Health and Safety..... | 40 |
| Table 4.11 Effect of Occupational Health and Safety..... | 43 |
| Table 4.12 Correlation..... | 47 |
| Table 4.13 Model Summary..... | 49 |
| Table 4.14 Coefficients..... | 50 |



CHAPTER ONE

INTRODUCTION

1.1 Introduction

This is the study's introductory chapter. It includes the study background, issue statement, research issues, goals and goals, research methodology overview. It also includes the meaning of the research, the scope of the research, the study restriction, and lastly, the study organization.

1.2 Background of the Study

Approximately 7,500 individuals die each day and more than 2.78 million casualties happen each year, out of this an estimated 374 million accidents happen annually at work owing to poor working conditions (ILO, 2019). Many of these result in huge human losses, loss of productivity, and a financial burden on the victim as well as the country as a whole. Globally, 4% of Gross Domestic Product (GDP) is lost due to poor workplace health and safety policies, which is just the immediate cost of hazardous and unhealthy job setting. Indirect costs are empirically thought to be about twice to three times the immediate cost of these hazardous and unhealthy job methods, which could increase the worldwide GDP loss proportion (ILO, 2019). The International Labour Organization (ILO, 2019) describes occupational health and safety (OHS) as the result of an employee being adequately protected from work-related illness, injury and disease. The ILO embraces the concept that the views of employees need to be taken into account and given equal status in ensuring sound business development with those of other stakeholders in the workplace. Workplace health and safety is crucial to ensure that individuals are not harmed in the workplace and that pain, suffering and life loss are prevented. To guarantee that individuals are not injured can extend citizens' productive working life and add to economic growth and prosperity. Promoting occupational health and safety benefits include allowing individuals to live happier and longer life, improving financial activity, reducing

health and social services demand and lowering disease and injury-related expenses on individual and community bases (Cudjoe, 2011 and Bennet, 2011). Promoting occupational health and safety is in everyone's highest interest, but before the International Labour Organization (ILO) formulated policies on occupational safety and health in 1959, employers were not very worried about their employees' health and safety requirements (Cudjoe, 2011). When employers do not provide safety and health policies, most employees sustain multiple degrees of injury during work operations. An injured worker sometimes had to file for compensation, which in most cases was ineffective and even the cost of doing so prevented most injured employees from seeking legal action. However, ILO has produced some suggestions on the establishment of occupational safety and health facilities in companies that aim to encourage workers' health and safety issues. Recommendations such as protecting the workforce from any type of health risks and contributing to the physical and mental adjustment of workers are among those produced to safeguard staff. The Ghana Labour Act (Act 651, 2003) protects the health and safety of staff in Ghana. It places the safety of employees under leadership and oversight of employers by stating the employer has a duty to ensure that every worker he / she hires works in a suitable, safe and safe setting. The law does not show the appointment of health and safety officers in organizations and therefore most businesses do not have safety managers who monitor and evaluate hazards that threaten the health of staff and thus this accounts for the innumerable incidences of job injury. Institutions such as the Trades Union Congress (TUC) are required to initiate health and safety policies and to form employee unions within businesses to enhance the quality of employees' working lives. Like any other trade union, the TUC generally impacts the outcomes of occupational health and safety by offering information on occupational hazard in several unique ways. The information provided protects employees who do not want to work under dangerous tasks and provides employees with help and representation in claims for compensation for accidents. The TUC does this by

putting pressure on employers for better projects and utilizing their capacity to advocate for laws to improve the safety and security of workers. Aside from the administrative procedure and its authorization, the TUC likewise can hope for the arrangement of defensive hardware, installment of pay claims and the setting up of joint association the board safety and security sheets (Gomez, 2011). Proper working conditions on health and safety are often assessed by the degree to which employees in a company sustain injury and fatality. Expenses that are associated with injuries and casualties also provide another way of assessing the effectiveness of workers' safety. The cost that is associated with insurance premiums, lost wages and lost productivity creates a significant financial loss to organizations (Cudjoe, 2011). A study by Piavi et al, (2008), referenced in Abakah (2018), shows that 1,852 deaths were registered in 1998 in Ghana owing to poor health and safety practices, which even increased to 9,661 in 2005. The rate of detrimental injuries in 1998 was 20.6 (per 100,000 staff) and in 2003 this increased to 23.6 (per 100,000 staff). They also registered about 1.4 million days of absenteeism in 1998; Ghana was the sixth highest in the African region. In 2003, Ghana's absenteeism rose to about 2.3 million days, making Ghana the fourth highest in Africa. These absenteeism numbers had serious economic repercussions that affected the productivity of the individual at the stage of the business and eventually the economy as a whole. Furthermore, according to Mock et al. (2005), referenced in Adjotor (2013), unsafe and unhealthy working environments can be very burdensome for Ghanaian employees because of the disparity between the average cost of treatment and their average earnings.

1.3 Problem Statement

The innumerable cases of injury, death, frequent absenteeism and enormous expenses on compensations that define most Ghanaian sectors are affecting the economic development of the country. This is due to the reality that these adverse effects of unhealthy and unsafe working setting continues to besiege labour productivity within the nation and have a longterm tendency

to delay economic growth. At least 7% of Ghana's GDP is spent on solving health and safety-related issues (Annan, 2011). This involves reliance on public facilities for social health care, social housing and food aid, as injured employees are disrupted in their capacity to meet these requirements. Therefore, if not addressed, the adverse consequences emanating from poor safety and unhealthy working environments will in the long run decrease labour productivity. In addressing this threat, attention has been focused mostly on the extent of injury and fatality suffered by staff and in other instances the cost assessment connected with such accidents and deaths. However, in order to tackle this threat efficiently, it is necessary to know and understand the impacts of health and safety on the productivity of the employees. This will promote policy execution to reduce this threat. The impacts of working conditions on labour productivity across Ghana's sectors still remains inconclusive because accessible works basically evaluate the effect on individual sectors. For example, Danso et al. (2010), by estimating the number of deaths that happen, regarded the effect of unsafe working conditions on employees in construction sector in Kumasi. In addition, other research works such as Mock et al. (2005), Ametepe (2011) and Annan (2011) are likewise without in-depth analysis in the form of price calculation or reporting. The magnitude poor working circumstances on labour productivity must also be understood to guarantee the well-being of employees.

1.4 Research Questions

1. What are the occupational health and safety practices at Wilkins Engineering Limited?
2. What are the levels of employee's awareness of Wilkins health and safety practices and policies?
3. What are the challenges management face in the implementation of occupational health and safety measures?

4. What are the effects of occupational health and safety measures and practices on productivity of project employees at Wilkins Engineering Limited?

1.5 Aim of the study

The aim of the study is to evaluate the effect of occupational health and safety on productivity of project employees of Wilkins Engineering Limited.

1.6 Objectives of the Study

1. To identify occupational health and safety practices at Wilkins Engineering Limited.
2. To evaluate the level of employee's awareness of Wilkins health and safety practices and policies.
3. To identify the measures to promote occupational health and safety at Wilkins Engineering Limited.
4. To evaluate the effect of occupational health and safety measures and practices on productivity of project employees at Wilkins Engineering Limited.

1.7 Significance of the Study

The rationale for this research lies in its purpose to highlight the essential contribution of health and safety to workforce productivity by estimating the marginal impacts of health and safety on the performance of staff. Thus, it aims to move away from estimating the number of injury incidences, compensation amounts paid and losses in working hours; a concept on which most works are based in occupational safety and health studies. The importance of this is to provide the foundation for an efficient health and safety policy that addresses particular health and safety requirements that will eventually increase the workforce's efficiency of any nation, most notably Ghana. This research work can also serve as a reference material for health and safety or good working conditions policy decision-makers or academic research students.

Be that as it may, regardless of how safe an association is, if the representatives in the association don't understand their duties and participate in risky practices, it could prompt

abrogates of safety insurances and result in occupational hazards as well as property misfortunes. Giving a sheltered and energizing work environment isn't modest. The investigation will likewise make suggestions on how bosses could settle on cognizant choices to put resources into safety and security. For example, bosses need to enlist safety experts to run their security projects and introduce designing controls by including some type of machine adjustments.

On a general level, the investigation will improve our comprehension of safety and security and how to affect change as far as improving work related safety and security practices especially with respect to lessening the danger of injuries or safety issues in Wilkins Engineering Ltd. It will likewise help with guaranteeing sheltered and energizing practices and approaches for employees in Wilkins Engineering Ltd by delivering for research, data, instruction and preparing in the field of occupational safety and health.

1.8 Brief Research Methodology

Primary data were gathered to acquire appropriate study information. The primary data was gathered by carefully organized questionnaires sent to Wilkins Engineering Limited project employees. By evaluating the impacts of occupational health and safety on the productivity of project employees at Wilkins Engineering Limited, the study adopted an explanatory research design. The research population also included the company's project employees. The population size was 200 from which 132 were sampled and given questionnaires.

Using SPSS (v.25), data collected was evaluated. Basic descriptions such as frequencies, percentages, mean and standard deviation have been used to give significance to the collected information. An assessment of regression was carried out to determine the impacts of occupational health and safety on the productivity of Wilkins Engineering Limited's project employees.

1.9 Scope of the Study

The study's conceptual range covered occupational health and security procedures, level of employee knowledge of Wilkins health and security procedures and policies, leadership challenges faced in implementing occupational health and security measures, and impact of occupational health and security on Wilkins Engineering Limited employee productivity. The research was restricted to the activities of Wilkins Engineering Limited in Accra with respect to the organizational context.

1.10 Limitations of the Study

The research should have been expanded to other locations of projects in order to expand the scope, but with time the researchers were hard-pressed. As a full-time worker, the investigator sat through taught lessons and also conducted the study in a comparatively brief timeframe. Therefore, it was necessary to drop for the research on the weekends to do most of the writing-ups. Consequently, access to data was a major challenge. Due to the secrecy code enshrined in the contractual agreement between the company and the employees, it was difficult to assess information from Wilkins Engineering Limited. This accordingly posed a challenge, as the employers were not willing to give the required data on the organization's tasks. To beat this requirement, the researcher looked for endorsement from the administration of the Wilkins Engineering Limited by composing a letter to the executives and furthermore guaranteed exacting secrecy of the data gave. The polls were likewise filled in namelessness. The cost that was brought about in leading the examination was additionally a test. The researcher, in this way, procured the administrations of prepared information gatherers to aid the information accumulation.

1.11 Organization of the Study

This study was divided into five (5) sections. The First Chapter captured the background of the study, the statement of the problem, the goal and objectives set for the study, the questions of

research, the justification of the study, the scope of the study, the limitations of the study and the study organization. Chapter Two of the research evaluated current literature on occupational health and safety theories at Wilkins Engineering Limited on the productivity of project staff. The third chapter dealt with the methodology of the study. Chapter Four describes presenting, analysing and discussing results of data collected while the chapter that presents study results, suggestions and conclusions is the Fifth Chapter.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section reviews the study's significance of literature. These are the fields considered: theoretical review, empirical assessment, occupational health and security procedures,

interventions to support occupational health and security, worldwide occupational health and safety outlook. **2.2 Theoretical Review**

2.2.1 Maslow's Hierarchy Theory

Maslow's hierarchy of needs is a theory of psychological motivation developed by Abraham Maslow. Maslow thought that individuals are moving through various phases of five requirements motivating our behaviour. He called them physiological, safety, love and belonging, appreciation, and self-actualization needs. Maslow thought that each phase of need had to be met before it could progress to the next level of need. For instance, physiological needs for food and water must be met first before health and economic safety becomes a concern (Maslow, 1943).

Maslow's hierarchy of safety needs refers to the need for safety and protection. When we meet our food and water physiological requirements, our safety needs prevail over our behaviour. These demands are related to our natural desire for a predictable, orderly world within our control. Safety demands can occur as job security, savings account, insurance policies, economic safety, and health well-being in today's world. The hierarchy of needs according to Maslow shows that humans perform distinct actions in order to attain the greatest need of self-fulfillment. When the health of a worker is in danger, that is, the environment or the workplace is not secure, the competence level of the worker drops, thereby slowing down his or her work, leading to low productivity and poor accomplishment. Health and safety thus provide an opportunity for the employee to fulfill this need to achieve personal and organizational objectives (Maslow, 1943).

2.2.2 ERG Theory

Clayton Alderfer expanded and streamlined the hierarchy of Maslow into a smaller set of three requirements: Existence, Relatedness and Growth.

2.2.2.1 Existence

The need to remain alive and safe, now and in the foreseeable future, is at the lowest level.

When we have the requirements of life satisfied, we feel secure and comfortable physically.

2.2.2.2 Relatedness

At the next stage, we consider our needs once we are safe and secure. We are now interested in relationships with other individuals and what they think of us. We feel a sense of relationship when we are connected within our instant community, a sense of identity and place.

2.2.2.3 Growth

We strive to develop and be creative for ourselves and our environment at the highest stage.

We feel a kind of wholeness, accomplishment and fulfillment when we grow effectively.

The implication of Alderfer (1972) ERG theory in managing occupational health and safety is that organizations need to design the work environment to maintain their staff safe and alive so that they can achieve the organization's objectives as well as individual objectives. When workers are secure and satisfied, they perform well. The physical environment must be hazard-free. Working circumstances must also be conducive in order to increase the morale of the employee.

2.2.3 Theory of Behaviour-Based Safety

Behavior-based safety (BBS) is a strategy for reducing workplace accidents and fatalities. The hypothesis is that a combination of three measurable components is workplace security: personality, environment, and conduct. Only when these three parts are combined can the workplace be accident-free. BBS argues that by observing and analyzing the interactions between people's conduct and the work environment, it is possible to identify factors that encourage safe or unsafe conduct. BBS also claims that a business can dramatically decrease the amount of lost and minor injuries and enforce established behavioral safety procedures by

changing the environment to encourage safe behaviour. Advocacy for behavior-based safety has also generated controversy, with some arguing that a focus on behavior places excessive accountability on employees and that BBS is too restrictive and should strive for a more holistic or cultural strategy. Behavioral safety has in any situation given a platform for meaningful debate, and conflicting opinions have given an chance to learn more about psychology for injury prevention (Cooper, 2000; Geller, 2004). To be successful, all employees from the Chief Executive Officer (CEO) must be included in the BBS program to the most basic job position as the necessary changes can not be achieved without buy-in and help from all those engaged in making those choices. The core components of the BBS program include: (a) prevalent objectives for staff and executives; (b) behavioral observation and feedback process; (c) official observation information assessment; (d) enhancement objectives; and (e) enhancement and goal achievement strengthening. Other elements that may contribute to the achievement of a BBS program include (a) multi-level teams for the stage of evaluation, observation and review, or for all three stages: (b) focusing on site observation: and (c) acknowledging that BBS is not a fast fix, but a dedication to a safer setting and decrease of injury.

2.3 Empirical Review on Occupational Health and Safety

Jackson et al (2009) describes safety and health in the workplace as the physiologicalphysical and psychological circumstances of a workplace resulting from the organization's job setting. Physiological-physical conditions include occupational disease and accidents such as true life or limb loss, while psychological conditions include mental illness symptoms and burnout at job. According to the ILO / WHO (1995), occupational health should strive to promote and maintain the highest degree of physical, mental and social well-being of staff in all occupations; to prevent work-related departures owing to their working conditions; to protect workers from risks; and to maintain the worker in an occupational environment adapted to his physiological

and psychological needs. Employee health and safety is essential to any organization's efficiency as it constitutes a significant drain on the funds of the organization. Health and safety management, however, can bring significant advantages to the organization if properly managed. Research submitted in 19 case studies by the Health and Safety Executive (2004) showed that health and safety leadership leads to greater productivity, reduced absenteeism, enhanced employee morale and relationships. Because of these advantages, many employers and safety professionals have embraced three primary approaches to safety management and security problems. The following are: organisational strategy, approach to engineering and individual strategy. The organisational strategy includes creating employment, creating and applying security policies, using security committees and coordinating the inquiry of accidents. On the other side, the engineering approach includes the design of job environments and machinery, equipment review and the application of ergonomic principles. Finally, there is the individual strategy, which includes strengthening motivation and attitudes to safety, offering safety training for employees and rewarding safety through incentive programs. Health and safety management is a problem for all employers around the world, although its adverse effects on employees and organisational productivity are most frequently felt in developing countries, especially in Africa. Most African countries are struggling with occupational health and safety processes such as health and safety training, risk assessments, safety inspections and audits, and labor health facilities provision. Despite this, there are still several health and security hazards, risks and diseases in most organisations (Meredith, 1986; Africa Report Regional Committee, 2004). Health and safety surveys on the global workplace indicate that most employers were unable to enforce effective measures to improve and maintain the health and safety of their employees. For example, a 2005 study by the International Labour Rights Fund in the Guatemalan Sugar Industry revealed that the industry has a serious impact on the quality of life of people living near or in the fields. Those operating in the sector were

susceptible to accidents and occupational diseases as only 61% of cane cutters wear some type of personal protective equipment that did not fulfill the normal criteria. 93% of employees said that in the event of cane fires, there was no emergency evacuation procedure. Fumigators in the fields worked without protective equipment for long hours and did not receive training on the hazards associated with their work. Ashraf (2005) found that frequent injuries and accidents happened in his studies in the sugar industry in Pakistan and that very little was done to improve the situation. In each industry, 15% to 20% of staff are wounded each year in their workstations. Only 40% of staff were equipped with security measures and only 30 to 40% of staff were trained in machine operations. Ashraf (2005) also realized that 10% of machines had completed their service life, while 60% of machines required preventive maintenance during operations. The International Union of Food (IUF) Global Sugar Program and the Kenya Union of Sugar Plant Workers (KUSPW) reported similar outcomes in a research on the occupational health and safety situation in the sugar industry in Kenya. The research revealed bad health and safety culture of employees, unsafe working conditions, and bad execution of health and safety laws by sugar businesses. An Agbola (2012) investigation into the impact of health and safety management on employee safety at Ghana Ports and Harbours Authority revealed poor health and safety management practices, poor safety training, lack of information on hazardous chemicals and hazardous materials, lack of monitoring and enforcement of safety laws and vital safety equipment. On the contrary, Yiquan et al (2012) noted that, after developing and implementing a new framework to cultivate a good security culture in the workplace, Singapore saw a decrease in workplace fatality from 4.9% to 2.2% per 100,000 staff between 2004 and 2010.

2.4 Occupational Health and Safety Practices

Occupational health practices and safety procedures include all operations, programs and actions that employers, employees and their organizations, as well as developers and architects

undertake to safeguard the health of employees and encourage safety. Today, most organizations have taken a number of steps to enhance and preserve workplace health and safety for employees. The effectiveness of health and safety management in the workplace depends on the nature of work performance structures and organisational work techniques as well as leadership and managerial resilience in the quest for continuous improvement in employee health and security (Armstrong, 2006). Some of the health and safety techniques are debated: wellness programs in most organisations are gaining popularity today. Increasing numbers of employers are setting up stress management programs and a physical health and wellness program to ensure that employees keep a significant balance between their activities in their lives. This can be a high-performance catalyst and a medical cost reduction measure (Torrington et al 2008). According to Gupta (2009), wellness programs promote employee health by providing education on health issues, supporting lifestyle changes directed at decreasing the risk of disease or providing early warning of developing health problems by screening for issues such as hypertension, high cholesterol, diabetes, HIV / AIDS and other diseases. Such programs improve employee morale and boost job satisfaction. Wellness programs also help employees to produce lifestyle changes through better nutrition, regular exercise programs, and abstinence from smoking and alcohol consumption, stress counseling, and annual medical examinations. Safety training and education in health and safety are crucial for obtaining the skills, knowledge and attitudes needed to finish any task. For all levels of management employees and employees, training is crucial for efficient safety programs. Mamoria & Gankar (2011) observed that security training aims to create a favorable attitude towards security measures and precautions while training aims at providing instant job knowledge, skills and operating methods and raising awareness of the hazards that can be encountered during the work. The technique also makes it possible to know the causes of

accidents, the meaning of good housekeeping and secure handling of products, and how to deter them.

In addition, safety training enables staff to obtain higher skills to control their job, leading them to more safely perform their work. Safety education and training creates safety awareness among staff and outcomes in safe handling of materials, according to Saleemi (2009). It guarantees the employee's safe job performance by improving his skills in safety equipment use and operation. To ensure efficiency, training should be ongoing. Piran & Reynolds (1976) found the response to safety campaigns and training to be very good in the short term but later normalized employee safety behaviour. For long-term results, therefore, management should ensure regular and frequent refresher courses. In the latest past, accident prevention and safety has escalated as contemporary industrial employees are subjected to mechanical, chemical, electrical and radiation risks as a result of fast industrial progress. Safety engineering has several aspects, according to Gupta (2009). These include shielding those machines that put employees at risk. To prevent access and protect them from unforeseen operational contingencies, they should be fenced or covered. Secondly, material flows should be correctly scheduled to eliminate risks and a well-designed fire detection, prevention and control system should be in place. Furthermore, flammable liquids and materials should be carefully stored and treated. The provision of safety equipment such as safety glasses, hard hats or helmets, gloves, nose masks and safety boots is another significant component. Easy to wear, comfortable, lightweight and durable should be the characteristics of this equipment. Finally, to guarantee that all equipment and machines are maintained in ideal working condition, there is a need for periodic maintenance. Nearly all big organisations are providing a medical unit to serve employees ' requirements. They cope with worker-induced diseases or accidents and provide fresh staff with medical examinations. Organizations need to provide appropriate services for emergency care and hospitalization. A professional physician and nurses should

also be present who should guarantee that appropriate and confidential medical records are maintained. Management should demonstrate active collaboration with public health organizations as well as factory or office maintenance and oversight of adequate sanitation and hygiene. All staff must undergo adequate medical examination upon jobs and subsequently annual medical examination of these occupational diseases. It is also vital to ensure that health education and information infrastructure are sometimes provided to all employees (Gupta, 2009). In relation to health care, there is a need to provide sufficient and clean drinking water for workers' offices and residences. High levels of cleanliness should be preserved throughout and the washrooms should be provided with sufficient sanitary facilities.

2.5 Concept of Occupational Health and Safety

Health is a favourable idea that involves social, personal and physical assets (Nutbeam 1990). It was conceived as the capacity to achieve objectives, satisfy private requirements, and deal with daily life (Raphael et al., 1997). The World Health Organization (WHO) describes health as not just the absence of disease but as a complete state of physical, mental and social well-being (WHO, 1986). A joint definition of occupational health endorsed by the ILO and the WHO (as revised in 1995) states that: *“Occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the workers in an occupational environment adapted to their physiological and psychological capabilities; and, to summarize : the adaptation of work to man and of each man to his job”* (WHO, 1995). As a consequence, occupational health gradually developed from a mono-disciplinary risk-oriented exercise to a multi-disciplinary and thorough strategy taking into account person, overall health and personal development's physical, mental and social well-being (WHO, 1994). The above

understanding combined with the reality that at the core of every company is man whose production partially depends on his health status, an appreciation of the notion of occupational health and safety becomes essential for the achievement of any organization. Occupational health and safety (OHS) is a multidisciplinary concept of medicine, law, technology, economics and psychology (Leka, 2003). Occupational health and safety, as a broad-based concept, encapsulates the worker's mental, emotional and physical well-being in relation to his work. This makes it a significant discipline that contributes to any organization's achievement. However, with all the other fields such as law, economics, medicine, technology, psychology, among others feasting on it when hungry, considering the multiplicity of fields subsumed in it, it was regarded as a throw-away topic. Therefore, not only do the different disciplines concentrate on elements of the notion, but they also refer to it only in critical circumstances. The law discipline, for example, only refers to the notion when employers pay compensation for mistakes in health and safety.

OHS projects have traditionally focused on chemical, biological and physical exposures or dangers, illnesses, disorders and work-related accidents, while psychosocial work-related risks are still mainly overlooked and their causes and implications are still not sufficiently understood, particularly as they relate to the context of developing countries (WHO, 2007). However, health problems concerning the physical workspace; occupation types and their impact on health; job stress, work schedules, and other work-related psychosocial problems (Warr, 1987) are all given some attention in latest OHS projects, especially in developed countries. According to the WHO, all employees are entitled to good and secure job and a working atmosphere that allows them to live a productive social and economic life (WHO, 1994). This declaration places human life at the core of all productive operations, which at no price should be compromised.

2.6 Importance of Occupational Health and Safety

Earning a living and also reaching ancient age in good circumstances is in the interests of employees and their officials (WHO, 2007). These interests are not contradictory, but complement the interests of the business. In terms of the bottom line, organizations have traditionally assessed their health (Robin, 2003). However, with previous study revealing enormous economic and human expenses connected with unhealthy organizations (Cooper, 1994), human resource professionals have started to place healthy workplace programs and operations as a source of competitive advantage to reduce the rising expenses of health care; help in attracting, acquiring and retaining staff; better manage Relationship between employer and worker; satisfy the requirements of an progressively varied workforce and increase staff morale (Fulmer et al., 2003; Jaffe, 1995; Pfeffer, 1994).

The objective of many organizations, as opposed to optimizing health, was to prevent being unhealthy. However, there is increasing recognition that economic health correlates with investments in the well-being of employees (Goetzel et al., 2001), a condition that gradually places health and security problems at the forefront of work, work and organizational development attempts. Indeed, in personal, economic and social terms, the costs of unsafe, stressful and unhealthy workplaces are horrific (Kelloway & Day, 2005) and therefore require instant attention. Over the previous decade, a growing amount of journals have been witnessing interventions directed at stopping work-related disease and injury and health of employees. The increasing interest and investment in health promotion in the workplace raises no questions as a cost-benefit analysis of the topic is more likely to go in its favour - an affirmation of Frost and Robinson's (1999) claim that many company executives are recognizing the significance of safe organizations and healthy people. For example, a 2007/2008 work-related illness survey by the Health and Safety Executive (HSE) estimated 34 million working days lost: 28 million work-related illnesses and 6 million work-related injuries

(HSE, 2009). In financial terms, translating this implies erosion of a portion of organizations' profit margins. Jones et al. (1998) in a comparable research, revealed that 14% of individuals in the United Kingdom who retired soon did so because of ill-health and some of these ill-health circumstances were thought to be the consequence of working circumstances or at least aggravated by working circumstances. It seems to be a thing of the past to believe that manpower is expandable (Stout, 1974) and that organizations can afford to lose some of their staff just to be substituted in no moment. Organizations can no longer afford to lose experienced and dedicated staff due to illhealth induced by unhealthy working circumstances as the price of hiring, choosing, developing, motivating and maintaining fresh staff who take over from experienced staff lost due to ill-health associated work remains incalculable. OHS remains therefore an important consideration for all organizations; especially organizations involved in high-risk operations such as the mining, logging and construction industries. Good OHS procedures not only provide a more secure working atmosphere but also enhance the morale and productivity of workers (Australian Council for Safety and Compensation: ASCC, 2006). Businesses experience fewer workplace injuries by following excellent OHS practices and benefit from greater retention rates for employees and improved corporate image. This decreases the expenses associated with delays in manufacturing, hiring fresh employees and replacing machinery, and prevents the resulting insecurity and job burden on coworkers (ASCC, 2006). Businesses that strive to enhance their OHS efficiency generate safer workplaces that not only benefit employers and staff, but also their families, their communities and their economies as a whole. This is demonstrated by the impact of the 1998 Longford gas explosion that left Australia's Victoria state for 20 days without its main gas provider. Given that natural gas was commonly used for cooking, water heating and home heating in buildings in Victoria, many households suffered 20 days of cold showers and cold evenings. Further industry losses as a

consequence of the crisis were estimated at approximately 1.3 billion Australian dollars (Hopkins, 2001). The concept's increasing significance has resulted some scientists to advocate it as a performance variable like manufacturing, revenues, sales, quality control or client complaints (Kivimäki et al., 1995). Considering that working people spend at least one-quarter to one-third of their waking lives in the workplace (Harter et al., 2003) and the fact that job satisfaction is estimated to represent a fifth to a quarter of adult satisfaction (Harter et al., 2003), OHS problems in organizations involving mental, physical, chemical and biological work exposures should be of concern to all employers. National economies also appreciate the advantages of a flourishing OHS strategy, as industry advantages tend to trickle down in the form of taxation and other social services (health care infrastructure, social support benefits). A elevated level of OHS favorably correlates with elevated per capita GNP (WHO, 1994). Countries that invest most in occupational health and safety have the largest productivity and most resilient economy, while least-investment nations have the least productivity and most fragile economies (WHO, 1994). Hence, active participation in occupational health and safety correlates with favourable economic development, while low investment in occupational health and safety is not economically competitive.

2.7 Measures to Promote Occupational Health and Safety

A safety performance measure is only suitable if accidents on the building site are prevented (Hinze and Raymond, 2003). To guarantee safety efficiency at building locations, efficient management should be employed. It is shown that on-site health and safety management is crucial in identifying significant building work-related risks (Fang et al., 2004). Many scientists have endorsed a behavior-based approach to health and safety leadership and have been confirmed to efficiently enhance safety efficiency in industrialized environments (Lingard & Rowlinson, 1998). Toole (2002) suggested a balanced agreement on the role of developers, contractors, technicians, advisors and subcontractors in ensuring safety at the building site.

Proper assignments of duties should rely on the capacity of each staff to enhance measures of security control. Hinze and Raymond (2003) argued that a study on workers' perception and leadership on building project safety should be performed. To promote health and safety at the workplace, innovative methodologies are required. He added that new methods will be particularly appropriate for employees who frequently modify their employment and therefore have insufficient access to health and security promotion projects (Sorensen et al., 2007).

Cascio (2001) concluded that management should formulate a safety working strategy and guarantee efficient execution on the building site. He added that a health and security program should be established to improve the sustainability of the policy, involving four elements such as: an efficient security record scheme, a tangible budget, health and security management engagement, and management's excellent exemplary practices. Dedobbeleer and François (1991) proposed that when formulating the security policies of the organization, there is a need for leadership to tackle employees' issues. The government should play a role in the legal enforcement of health and security laws in the building sector, as suggested by Tam et al. (2004). Hinze and John (2003), instigated that policies that have a positive impact on the performance of building safety include minimizing or eliminating the turnover of employees and increasing the development of a company's size. Hare et al. (2006) theorized that at the pre-planning phase of building, health and security should be incorporated. He added that instruments for design and construction management should be improved to combat the factors that inhibit the inclusion of a normal health and safety plan. Hinze and Raymond (2003) argued that the project's safety checks should be carried out to provide data on the work site's physical condition in order to insure the works against accidents at the work site. Abudayyeh et al. (2006) instigated the elimination or reduction of expenses resulting from worksite accidents through dedicated security attempts at the building site. It was further assumed that a clear

connection exists between management's dedication to safety and the frequency of accidents and disease related to building job.

2.8 Factors Affecting Implementation of Health and Safety Concept

Building industry performs works connected with significant hazards that pose a risk to building employees. Management of the security system has been in place for several years, but its importance was very small (Teo and Ling, 2006). Jaselskis et al. (1996) instigated that variables that determine the safety result of an organization include the cash invested in security programs, the frequency of security inspections and the time assigned to safety problems at project locations and business level. These include financial factors, technical factors, psychological factors, procedural factors, organizational factors, historical factors and environmental problems (Sawacha et al., 1999).

Economic factors are determined by financial values that are engaged in health and safety practice and include risk compensation fees that must be paid to accident-affected building employees. By providing training for building site employees and applying efficient handling of machinery and plant on building site, the technical factors and procedural variables can be evaluated. The secure and unsafe working behavior of building employees and managers determines psychological factors. The worker background and individual features, such as work experience and age, evaluate historical variables. Environmental factors and organisational factors can also be assessed by the sort of strategy that management has implemented in addressing job security (Sawacha et al., 1999). Aksorn and Hadikusumo (2008), identified four main factors that influence safety as follows: safety system control and avoidance, employee participation, management engagement and safety arrangement. Dedobbeleer and François (1991) also recognized management's dedication to workplace security and construction workers' participation in safety procedures as the two main variables that determine the level of inclusion of health and safety practices. Lin and Mills (2001),

highlighted the size of the business, management and employees' dedication to health and safety procedures as significant variables influencing the performance of health and safety in building businesses. Abdelhamid and John (2000), suggested that the main factors affecting unsafe working conditions were: management actions and inactions; unsafe worker behaviour; events beyond man's control; unsafe working environment. Gillen et al. (2002), recognized manufacturing deadlines and customer requirements as variables that affect the health and safety of building. Suraji et al. (2001), argued that the main variables influencing building security include: building project management, work systems, job environment, operational variables and building technique. Gambatese et al.(2005), stipulated that the construction project design is one of the significant factors that contributes to accidents at the construction site. Some factors have been considered to restrict the application of security concepts in design, including project costs and timetable. These factors were further broken down into incongruous construction planning, inappropriate building project control, inaccurate contract operation, bad site condition and inappropriate work performance.

2.9 The Case of Ghana

There is a verifiable change toward peace, stability and economic growth on the African continent. This scenario makes West Africa appreciate the world for its substantial investment possibilities. Ghana is one of those countries in the sub-region that has recently experienced fast industrialization. Industrialization comes with its own issues as discussed above, one of which is Occupational Health and Safety (OHS). In countries such as Ghana with a quickly growing workforce and a growing informal sector as opposed to the formal sector, staff have tended to fight for job security while neglecting the need to encourage quality of work, although ensuring a secure and healthy work atmosphere is a human right problem, investing in occupational health and safety leads to enhanced working circumstances (World Economic Forum, 2002). A daily argument was that bad countries and companies are unable to afford

health and safety measures. However, there is no proof that a small standard of security and health would have benefited any nation or business in the long run. On the contrary, ILO research based on World Economic Forum (2002) data and the Lausanne Management Institute show that the safest nations are also the most competitive. While providing a safe and healthy work environment is a human right issue, investment in occupational health and safety leads to improved working conditions, increased productivity, and improved product and service quality. A common argument was that poor nations and businesses can not afford health and security measures. However, there is no evidence that any country or company would have benefited in the long run from a low level of safety and health. On the contrary, ILO studies based on information from the World Economic Forum (2002) and the Lausanne Management Institute shows that the most competitive countries are also the safest. It is not probable that selecting a low-security, low-health and low-income survival approach will result in elevated competitiveness or sustainability (ILO, 2003). One of the primary disadvantages of providing efficient enforcement and inspection facilities in most African nations is the absence of extensive OHS policy, bad infrastructure and financing, inadequate amount of skilled occupational health and safety professionals and the overall absence of appropriate data (Muchiri, 2003). The Republic of Ghana embodies in its entirety the above statement. The execution of OHS in Ghana has been notified by two primary laws. These are the 1970 Factories, Offices and Shops Act, Act 328 and the 1987 Workmen's Law on Compensation, PNDC Law 187. The primary provisions of the Factories Offices and Shops Act 1970 relate to changes needed to achieve internationally accepted norms of supplying for the safety, health and welfare of people working in factories, offices, stores, dock work and construction. The vast majority of sectors, including agriculture, and most organizations within the informal sector, are missing in the coverage of sectors under the Act. There are also very limited provisions in the Act that provide inadequate prevention. For

example, preventive strategies such as risk assessments, medical monitoring and hazard control are not covered by the Act. There are also standards lacking in the Factories Offices and Shops Act that will be measured against services. The absence of standardized norms against which organizations could be assessed led to the assumption of many discretionary powers by factory inspectors and the temptation of abuse of authority. In addition to the 1960 Convention on Radiation Protection (No. 115), enacted in 1961, there are no regulations and guidelines for certain classes of dangerous job circumstances such as agriculture, construction and others. This makes it harder for employers to abide by legislation and contribute further to inspectors' discretionary powers. Typical health care workers found in health organizations (physicians, nurses, and paramedics) are the main personnel represented in the country's occupational health services. Professionals specifically trained in occupational health are seriously lacking in the nation. Ghana Health Service (GHS) records show that there are only four occupational health doctors, one occupational health nurse and 34 qualified factory inspectors (GHS, 2007). This situation has been further worsened by lack of organizations offering the necessary training programs in the region. The University of Ghana's School of Public Health, founded in 1994 with the task to train public health professionals who will be leaders and agents of transformation for health growth in Ghana specifically and in the broader African context, is still struggling to establish an occupational health and safety program. Capacity building, a necessity for managing occupational health facilities to obtain the correct caliber of employees, continues to be a significant challenge in Ghana. The above description of Ghana's state of occupational health services represents the nation's safety culture; "*all die be die*"; to wit every death is ordained. Thus, individuals are ready to sacrifice their life to gain a living in a poor nation like Ghana. Given the big investment inflows into the nation in the region of mining and construction (two hazardous sectors), this should increase concern for the country's policy makers (GHS, 2007).

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CHAPTER THREE

METHODOLOGY

3.1 Introduction

This section discusses the methodology used to complete the survey. The study deals with research design, population, method of sampling, sample size, data collection and processing, and presentation and analysis of data.

3.2 Research Design

The researcher has the option in every research to choose from a survey, an experiment, history, archival record analysis, and a case study (Yin, 2003). The study design employed was survey strategy and according to Saunders et al. (2009), surveys are traditionally associated with the deductive research approach, which is normally used in business and management studies. Surveys are generally carried out using a questionnaire as the information collection instrument (Robson, 2002), as used in this research, i.e. the research carried out on the impact of

occupational health and safety on the productivity of Wilkins Engineering Limited project employees. There are three types of study strategy, namely quantitative, qualitative and mixed approach, as Creswell (2009) and Saunders et al. (2009) regard. Variables are evaluated numerically in a quantitative research and statistical processes are used to analyze data acquired (Saunders et al., 2009). According to Creswell (2009, p. 4), "qualitative study is a means to explore and understand the significance ascribed to a social or human issue by people or organizations." The focus on numeric (numbers) or nonnumeric (words) information is one way of distinguishing between the two. Studies carried out using structured questionnaires are mostly quantitative, while surveys carried out using observation or interviews are mostly qualitative in nature (Creswell, 2009). The mixed approach combines in a single research the qualitative and quantitative approaches. The mixed's overall strength exceeds either qualitative or quantitative research (Creswell & Clark, 2007).

However, the objectives of this study justified the use of a quantitative approach to measure the impact of occupational health and safety on the productivity of project employees.

3.3 Population of the Study

A population is the total of all the individuals who have certain characteristics and are of interest to a researcher. Polit and Hungler (1999) refer to the population as a total or aggregate of all objects, subjects or members that conform to a set of requirements. The population of the study is made up of project employees of Wilkins Engineering Limited with a population size of two hundred (200).

3.4 Sample Size and Sampling Technique

Sampling is known as the method of choosing a part of the population to represent the whole population (LoBiondo-Wood & Haber 1998; Polit & Hungler 1999). However, due to time constraints, access to respondents and other considerations, this research targeted a sample size of 132 employees from Wilkins Engineering Limited using the following relation:

$$\text{Sample size, } n = N * \frac{\frac{Z^2 * p * (1-p)}{e^2}}{[N - 1 + \frac{Z^2 * p * (1-p)}{e^2}]}$$

Where,

- N = Population size (200),
- Z = Critical value of the normal distribution at the required confidence level of 95% (1.96),
- p = Sample proportion (0.5),
- e = Margin of error (0.05)

Hence, using the above relation, Sample Size, n, should be 132.

Convenience sampling technique was used to select the employees from Wilkins Engineering Limited. This is where respondents who were readily available and willing to partake in the data collection were selected. In all, 132 employees were selected and given questionnaires. However, due to time constraints and inability to retrieve some of the questionnaires from some of the respondents, a sample size of 115 employees was actually used in this study.

3.4 Source of Data

Primary data collected using questionnaire and interview guide were used by the research. Questionnaire and interview guide were used as a study tool to collect primary data on occupational health and safety practices, worker level knowledge of health and safety procedures, workplace health and safety measures. Secondary health and safety data was evaluated from the project notes, newspapers, and other publications of the company.

3.5 Data Analysis Techniques

Data analysis consists, according to Bernard (1998), of systematically searching for patterns in recorded observations and formulating thoughts that account for those patterns. The Statistical

Package for Social Science (SPSS) v.25 evaluated the quantitative data. Basic descriptions such as frequencies, percentages, mean and standard deviation have been used to give significance to the collected information. An assessment of regression was carried out to determine the impacts of occupational health and safety on the productivity of Wilkins Engineering Limited's project employees. The analysis was organized in five sections. The first section used appropriate statistical instruments to present the respondents' demographics. The second section provided analyzes and conversations using mean scores, standard deviations, on occupational health and safety procedures. The third section provided analysis and debates using mean scores, standard deviations, on the level of employee knowledge of health and safety procedures. The fourth section provided analyzes and conversations with mean results, standard deviations, on measures to encourage occupational health and safety. The final section evaluated the impact on the productivity of project employees of occupational health and safety.

3.6 Validity and Reliability of the Instrument

3.6.1 Validity

The degree to which data collection techniques or techniques correctly measure what they were meant to measure is described as validity (Saunders et al., 2009). Several distinct measures have been taken to guarantee the study's validity. First, on the basis of empirical literature, the study tools were created. Secondly, pilot testing of the study tools also allowed the researcher to make the needed changes to the final questions. The enhanced questionnaire was used to collect data from a reliable source (staff and management Wilkins Engineering Limited). Lastly, the data was gathered within three weeks and there is no significant conditions have changed with respect to the subject matter.

3.6.2 Reliability

According to Saunders et al. (2009), reliability is the extent to which methods or methods of data collection will yield consistent findings, similar observations would be made or conclusions arrived at by other researchers, or there is transparency in the manner in which sense was made from raw data. The Cronbach's alpha was used to evaluate the consistency within. That is, how closely connected as a group are a set of items. A coefficient of reliability of 0.70 or greater is regarded significant and therefore acceptable in social science studies.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents the responses from respondents to help answer the research questions captured on the study in Wilkins Engineering Limited. The results were analyzed and presented with the view of addressing the research questions and as well as link the findings to alternative or supportive views in the literature review.

A total number of one hundred and thirty two (132) questionnaires were administered, out of which one hundred and fifteen (115) were obtained and used for data analysis. These valid questionnaires used for the analysis produced a response rate of 87%. The data from each response was entered into SPSS software and used for analysis. This shows that, the response rate was quiet good and hence represents the opinion of the entire population. The questionnaire was developed based on extensive literature on occupational heath and safety

practices. Also included were some demographic questions soliciting information on respondent's gender, age, highest educational background, level of job role and level of experience.

4.2 Summary Of Respondents Statistics

4.2.1 Age Of Employees

Table 4.1 below depicts the age distribution of respondents who participated in the study. The purpose was to find out the average age of the employees who are actively involved in the operations within the organization. The Table further indicates that 27 respondents representing 23.5% fall within the age brackets of 18-25 years; 59 respondents representing 51.3% fall within the age brackets of 26-35 years. 24 respondents representing 20.9% fall within 36-45 years while the remaining 5 respondents representing 4.3% fall within the age brackets of 46 plus. It is therefore evident that respondents in the 26-35 year age group represent the majority of employees for the study.

Table 4.1 Age of Employees

| Employees' Age | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------|-----------|---------|---------------|--------------------|
| 18-25 | 27 | 23.5 | 23.5 | 23.5 |
| 26-35 | 59 | 51.3 | 51.3 | 74.8 |
| 36-45 | 24 | 20.9 | 20.9 | 95.7 |
| 46+ | 5 | 4.3 | 4.3 | 100.0 |
| Total | 115 | 100.0 | 100.0 | |

Source: Survey Data, 2019

4.2.2 Gender Of Employees

The respondents were asked to indicate their gender by ticking the appropriate column they belonged. The purpose was to find out the number of males and females who actually participated in the study. Table 4.2 shows that out of the 115 respondents, majority of the respondents (104) representing 90.4% were males, while 11 respondents representing 9.6% being females.

Table 4.2 Gender of Employees

| Gender | Frequency | Percent |
|--------|-----------|---------|
| Male | 104 | 90.4 |
| Female | 11 | 9.6 |
| Total | 115 | 100.0 |

Source: Survey Data, 2019

4.2.3 Educational Level Of Employees

The participants were asked to provide their background in education. The aim of the research was to find out the educational / academic skills of the participating staff. Table 4.1.3 shows elicited answers, 50 participants representing 43.5% received Senior Secondary School certificates, 15 representing 13% received a Diploma, 46 participants representing 40% received a Bachelor's degree, while the remaining 4 representing 3.5% received a Master's degree. The information demonstrates that most staff have achieved a certain level of education with guided and well informed opinions and views.

Table 4.3 Education Level of Employees

| Level | Frequency | Percent |
|---------|-----------|---------|
| SSSCE | 50 | 43.5 |
| Diploma | 15 | 13.0 |
| Degree | 46 | 40.0 |

| | | |
|---------|-----|-------|
| Masters | 4 | 3.5 |
| Total | 115 | 100.0 |

Source: Survey Data, 2019

4.2.4 Job Level Of Employees

96 respondents representing 83.5% fall within the low-level working category, 17 respondents representing 14.8% are in the middle category while 2 respondents representing 1.7% fall in the top management of the company. Table 4.1.4 therefore shows that majority of employees fall within the low-level category of the company.

Table 4.4 Job Level of Employees

| Job Level | Frequency | Percent |
|----------------|-----------|---------|
| Low level | 96 | 83.5 |
| Middle level | 17 | 14.8 |
| Top Management | 2 | 1.7 |
| Total | 115 | 100.0 |

Source: Survey Data, 2019

4.2.5 Working Experience Of Employees/Respondents

Table 4.5 depicts the working experience of employees who participated in the study. The objective was to determine how long and consistent employees have worked in the organization. 81 respondents representing 70.4% have worked between 0-5 years in the organization as showed by table 4.5. The 0-5years also form the majority of employees. Further

29 respondents representing 25.2% have worked between 6-10 years in the organization; 5 respondents representing 4.3% have worked between 11-15 years.

Table 4.5 Years of Experience of Employees

| Years of Experience | Frequency | Percent |
|---------------------|-----------|---------|
| 0-5 | 81 | 70.4 |
| 6-10 | 29 | 25.2 |
| 11-15 | 5 | 4.3 |
| Total | 115 | 100.0 |

Source: Survey Data, 2019

4.3 Occupational Health And Safety Practices At Wilkins Engineering Limited

To enable the researcher, identify the safe practices and measures employed at Wilkins, were made to answer a questionnaire on the Occupational health and safety practices that are in use at Wilkins. The findings revealed that majority of the employees 108 (90%) strongly agreed that routine and regular inspection of health hazards exist while 7 respondents representing 10% said they agree. A further 85% indicated that they disagree to the existence of evaluation of working conditions in relation to workers' health while 5% and 10% indicated that they are neutral and strongly disagree respectively to the existence of evaluation of working conditions in relation to workers' health. Concerning the issue with surveillance in conformity with OSH guidelines, 92% said they agree while a further 8% said they strongly agree. 89 respondents representing 82% said they agreed that competent individuals handling Health and Safety supervision.

Also, Table 4.6 indicates that majority of respondents confirmed the existence and operationality of OHS practices at Wilkins. It must however be noted that Evaluation of

workers' conditions with regards to health needed to be looked at again. This is because majority of the respondents (85%) disagree on the existence and operationality of such practice at Wilkins.

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Table 4.6 Occupational Health and Safety Practices at Wilkins Engineering Limited

| OHS Practices | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| Routine & Regular Inspection of hazards | | | | 7 (10%) | 108 (90%) |
| Evaluation of working conditions with regards to health of workers | 10% | 85% | 5% | | |
| Surveillance in conformity to OSHA Guidelines | | | | 92% | 8% |
| Competent individuals handling H&S Supervision | | | 8% | 82% | 10% |

Source: Survey Data, 2019.

Tables 4.6 above therefore showed that majority of the employees identify the routine and regular inspection as the most prevalent practice at Wilkins. The responses revealed that

management of Wilkins Engineering Limited has mostly put in place standard safe working procedures to protect employee from accidents and occupational hazards, even though there is still much room for improvement. Subsequently employees must endeavor to follow the safety guidelines in the workplace to ensure safety and prevent accidents.

4.3.1 Health And Safety Committee

Since most of the respondents indicated the existence of Health and Safety committee, the researcher went further to test the functionality of the committee's work. The results are presented in Table 4.8 below.

Table 4.7 Functionality of Health and Safety Committee

| Characteristic of Committee | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|-------------------|----------|-------------|------------|----------------|
| Functioning H&S committee | | | | 3 (2.6%) | 112 (97.4%) |
| Committee allows Employee participation in programmes | | | 101 (87.8%) | 14 (12.2%) | |
| Committee determines issues to be undertaken & make recommendations | 24 (20.9%) | | 64 (55.7%) | 27 (23.5%) | |

Source: Survey Data, 2019

Table 4.7 showed that 112 of respondents representing 97.4% Strongly agree that the health and safety committee at Wilkins is functioning well while 3 respondents representing 2.6%

respondents agree. 14 respondents representing 12.2% agree with the question that the committee allows employees to participate in programmes while 87.8% of 101 are neutral that they do allow employees to attend programmes. 27 respondents representing 23.5% agree that committee determines H&S issues for recommendation while 55.7% and 20.9% are neutral and Strongly Disagree respectively. It should be noted that the health and safety committee needs to consider the views of employees with regards to forwarding recommendations of employees' health issues to management as indicated by 20.9% disapproval of such practice being done.

Table 4.8 Health And Safety Training

| Characteristic of Training | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| Sufficient Training on H&S | | | 25 (21.7%) | 90 (78.3%) | |
| WEL educate employees on H&S Processes | | | 21 (18.3%) | 94 (81.7%) | |
| H&S educational programme is regular and continuous | | | 75 (65.2%) | 40 (34.8%) | |
| Information on H&S are cooperatively shared with employees | | 3 (2.6%) | 94 (81.7%) | 18 (15.7%) | |

Source: Survey Data, 2019

Table 4.8 depicts the level of agreement or otherwise of the training practices on Health and Safety at Wilkins Engineering Limited (WEL). From Table 4.10, 25 respondents representing

21.7% were neutral about the sufficient nature of training received on health and safety at Wilkins while the remaining 90 respondents representing 78.3% agreed that trainings were sufficient. On the issue with the education received from WEL on health and safety processes, 21 respondents representing 18.3% were neutral while 94 respondents representing 81.7% chose agree. 40 respondents representing 34.8% chose agree in the case of how regular and continuous training programmes on health and safety at Wilkins have been while 65.2% representing 75 of respondents were neutral. 94 respondents representing 81.7% chose neutral with regards to health and safety information sharing with employees while 15.7% and 2.6% chose agree and disagree respectively.

As indicated in Table.4.8, a lot needed to be done with regards to health and training. This because an average percentage of respondents (60%) stated their neutrality with regards sufficient training of health, sharing of health processes information and knowledge of health processes.

4.4 Awareness Of Health And Safety Practices And Procedures

To determine the awareness level of Health and Safety Practices and Procedures at Wilkins, questions were put to respondents and the results presented in Table 4.10.

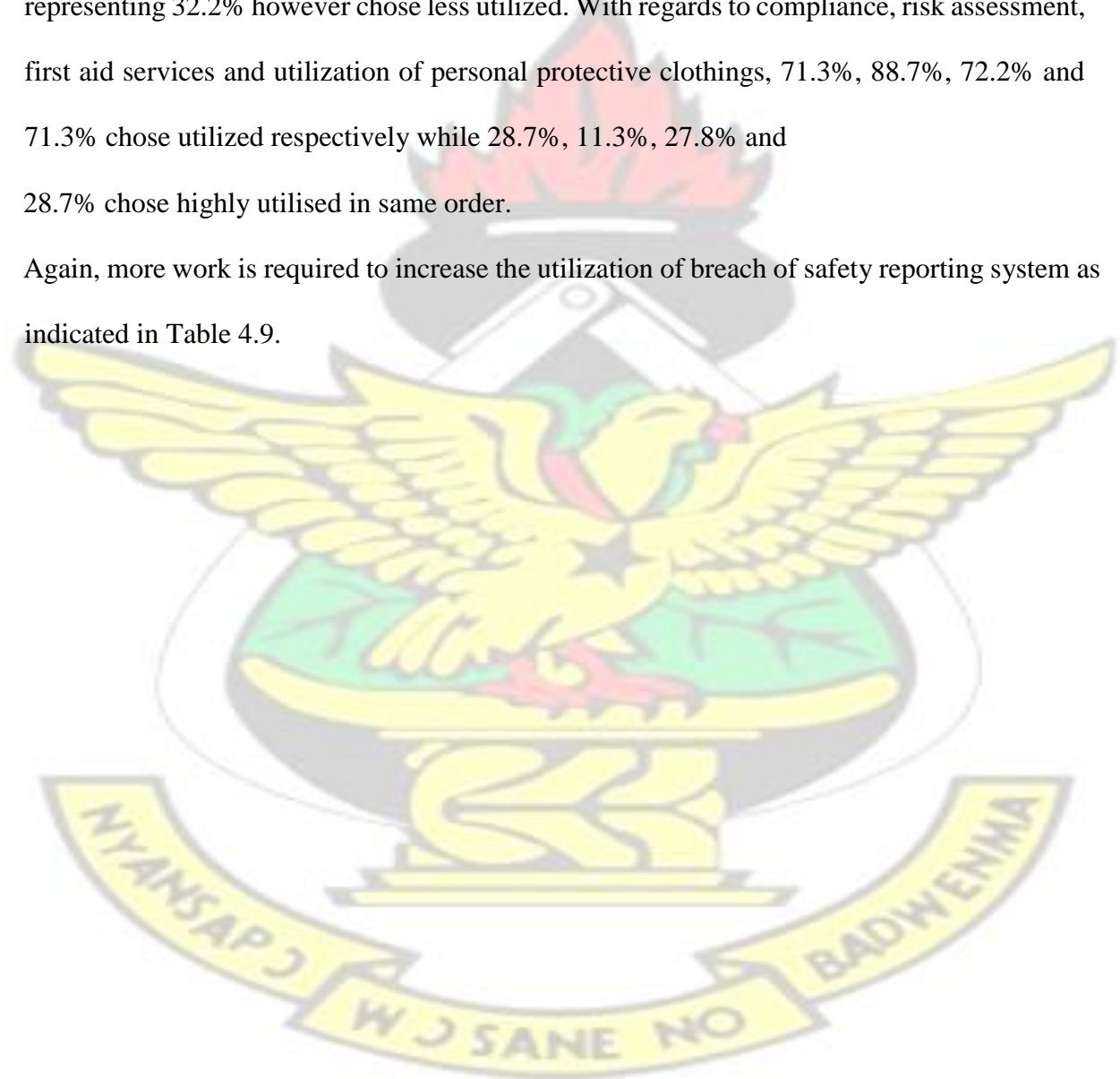
Table 4.9 Level of Awareness of Health and Safety Practices

| Health and Safety Practice | Not Utilized | Less Utilized | Neither | Utilized | Highly Utilized |
|--|---------------------|----------------------|----------------|-----------------|------------------------|
| Knowledge & Usage of H&S regulations | | 12 (10.4%) | 8 (7%) | 77 (67.1%) | 18 (15.7%) |
| Posting of Signs & Notices on Project sites | | 37 (32.2%) | | | 78 (67%) |
| Full time Employment of OHS at Project Officers sites | | 94 (81.7%) | | 21 (18.3%) | |
| Compliance with Safety Standards | | | | 82 (71.3%) | 33 (28.7%) |
| Breach of Safety policies Reporting system | | 86 (74.8%) | | 29 (25.2%) | 33 (28.7%) |
| Periodic Risk Assessment | | | | 102 (88.7%) | 13 (11.3) |
| First Aid Services | | | | 83 (72.2%) | 32 (27.8%) |
| Availability & Utilization of Personal Protective clothing & Equipment | | | | 82 (71.3%) | 33 (28.7%) |

Source: Survey Data, 2019

From Table 4.9, 12 respondents representing 10.4% said knowledge and usage of safety regulations were less utilized at Wilkins while 67.6% representing the views of 77 respondents said they were utilized. 8 respondents chose Neither while 15.7% representing 18 respondents chose highly utilized. Furthermore, 78 respondents representing 67.8% chose highly utilized in relation to the Postings of signs and notices at Project sites. 37 respondents representing 32.2% however chose less utilized. With regards to compliance, risk assessment, first aid services and utilization of personal protective clothings, 71.3%, 88.7%, 72.2% and 71.3% chose utilized respectively while 28.7%, 11.3%, 27.8% and 28.7% chose highly utilised in same order.

Again, more work is required to increase the utilization of breach of safety reporting system as indicated in Table 4.9.



4.5 Promotion Of OHS At WEL

Table 4.10 Measures to Promote of OHS At Wilkins Engineering Limited

| OHS Promotion Measure | Highly Insignificant | Insignificant | Neither | Significant | Highly Significant |
|--|-----------------------------|----------------------|----------------|--------------------|---------------------------|
| Undertake periodic risk assessment | | | | 20 (17.4%) | 95 (82.6%) |
| Government should make it mandatory for the construction industry to implement H&S | | | | 13 (11.3%) | 102 (88.7%) |
| Provision for Regular Health services at site. | | | | 1 (.9%) | 114 (99.1%) |
| Adherence to regulations, legislations & standards of OHS | | | | 9 (7.8%) | 106 (92.2%) |
| Investigation on accidents and its causation | | | | | 115 (100%) |
| Compliance | | | | 16 (13.9%) | 99 (86.1%) |
| Publicity of accidents & safety statistics | | | | 36 (31.3%) | 79 (68.7%) |

| | | | | | |
|------------------------------|--|--|--|------------|----------------|
| Regular Evaluation | | | | 11 (9.6%) | 104 (90.4%) |
| High Expectations of work | | | | 98 (85.2%) | 17 (14.8%) |

Source: Survey Data, 2019.

From Table 4.10 above, 20 respondents representing 17.4% consider Undertaking of risk assessment as significant while 82.6% consider it highly significant. 88.7% of 102 respondents also viewed mandatory implementation of Health and Safety policies through Government initiative as highly significant while 13 respondents representing 11.3% saw it as significant. The respondents saw the need for Provision of health and safety services at project sites and 99.1% of 114 confirmed this as highly significant. 92.2% representing 106 respondents chose highly significant in the case of Adherence to regulations and safety standards while 7.8% chose significant. 100% was emphatic on the highly significant need for investigations on accidents and its causation. 16 out of 115 respondents chose significant in relation to compliance to standards while 86.1% went with highly significant. 68.7%, 90.4% and 14.8% chose highly significant for Publicity of accident statistics, Regular evaluation of implemented policies and setting high expectations respectively. On the other hand, 36 respondents representing 31.3%, 11 respondents representing 9.6% and 98 respondents representing 85.2% chose significant for Publicity of accident statistics, regular evaluation and high expectations of health and safety policies respectively.

With regards to promotion of OHS practices at Wilkins, it must be emphasized that there has been an overwhelming agreement (100%) for both significant and highly significant in terms of how its utilization has been at the workplace. Efforts should thus be made to sustain this gain.

4.6 Effects Of Occupational Health And Safety On Employee Productivity

Table 4.11 Effects Of Occupational Health And Safety On Employee Productivity

| H&S | Minimum Impact | Little Impact | Moderate Impact | Great Impact | Extreme Impact |
|--|---------------------------|--------------------------|----------------------------|-------------------------|---------------------------|
| Challenges with H&S affect optimal level of productivity & performance | | | | 18 (15.7%) | 97 (84.3%) |
| Challenges with H&S affect attendance | | | | 20 (17.4%) | 95 (82.6%) |
| Challenges with H&S impact quality of job performance | | | | 11 (9.6%) | 104 (90.4%) |
| Challenges with H&S affect concentration level at work | | | | 56 (48.7%) | 59 (51.3%) |

Source: Survey Data, 2019

Table 4.11. shows that 18 respondents representing 15.7% believed challenges with Health and Safety issues at Wilkins will have Great impact on productivity and performance while 95 respondents representing believed it will have Extreme impact. 20 respondents representing 17.4% further stated that challenges with H&S will have great impact on Attendance of Employees while 95 respondents representing 82.6% believed it will have Extreme impact. Concerning Health and Safety challenges on Quality of job performance, 11 respondents representing 9.6% revealed that it will have Great impact while 90.4% believed it will have an Extreme impact. 56 respondents representing 48.7% believed concentration levels will be

affected when there are challenges with Health and Safety issues at Wilkins. 59 respondents representing believed the impact would be Extreme on concentration levels.

It can therefore be deduced that challenges with Health and Safety practices and processes at the workplace will have dire consequences on productivity and output.

4.7 Correlation

The researcher relied on Spearman's rho to determine the correlation between variables considered imperative in implementing OHS at Wilkins Engineering Limited.

Correlation analysis was used to describe the linear relationship between two variables; depending on the level of measurement as shown in Table 4.12. The relationship between independent variables (the occupational health and safety practices influence) and dependent variable (employee productivity) was investigated.

Table 4.12 Correlation Between Variables

| Variables | Employee Productivity | Relationship |
|-------------------------------|-----------------------|--------------|
| First Aid | .135 | Positive |
| Fire Prevention | .64 | Positive |
| Corporate Image | .066 | Positive |
| Personal Protective Equipment | .84 | Positive |

Source: Survey Data, 2019.

There was a positive relationship and influence of the fire prevention and protection practices ($r=.135, p<.005$) on employee productivity. Thus, a high employee productivity was influenced by an increased fire prevention and protection practices. In the same vein, Table 4.10 depicts a positive correlation between First Aid Kit and employee productivity. This implies that was high employee productivity is positively linked to effective first aid kit practices. This can be attributed to the availability of more first Aid kids to be used in times of injuries and emergencies. There was a positive relationship and influence of the personal protective

equipment ($r=.392$, $p<.005$) on employee productivity. The high employee productivity was influenced by the increased personal protective equipment. There was a positive relationship between good corporate image and employee productivity. As indicated by the r value ($r=.066$, $p<.005$), high employee productivity is influenced by good corporate image.

4.8 Regression Analysis On The Effect Of Occupational Health And Safety On Employee Productivity

The regression analysis using ordinary least squares (OLS) method was conducted to determine the effect of OHS practices on productivity of employees at Wilkins Engineering Limited. This analysis was done with the consideration of dependent variable and independent variables, test values and their significance. The analysis thus produced each regression coefficient. Also, t -test was used to identify whether each b values differs significantly from zero. R represents the values of multiple correlation coefficients between the independent variables which includes Training of employees on safety issues, welfare and health scheme, protective equipment, monitoring and supervision and satisfaction of employees on OHS practices at Wilkins.

All the predictors used in the model represent a simple correlation between the dependent variable and the factors that are considered by Wilkins depicted on Table 4.13. The R^2 represented the measure of variability in employee productivity that is accounted for by the predictors (independent variables). From the model, ($R^2 = .027$) an indication that all the predictors in the model account for only 2.7% variation in the employee productivity at Wilkins. The variation in the employee productivity has been explained well by the predictors in the model.

Table 4.13 Model Summary^b

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|---------------|
| 1 | .166 ^a | .027 | -.008 | .224 | 1.073 |

a. Predictors: (Constant), Rapid Change in technology, First aid and kit, Fire Prevention Equipment, Government Policy

b. Dependent Variable: Productivity of Employees

Source: Survey Data, 2019

The adjusted R^2 gave the idea of how well our model generalizes and ideally, its value would be the same or very close to R^2 . From the findings the value of adjusted R^2 is .027, showing that if the model was derived from the population rather than the sample it would account for approximately 2.7% less variance in the outcome.

4.9 Coefficients Of Employee

Table 4.14 shows the estimates of β values and gives an individual contribution of each predictor to the model. The β value tells us about the relationship between the productivity of employees with each occupational health and safety practices. The positive β values indicate the positive relationship that exists between the predictors and the outcome and the negative β values indicate the negative relationship.

Table 4.14 Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|----------------------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .710 | .308 | | 2.305 | .023 |
| | First aid and kit | .062 | .043 | .138 | 1.431 | .155 |
| | Fire Prevention Equipment | .058 | .083 | .067 | .706 | .481 |
| | Government Policy | .013 | .118 | .010 | .108 | .915 |
| | Rapid Change in Technology | .056 | .083 | .065 | .678 | .499 |

a. Dependent Variable: Productivity of Employees

Source: Survey Data, 2019

The β value for fire prevention and protection, lighting and ventilation, personal protective equipment's and good housekeeping had a positive coefficient thus positive relationship. The β value for chairs/tables, first aid kit and medical facility and facilities for sitting and drinking water and sanitary facilities had a negative coefficient thus negative relationship. From the findings it showed that occupational health and safety practices that had positive relationship with productivity of employees include; fire prevention and protection, lighting and ventilation, personal protective equipment's and good house-keeping, while chairs/tables and facilities for sitting, first aid kit and medical facility and drinking water and sanitary facilities had negative relationship as summarized in the model below. The model was then specified

as:

$$\text{OHS} = .657 + .138\text{FA} + .67\text{FP} + .010\text{GP} + .065\text{RT} + e$$

Where;

FA = First Aid

FP = Fire Prevention

GP = Government Policy

RT = Rapid change in Technology ϵ

= error term

As the First aid effectiveness, fire prevention and protection, personal protective equipment's and Government policy reliability increases, the productivity of employee's increases. It can thus be concluded that there is a positive relationship between first aid effectiveness, fire prevention and protection, Government policy reliability and Rapid change in technology.

The β values show the degree that each occupational health and safety practices influence employee productivity when the effects of the other independent variables are held constant. Each beta values has associated Standard Error (S.E.) indicating to what extent these values would vary across different samples and also it is used to determine whether or not b values differs significantly from zero. The t test was used as a measure to identify whether the predictors were making a significant contribution to the model. The smaller the value of significance (the larger the value of t), the greater is the contributor of that predictor.

The findings agree with the Health and Safety Executive (2006) that genuine productivity gains can be realized by those businesses that invest in high performance health and safety practices. When an organization is committed to OHS best practice and implements it in a properly managed manner, the result is a win-win situation that benefits both the workforce and the organization for which they work. There is need for a workplace improvement in terms of occupational health and safety for the benefit of the employer and the employee in order to increase productivity. A healthy employee will not only be efficient and effective but also motivated to work and perform to the expectation of the organization.

4.10 Reliability Test

Cronbach's Alpha Test was conducted to determine the reliability and consistency of the data collected with regards to Occupational Health and Safety issues at Wilkins Engineering Limited.

The Cronbach's Alpha was .82, which indicates a strong and significant reliability and consistency coefficient of the data collected.



CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Findings

5.1.1 Occupational Health And Safety Practices At Wilkins Engineering Limited The research disclosed that most staff agreed that in Wilkins Engineering Limited the OHS methods are operational. However, the participants indicated differences in the degree of functionality of these OHS methods. On routine exercise and periodic health hazard inspection, 90 percent of participants found it to be extremely favorable. On the other side, 85% of participants disclosed how unfavorable their health-related working circumstances were assessed.

The research generally disclosed different degrees of health and security committee functionality, health and security policy, as well as the Wilkins Engineering Limited H&S training system.

It should be observed that when an organisation is committed to best practice in OHS and implements it correctly, the outcome is a win - win situation that benefits both the workers and the organisation they work for. In order to increase productivity, an improvement in the workplace is necessary in terms of occupational health and safety for the benefit of the employer and the employee.

5.1.2 Awareness On Occupational Health And Safety Practices And Policies

The study revealed that 67.6% respondents believed knowledge and usage of Health and safety regulations are utilized in the company while 10.4% stated they are less utilized. The respondents further stated that Posting of signs and notices on project sites exist and 78% stated this is highly utilized. A further 88.7% and 72.2% revealed that risk assessment and first aid policies are utilized respectively.

5.1.3 Promotion Of OHS Practices At WEL

The study, in its quest to identify ways of promoting health and safety practices at Wilkins, analysed data collected from employees on H&S promotional practices. The results revealed that undertaking of risk assessment periodically is highly significant and 82.6% of respondents

affirmed to this. 86.1% respondents stated that compliance with safety standards is highly significant while 100% of respondents stated that investigating accidents and its causation is highly significant.

5.1.4 The Effects Of Occupational Health And Safety On Productivity At Wilkins Engineering Limited

To determine impact of general challenges of health and safety practices on employee productivity, the responses from respondents were analyzed. The results revealed that 84.3% of respondents said there is extreme impact of H&S challenges on employee's level of productivity and performance. Also, 82.6% stated that challenges of H&S have extreme impact on their attendance to work. With regard to the concentration levels of employees, while 48.7% stated there is great impact, the remaining 51.3% of respondents said H&S challenges would have extreme impact on their concentration levels at work.

5.1.4.1 Effect Of H&S Practices On Employee Productivity

The results of the study showed that the Multiple Regression $R^2 = .27$ indicating that all the occupational health and safety practices in the model account for 2.7% variation in the employee productivity in Wilkins Engineering Limited. The occupational health and safety practices which had positive relationship with productivity of employees include; fire prevention and protection, personal protective equipment, first aid kit and medical facility.

When an organization fully implements occupational health and safety practices employees' productivity improves. It was also realized that absence of occupational health and safety practices could easily lead to issues such as absenteeism, high employee turnover, injuries and frequent accidents.

5.2 Conclusion

Effective occupational health and safety policies are required if an organization is to improve employee productivity and ensure safety at the workplace. This responsibility however, rests

on both employers and employees. The employer is required to publicize accident reports, maintain records on health and safety issues, posting safety notices and legislative information, providing education and training on health and safety.

The employer is required to ensure the health and safety committee in charge of all health and safety related issues perform their duties well. The safety committee is responsible for studying trends in accidents with the view to making suggestions for corrective actions, examining safety reports and making proposals for avoiding accidents, examining and discussing reports from safety representatives, making proposals for new or revised safety procedures.

It was also realized that when OHS is fully implemented, the organizational productivity goes up and there are some parameters or key productivity indicators which are like improved quality production, high employee productivity, regular employee attendance, increase job concentration level and employee efficiency and effectiveness.

The researcher also found out that when OHS is successfully implemented, increased attraction and retention of workers, reduced accidents and injuries, reduced costs, maximization of employee productivity, improved corporate image and reduced sick leave and absenteeism were the result.

Management is advised to address high cost of training, appeal to government on consistent policy on Health and Safety and high cost of OHS equipment.

5.3 Recommendations

From the findings and conclusions of the study it is recommended that;

The organization should make Occupational Health and Safety an effective practice, as it is pertinent in enhancing productivity and also safeguarding employees' health.

The employees should report to the authorities as the law states that it is the duty of employees to report any dangerous situation to the supervisor. Machinery, equipment and other items

purchased, designed, manufactured or installed for operations should conform to OHS protection requirements. All relevant information on new equipment's should be provided by the suppliers and manufacturers. Suppliers should guarantee safety of their supplies. Such information should reach the ultimate users of the machines and equipment.

The organization should conduct frequent training for employees on Occupational health and safety. These training sessions should be made compulsory for all employees.

The organization should receive training from organizations like The Red Cross Society of Ghana, the Ghana fire service and other partner organizations on fire-fighting, first aid and other elements of OHS because these organizations have tailor-made training to employees working in different department.

Employees through their union should liaise with Central Organization of Trade Union to report any dangerous or unsafe working environment present in the organization to cut off occupational diseases and accidents in the organization.

The organization should equip its health and safety committee with the right and modern tools to enable them perform their functions well. The committee should be more aggressive towards occupational health and safety issues in the organization and be accountable to any occupational diseases, hazardous environment and safety of employees and equipment in the organization. This committee should be made of top-level management and low-level employees.

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KNUST

APPENDIX A - QUESTIONNAIRE

Hello Participant,

I am SAMUEL NYARKO BAADU, a student of Kwame Nkrumah University of Science and Technology pursuing MSc. Project Management. I am conducting a research study on the *Effect of Occupational Health and Safety on Productivity of Project Employees of Wilkins Engineering Limited*. I will kindly need your participation by answering the following questions candidly as it is essential in achieving the research objectives. I really appreciate your cooperation and please be assured that all information provided will be treated confidentially.

Thank You

Objectives of the Study

1. To identify occupational health and safety practices at Wilkins Engineering Limited.
2. To evaluate the level of employee's awareness of Wilkins health and safety practices and policies.
3. To identify the measures to promote occupational health and safety at Wilkins Engineering Limited.
4. To evaluate the effect of occupational health and safety measures and practices on productivity of project employees at Wilkins Engineering Limited.

SECTION A: BACKGROUND INFORMATION

Please tick as appropriate

1. Gender ☐ Male
☐ Female
2. Age ☐ Below 25 years ☐ 26 – 35 years
☐ 36 – 45 years
☐ Above 46 years
3. Highest Educational background
☐ Senior High Certificate ☐
Diploma / Higher diploma ☐
Bachelor's degree

- Master's degree
- PHD ○ Other. Please state.....

4. What is your level of job role at Wilkins Engineering Limited (WEL)?

- Top management ○ Middle level management ○ Low level

Other. Please state.....

5. How long have you been working at WEL?

- 0 – 5 years ○ 6 – 10 years ○ 11- 15 years
- Over 16 years

SECTION B: Occupational Health and Safety (H & S) practices at Wilkins Engineering Limited (WEL).

This section identifies the occupational health and safety practices at WEL. Please provide your response by selecting the appropriate key (1, 2, 3, 4, and 5) to indicate your level of agreement to a given statement.

- 1- Strongly Disagree
- 2 - Disagree
- 3 - Neutral
- 4 - Agree
- 5 – Strongly Agree

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| <p style="text-align: center;">Occupational health and safety supervision</p> <p>6. Existence of routine and regular inspection of health hazards and illness</p> <p>7. Evaluation of working conditions affecting workers' health</p> <p>8. Surveillance is done in conformity to OSHA guidelines</p> <p>9. Competent individuals handle the H & S supervision</p> <p style="text-align: center;">Health and safety committees</p> <p>10. WEL has a functioning health and safety committee</p> <p>11. Committee allows employee participation in programs</p> <p>12. Committee determine issues to be undertaken and make recommendations</p> <p>13. Employees have confidence in the committee</p> <p style="text-align: center;">Health and safety policy</p> <p>14. WEL has a readily accessible health and safety policy</p> <p>15. The policy outlines processes on handling health related complaints</p> <p>16. The policy follows OSHA guidelines</p> <p>17. Employees are familiar with the provisions of the policy</p> <p style="text-align: center;">Health and safety training</p> <p>18. Employees partake in sufficient training on health and safety issues</p> <p>19. WEL educate employees on H & S processes</p> <p>20. The educational program is continuous and regular</p> <p>21. Information on H & S are cooperatively shared with employees</p> | |
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SECTION C: Employee's awareness of Wilkins health and safety practices and policies.

Using the under listed key, answer the following questions on your knowledge and awareness of H & S practices. 1 – Not Utilized/Practiced

2 – Less Utilized/practiced

3 - Neither

- 4 – Utilized/Practiced
5 – Highly Utilized/Practiced

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| 22. Knowledge and usage of Health and Safety regulations (Labour Act 651, Factories, Offices and Shops Act 328, Workmen's Compensation Law)? | |
| 23. Posting of safety signs, notices and availability of newsletters on health and safety on project sites | |
| 24. Full time employment of occupational health and safety officers at the project sites | |
| 25. Compliance with all safety standards on projects and at the workplace | |
| 26. Reporting any breach of the safety policies to authorities | |
| 27. Periodic risk assessment on occupational safety and health | |
| 28. Provision of welfare facilities such as first aid services | |
| 29. Utilization and availability of personal protective clothing and equipment | |

SECTION D: Promotion of occupational health and safety at Wilkins Engineering Limited.

In your view, what do you think should be done to promote the effective use of health and safety practices? Indicate your response by ticking the appropriate scale (1-5) against the respective questions.

- 1 - Highly Insignificant
2 - Insignificant
3 - Neither
4 - Significant
5 - Highly significant

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| 30. | Undertake a risk assessment on health and safety periodically | |
| 31. | Government should make it mandatory for players in the construction industry to implement health and safety regulations. | |
| 32. | Make provision for regular health services at the construction workplace | |
| 33. | Adherence to regulations, legislation and standards of occupational health and safety | |
| 34. | An investigation should be carried out periodically on accidents and its causation | |
| 35. | Ensure compliance with all safety standards | |
| 36. | Publicize accidents and safety statistics | |
| 37. | Perform regular evaluation and monitoring of work safety performance | |
| 38. | Encourage employees and managers to have high expectations for work safety | |
| 39. | Perform Pre-employment health training and periodical medical examination | |
| 40. | Ensure the awareness of health and safety standards required by regulatory agencies | |
| 41. | Make provision for an effective training on health and safety for workers | |
| 42. | Ensure regular maintenance of equipment | |
| 43. | Employees should be motivated to adopt good safety attitudes | |
| 44. | Periodically organize safety programs and meetings at the workplace and project sites | |
| 45. | Make provision and availability for personal protective equipment and enforce their utilization. | |

SECTION E: Effects of occupational health and safety measures and practices on employees' productivity

Kindly use a measurement of 1-5 to indicate the impact of H & S practices on employee productivity. '1' denotes *little impact* while '5' denotes *extreme impact*

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| <p>46. H & S affects optimal levels of productivity and performance levels</p> <p>47. Challenges with H & S affects my attendance at work</p> <p>48. Challenges with H & S impacts the quality of my job performance</p> <p>49. Challenges with H & S affects concentration levels at work</p> <p>What is your opinion on how the following elements of H&S practices impact on your performance at work? Answer Options: 1. Yes, it does (Y) or</p> <p style="padding-left: 100px;">2. No, it does not (N)</p> <p>50. Well-functioning first aid kit</p> <p>51. Fire and personal protective equipment</p> <p>52. Government H&S policy</p> <p>53. Rapid change in H&S technology</p> | |
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