



**UNIVERSITY OF NAIROBI  
DEPARTMENT OF PSYCHOLOGY**

**THE INFLUENCE OF OCCUPATIONAL HAZARDS ON MOTIVATION AND  
PRODUCTIVITY OF EMPLOYEES: A CASE STUDY OF SMES IN NAIROBI  
COUNTY, KENYA**

**BY**

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**DECLARATION**

This research project report is my original work which has never been presented to any other institution or university for the award of any degree, diploma, or certificate whatsoever.

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## **DEDICATION**

This project is dedicated to my late parents Mr. Joseph and Mrs. Truphena Onchuru.

## **ACKNOWLEDGEMENT**

I am profoundly indebted to our God Almighty for his abundant blessings, and grace that has carried me through this academic journey.

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## **LIST OF ABBREVIATIONS AND ACRONYMS**

<b>AMOS:</b>	Analysis of Moment Structures
<b>IWOSS:</b>	Industry Without Smokestacks
<b>NACOSTI:</b>	National Commission for Science, Technology & Innovation
<b>OHS:</b>	Occupational Health and Safety
<b>OHSM:</b>	Occupational Health and Safety Management
<b>OSH:</b>	Occupational Safety and Health
<b>OSHA:</b>	Occupational Safety and Health Administration
<b>POSS:</b>	Perceived Organizational Support for Safety
<b>SDT:</b>	Self-Determination Theory
<b>SEM:</b>	Structural Equation Modeling
<b>SMEs:</b>	Small and Medium Enterprises
<b>SPSS:</b>	Statistical Package for Social Sciences
<b>SSEs:</b>	Small-Scale Enterprises
<b>USA:</b>	United States of America

## ABSTRACT

The focus of this research was to ascertain the influence from occupational hazards upon motivation and productivity among Nairobi County SMEs. The study goals contained; establish the prevalent occupational hazards in Nairobi County's SMEs, to ascertain the influence from occupational hazards affecting motivation in employees engaging in SMEs in Nairobi County, Kenya, establishing the influence from occupational hazards in productivity among Nairobi County SMEs, Kenya. The research used a case study approach. Quantitative data was collected to establish the occupational hazards and the impact of work-related hazards upon laborer motivation and productivity in Nairobi County SMEs. The study targeted 98071 owners from the registered SMEs in Nairobi County. The researcher utilized random sampling procedure to select 224 participants. The study utilized questionnaires throughout the investigation to collect data. Data collected was stored and analyzed using relevant statistical methods within the Statistics Package for Social Sciences, or SPSS, version 27. Statistical methods (percentages, means and standard deviations) and inferential methods, Pearson's correlation, and regression were employed to analyze quantitative information for second and third objectives. To answer research question one, data collected via objective one was analyzed and presented in form of narrations. A three-way Chi square analysis method was utilized to help map the contribution of confounding variables to the connection between occupational hazards, motivation as well as productivity in workers. The study found that there are various prevalent occupational hazards that employees in SMEs in Nairobi County are exposed to. These include noisy working environments, crooked and bending working conditions and doing more than two hours straight of standing. The research found that occupational hazards have a significant influence on motivation of employees in SMEs in Nairobi County, Kenya ( $B=0.968$ ;  $p=0.00$ ). The study found that occupational hazards have a significant influence on productivity of employees in SMEs in Nairobi County, Kenya ( $B=0.817$ ;  $p=0.00$ ). The study revealed that Age, gender, and level of education contributed significantly to improved motivation and productivity of employees in SMEs in Nairobi County, Kenya. The study concluded that occupational hazards are significantly related to motivation of employees in SMEs in Nairobi County, Kenya. Further, the study concluded that occupational hazards are significantly related to productivity of employees in SMEs in Nairobi County, Kenya. The study recommends that county government of Nairobi should establish comprehensive occupational health and safety policies that address the specific hazards present in SMEs in Nairobi County. The study recommends that the government of Kenya should provide financial incentives in terms of tax incentives and grants to SMEs that invest in occupational health and safety measures. The study also recommends that management and owners of SMEs in Nairobi County need to ensure that their employees are exposed to favorable working environment. Small and medium-sized enterprise (SME) owners should also consider implementing incentive initiatives that recognize and reward employees for following safety protocols and promptly reporting any potential hazards. This can help create a safety-conscious culture and improve employee productivity and motivation.

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of the study

Depending on numerous official regulations together with academic studies, small-scale enterprises (SSEs) with fewer than 50 workers are crucial to the growth of the national and local economies in most nations. Most of these businesses are micro-enterprises with fewer than 10 employees, yet they contribute significantly to overall employment. In developing economies, a higher percentage of people are employed by SSEs and microbusinesses than by bigger corporations. Given that studies have linked poor working conditions to poor employee health and decreased productivity. The evolution of workplace safety and health (OSH) in such set of businesses is crucial, (Vinberg, 2020). Protecting workers from injuries and accidents, and exposure to harmful substances is the key goal of occupational health and safety (OHS). While accidents can happen at any time, it is the responsibility of the establishment to ensure the implementation of safety measures to minimize the chances of disasters and uphold a secure work environment. Reducing the probability of mishaps or injuries caused by identifying and removing hazards typically leads in increased productivity and effectiveness since fewer employees miss work due to illness or injury. Enhanced connections and employee morale (A less hazardous workplace is also one that is less stressful) a reduction in the expenses associated with accidents or injuries (Lower insurance costs are the outcome of fewer workplace accidents and workers' compensation claims, including medical expenses, lost productivity, and effects on workers' wellbeing, (Occupational Medical Partners, 2021).

An occupational hazard is one that one encounters at work. There are many kinds of occupational risks, including chemical risks, biological risks, psychosocial risks, and physical risks. Occupational hazards frequently cause problems in the long run or the short term. When people are exposed to microorganisms like bacteria, viruses, fungus, and parasites, occupational illnesses can develop. There is also the theory that some infectious diseases, such as cholera, dengue fever, and malaria, have become more common because of climate change. However, most diseases share a common cau';,2.dfgm,jmse. There is a high and direct danger of contracting certain infections if you encounter a specific organism while working in a specific occupation. While in several other

situations, a person's lifestyle increases their chance of exposure. Sometimes a direct interconnection can be difficult to prove without the use of molecular epidemiological tests, (Alipour et al., 2017).

Personal dangers and injuries that happen during work are known as occupational hazards, and they are typically categorized into six categories: radiological factors, biological factors, dust, chemical factors, physical factors, and other variables. Certain risks, danger elements, detrimental variables, as well as dangerous conduct of some employee groups may result in work-related diseases along with accidents. Physical dangers like loud noises, intense heat, and high pressure can be harmful even if there is no physical contact. Bio risks can result in illnesses, infections, and other severe health issues. Mold and fungus, blood and other bodily fluids, bacteria, viruses, sewage, and vermin can all be considered biological hazards. Wearing personal protective equipment will protect your health and keep you from coming into contact with biological threats. Chemical hazard exposure can occur as a liquid or solid on the skin, as inhaled gases, or vapors, or as a combination of both. They might cause severe health problems such skin rashes, burns, breathing problems, blindness, or other problems. Among the chemicals that need to be handled carefully and shielded from contact with the proper personal protective equipment are cleaning products, acids, insecticides, and petroleum compounds. Ergonomic risks put stress on the ligaments, tendons, muscles, and other connective tissues of the body. They might be brought on by poor posture, a lack of dollies or other mechanical aid, frequent or challenging lifting, or moving. They can cause muscle strains, various musculoskeletal issues, such as disc herniation or rupture, and carpal tunnel syndrome. Mental health risks can lead to depression, ADHD, inattention, and neglect, among other mental health problems. Stress, exhaustion, harassment, and violence at work are examples of these kinds of risks. These concerns can then result in a lack of motivation, decreased output and work quality, and a higher risk of injury, (Occupational Medical Partners, 2021).

According to the ILO statistics in 2012, 2.34 million people worldwide pass away each year because of illnesses or accidents at work, and almost one-fourth of all fatalities are attributed to a hazardous environment, (ILO, 2012). Furthermore, 160 million people worldwide experience non-fatal work-related illnesses, (Hailemichael, & Ababa, 2018). Over 16 million individuals million individuals work in harmful and destructive industries, comprising over than 30 distinct

occupational kinds, and total of 200 million individuals are open to numerous job dangers that influence motivation and productivity, (Lu et al., 2020).

Employees are the organization's driving force, and inducement is its fuel. Without its workforce an organization cannot fulfill its established mission. Organizations should provide incentives to employees that satisfy their demands with regard to their fundamental requirements, such as bodily, safe, and social requirements, (Ikupolati et al., 2017). Motivation is a bodily, social, or psychological feeling that urges someone to choose a particular course of conduct. Determination is an urge that drives someone to carry out or keep doing something based on their own needs and desires. There are both inner and extrinsic motivations. Extrinsic motivation is the practice of doing in order to gain benefits from other sources. This is relevant to careers and include benefits and financial gain, perks, and even being employed. The term "intrinsic motivation" refers to doing something for its own sake as opposed to obtain a related advantage. When someone has intrinsic motivation, they are motivated to take action by the enjoyment or challenge involved rather than by outside demands, pressures or incentives, (Steinhilber, 2017). Further, employee's productivity is highly influenced by occupational hazards. Productivity is decreased when workers are exposed to dangerous substances on a regular basis. Productivity may benefit from employee training on accident avoidance. Workplace risks have a detrimental impact on productivity. Organizations should provide a secure and favorable work environment. To prevent or reduce workplace dangers and increase productivity, training and educational programs are also necessary, (Ofoegbu et al., 2013).

National worker protection laws were adopted in the USA in 1970. The Act mandated that standards for occupational health and safety be set, that companies adhere to these norms, and that the government enforce company compliance. It also mandated that support be provided to managers as well as employees so they could keep a safe and healthy working environment. The number of worker injuries, illnesses, and fatalities has decreased but not completely disappeared in the 40 years after the OSH Act of 1970 was passed. Throughout the USA, efforts to speed up the implementation of standards are heavily debated, along with methods for shielding workers from new dangers like nanotechnology new approaches that aim to eradicate not just the causes of

worker injury and sickness, but also worker injury and disease more generally, (Howard & Hearl, 2012).

A study in Nigeria examined how occupational hazards affected housekeeping department employees' performance on the job in low-cost hotels in Nigeria's Kaduna metropolis. The level of employees' job performance was also examined and established a link between occupational hazards and performance. In Africa, evidence has accumulated that suggests occupational injuries are increasing in emerging nations like Nigeria. The study's findings indicate that there is a substantial relationship between a worker's performance at work as well as the influencing factors, with a coefficient of  $R= 0.567$ . Hotel housekeepers should receive safety training, protective gear should be made available, and the employee safety act should be rigorously adhered to, according to the report, (Abubakar, 2017).

In Kenya, there have been cases where workplaces lacked occupational health and safety precautions, exposing workers to a variety of occupational hazards. Penta Flowers Limited in Thika Sub- County served as a case study to examine how workplace safety and wellness affect workers' productivity in Kenya's flower business. Investigating the impact of Occupational safety and health act training and employee attitudes toward the Act on employee performance at Penta Flowers Limited in Thika Sub- County, Kiambu County, Kenya, was one of the goals. The research used a descriptive sequential design and a mixed methods technique. A total of 20 management official, 50 supervisors, and 130 regular employees made up the target population. Surveys were utilized to gather information from supervisors Data from general employees and management executives were gathered through interviews. Employees' attitudes and training had an impact on their performance. This was not the situation at Penta Flowers Firm, though. Employees rarely showed a positive attitude toward OSHA, and training was not provided frequently. The study suggested that Penta Flowers' management should obtain a cohesive training strategy for all employees so that they can receive high-quality training when it is convenient for them. As a means of reducing the injuries that frequently occur at workplaces, employees should be encouraged to adopt a favorable attitude toward OSHA, (Mwangi & Waiganjo, 2017). This led the researcher to conduct a similar study in SMEs but with key focus on motivation and productivity as aspects influenced by occupational hazards.



## **1.2 Statement of the problem**

Workplace wellness and safety for all employees is the main objective of the department of OHS in every SMEs. A safe workplace must be maintained at all times, and it is the employer's responsibility to make sure safety measures are done. By identifying and eliminating hazards, OHS decreases accidents and injuries while increasing worker productivity and effectiveness. (Occupational Medical Partners, 2021). Personal dangers and injuries that happen during work are known as occupational hazards. They are typically categorized six groups: radioactive threats, biological hazards, dust, chemical factors, physical factors, as well as other variables. Risks from biological sources include fungus and mold, bacteria, viruses, sewage, as well as vermin. Chemical hazard exposure can occur as a liquid or solid on the skin, as inhaled gases, or vapors, or as a combination of both. Specific risks, risk factors, detrimental variables, and dangerous conduct of work groups may result in work-related diseases along with accidents. All these risks reduce motivation and productivity, (Alipour et al., 2017 & Occupational Medical Partners, 2021).

The majority of recent research has been on the connection between workplace risks and occupational diseases. However, throughout the process of occupational exposure, psychosocial alterations frequently take place before physiological problems, such as workplace stress and mental health (depression and anxiety disorders). However, these psychosocial risks are frequently disregarded and unaddressed. Excessive psychological stress can also lead to cognitive impairment, undesirable physiological reactions, mood swings, and psychological health problems. Some of these psychological health problems in SMEs are related to motivation and productivity. The study therefore sought to establish the occupational hazards present in SMEs as well as the influence of occupational hazards on motivation and productivity of employees in SMEs based in Nairobi County, Kenya.

## **1.3 Purpose of the study**

To investigate the influence of occupational hazards on motivation and productivity among employees in SMEs in Nairobi County, Kenya.

## **1.4 Objectives of the study**

1. To determine the prevalent occupational hazards in SMEs in Nairobi County, Kenya

2. To establish the influence of occupational hazards on motivation of employees in SMEs in Nairobi County, Kenya
3. To examine the influence of occupational hazards on productivity of employees in SMEs in Nairobi County, Kenya

### **1.5 Research Questions**

1. How prevalent are occupational hazards in SMEs in Nairobi County, Kenya?
2. What is the influence of occupational hazards on motivation of employees in SMEs in Nairobi County, Kenya?
3. What is the influence of occupational hazards on productivity of employees in SMEs in Nairobi County, Kenya?

### **1.6 Hypotheses**

**H<sub>01</sub>** There is no relationship between occupational hazards and motivation of employees in SMEs in Nairobi County, Kenya

**H<sub>02</sub>** There is no relationship between occupational hazards and productivity of employees in SMEs in Nairobi County, Kenya

### **1.7 Justification of the study**

In the Kenyan context, research on occupational hazards influence on motivation and productivity of employees has not been extensively done in SMEs. As much as policies for Occupational Safety and Health have been implemented and compliance licenses offered to SMEs, occupational hazards have remained a major problem occurring in different forms and its influence on motivation of employees at work and productivity has not been mapped clearly. Conducting a study on how occupational hazards impact the motivation and productivity of employees in Small and Medium-sized Enterprises (SMEs) in Nairobi, Kenya holds significant importance. It is essential for ensuring the well-being of workers in these smaller businesses, as many lack the resources and expertise of larger corporations to address safety concerns effectively. Additionally, the study is vital for understanding the economic ramifications, as SMEs are key contributors to Kenya's economy, and productivity losses due to hazards can have substantial local and national

economic implications. Furthermore, such research can assist SMEs in improving employee retention, ensuring legal compliance, enhancing competitiveness, supporting growth and sustainability, managing healthcare costs, investing in workforce development, accessing financing, and promoting the sharing of knowledge and best practices. In essence, this study is pivotal in fostering employee well-being, economic growth, and a more competitive SME sector in Kenya. Consequently, hoped to build on Maslow's Hierarchy of Needs theory that insists that safety is a need that has to be met to actualize their potential. It was also built on motivation theory by Herzberg that assumes that high motivation and hygiene are ideal conditions that every manager should invest in for the productivity of employees.

## **1.8 Significance of the study**

### **Scholars**

The findings of this study shall lay a footing for academic scholars to further investigate the influence of occupational hazards on motivation and productivity of employees. It shall build on an existing body of knowledge related to occupational hazards, motivation, and productivity of employees in SMEs.

### **SMEs**

Employers in SMEs shall benefit from the results of this study since it highlights the occupational hazards present in their companies. Further, pointing out the influence of occupational hazards on motivation and productivity of employees, the employers shall be able to understand ways of motivating and increasing their employee's productivity by eliminating occupational hazards.

### **Occupational Psychologists**

Psychologists who have specialized in organizational/occupational psychology shall benefit from this study too. Motivation and productivity being aspects that concern organizational psychology, the psychologists shall be able to develop policies that can be utilized in the SMEs to alleviate the influence of occupational hazards on motivation and productivity of employees.

## **Government bodies for Occupational Safety and Health**

Workplace safety and health are an area that has an already existing government body that keeps SMEs in check as far as employees' work conditions are concerned. This study brings to light occupational hazards that employees in SMEs are exposed to thus shall benefit the OSH body to ensure compliance to set standards of working conditions and implementation of safety policies in SMEs.

### **1.9 Scope of the study**

The study focused on occupational hazards as the independent variable and its influence on motivation and productivity of employees as the dependent variables. Age, education, and gender was used as the intervening variables for the study. Further the study involved employees in SMEs that operate in Nairobi County. Occupational hazards were investigated in three forms; biological hazards, physical hazards, and psychological hazards while motivation was measured in terms of extrinsic and intrinsic forms of motivation. Productivity was measured through the capability of employees to perform their tasks and duties accurately and within the stipulated timelines. Geographically, the study was limited to Nairobi County, Kenya. Nairobi County has several SMEs, the study included manufacturing, specialized, retail and sole administrator SMEs.

### **1.10 Limitations and delimitations**

Due to scarcity of resources and time, the researcher made use of closed-ended questionnaires that was sent to different SMEs and collected the following day to allow the participants to fill during their free time. Occupational hazards are aspects that many SMEs would find hard to expose for the sake of their reputation therefore the researcher assured all SMEs participating in the study of anonymity and confidentiality of all data collected.

### **1.11 Assumptions of the study**

The study assumes that participants willingly gave information and that data collected was accurate and honest. Details given was assumed to depict their exact experiences at the workplace. In addition, the study assumes that occupational hazards are present in SMEs, and they influence the level of motivation of employees as well as their productivity in tasks entrusted to them.

## 1.12 Definition of Terms

**Occupational Hazards-** Personal dangers and injuries that happen during work.

**Motivation-** Motivation is a desire that drives someone to carry out or keep doing something based on their own needs and desires.

**Productivity-**refers to the ability to perform given tasks accurately and within a set timeline.

**Biological occupational hazards-** These refer to potential dangers, threats, or risks to human health within a workplace that arise from biological agents such as viruses, bacteria, fungi, parasites, or other microorganisms.

**Physical Occupational hazards-** These hazards involve risks to the physical well-being of individuals in the workplace. They can encompass various factors such as noise, extreme temperatures, radiation, ergonomic issues.

**Psychological occupational hazards-** These hazards relate to risks that impact mental health and well-being in a work setting. This can include stress, harassment, violence, excessive workload, lack of job control, and other factors that contribute to mental strain or distress.

**Intrinsic motivation-** his refers to the internal drive, passion, or desire that comes from within an individual to engage in an activity for its inherent satisfaction, interest, or enjoyment.

**Extrinsic motivation-** extrinsic motivation arises from external factors such as rewards, recognition, punishments, or pressures from outside sources.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter provides an overview of academic research connected to occupational hazards, motivation as well as productivity, theories to direct the research are offered, together with a conceptual framework. Gender, educational factor together with age are the main determining factors in this study.

#### 2.2 Occupational hazards in SMEs

The cornerstone of any state's social policy is the importance of promoting safe employee behavior within an industrialized system of workplace risk prevention and management. It is described as the workforce's well-being because they are a vital part of the society and ensure its financial security. Systems for managing occupational risk in the modern day must be user-friendly, objective, and instructive for managers, specialists, and workers alike. They must also take into account each employee's aptitude and motivation in addition to their occupational risk. This is made simpler by implementing a successful strategy for encouraging safe workplace practices through weekly assessments of a worker's active or personal component founded on the outcomes of an analysis of the information the employee provided regarding the identification of risk sources, detection of accidents or crises, and advancements in health and safety conditions. A substantial amount of labor activities depends on employees being able to react precisely, swiftly, and correctly to specific workplace circumstances. The knowledge and abilities necessary for these kinds of events must also be thoroughly entrenched in one's brain. The recommended formula states that the occupational risk of a worker is inversely related to the sum of their indicators of motivation and competence and directly proportionate with relation to the typical occupational risk value. A substantial reduction in the number of injuries brought on by employees' unsafe behavior will be possible with the development of efficient mechanisms for employee training and motivation within the occupational risk management system of a firm, in addition to valid and efficient techniques for assessing and controlling competence, (Shangareev, 2018).

In research focusing on small- and medium-sized enterprise (SME) owners in South Africa, the degree of compliance of their organizations with safety regulations, the shortcomings in the execution of the law and the extent to which owners and management have received safety training was explored. Data was obtained through a survey, and computer-assisted telephone interviewing. 200 questionnaires were filled out, and 1222 calls were made in total without using randomization. While the majority of small enterprises still do not have occupational health and safety laws, the report revealed that SME owners are unsure whether the limits are effective in lowering workplace accidents, although risk evaluations are normally performed without the use of a systematic system of classifying threats. Given that internal training is the norm, respondents do not seem to see why formal training is necessary. The safety of SMEs in the country is significantly impacted by this situation. The respondents agreed that promoting safety awareness and providing safety education and training are essential components to decrease the rate of accidents. Addressing these issues will surely result in reductions in costs and, more crucially, a decrease the rate of accidents in South Africa's SME sector, in addition to establishing a safer working environment, (Ferreira et al., 2011)

### **2.3 Employee Motivation**

Employers should retain employee motivation by maintaining a positive work environment and offering opportunities for progress since employees are always more precious to them than money, things, or profits. Employee retention or turnover is reduced, zeal is raised, and motivated employees perform better than unmotivated ones. Over the years, employers have put a lot of effort into perfecting the art of inspiring employees. They have frequently pondered the factors that motivate workers. Many research projects have been carried out to better understand the motivational process, (Honore, 2009).

In Bangladesh a study was was to determine what drives workers in Bangladeshi service and manufacturing businesses where 321 respondents in all 256 of whom worked in the service industry and 65 in manufacturing were involved. The study's findings indicated that advancement and working conditions are the two most significant motivators for industrial companies, but job

security and working conditions are the two most significant motivators for service firms. The research results also revealed some notable distinctions between the driving variables for service and manufacturing workers. Because of this, it's essential for all managers to have a thorough understanding of the elements that drive each of their individual teams' exceptional organizational performances, (Ahmed, Islam & Al Asheq, 2021).

#### **2.4 Employee productivity**

In Kenya, an investigation was done to determine whether the variables affecting worker productivity in Kenya's private service industry varied with company size using 2018 World Bank enterprise data. To account for the firm-size effect, the study used the two-stage switching regressions model, in contrast to past studies that solely looked at the variables affecting labor productivity in manufacturing businesses. The results showed that high school diploma, management expertise, an employee wage, and amount of capital had a significant and favorable effect on labor productivity, however, the tax burden and the blackouts had a considerable negative impact on it across all firms. However, it was discovered that the variations in the factors affecting worker productivity between the two enterprises were minor and inconsequential. Given the political unpredictability and fiscal restrictions that consistently characterize Kenya's economy, the study suggested creating a welcoming business environment and investing in human capital as two important ways to increase the productivity of the service sector. Selectivity was also a significant factor in both organizations, confirming the idea that self-selection plays a part in studies of labor productivity, (Amutabi & Wambugu, 2020)

#### **2.5 Occupational hazards and employee motivation**

Job motivation affects employee performance, as well as how risk and workload affect employee motivation and performance. The El-Syifa Kuningan Hospital served as the site of this investigation. All El-Syifa Hospital personnel made up the study's sample. Using non-probability sampling methods, such as saturation sampling, 137 respondents made up the sample. The analysis method used for this inquiry was structural equation modeling (SEM), with aid from the Analysis of Moment Structures (AMOS) program. The findings demonstrated that although employee



motivation and performance are impacted by workload, work danger affects neither. Work motivation affects employee performance, (Rusmiati et al, 2021)

Consequently, workers must be protected against workplace accidents and injuries with the use of efficient occupational health and safety management systems and procedures. The self-determination theory, the job demand-resource model, and the perceived organizational support for safety hypothesis were utilized in an effort to cultivate a comprehensive conceptual model that attempted to explain the effects of job motivation that act as moderators and mediators about the connection between oil and gas industry work performance and OHSM procedures. Six different safety viewpoints were used in the study to explore OHSM practices, and a novel, two-dimensional construct was used to evaluate job performance by taking into account many different aspects of positive workplace behaviors. In a quantitative research method, the structural equation modeling analysis methodology was applied. Three primary organizations were used to choose a total of 1310 participants, who represented the Ghanaian oil and gas industry's upstream, downstream, and middle stream. Respondents were selected using basic, stratified, and deliberate sampling techniques. According to the findings of the SEM analysis, which was used to determine the best course of action, OHSM processes had a positive and significant impact on workers' task and a safety record. The favorable effects of OHSM procedures on safety performance, however, were found to be less pronounced than on task performance. Work motivation had a significant impact on Performance on tasks and safety while moderating and partially mediating the key impacts of OHSM practices on both. Despite the combined, multifaceted OHSM practices applied in this research departing from the orthodox individualistic approach by giving information on more adaptable managing techniques that focus on employees' needs and outcomes, the scopes for evaluating work performance in this study the performance theories be expanded established in earlier literature. The study's findings demonstrated the significance of managing employees' perceptions of OHSM processes as a motivating element for work performance, (Nkrumah et al., 2021)

### **2.5.1 Age and employee Motivation**

Employees who are younger in age tend to be more motivated to work as a result of the many opportunities that are expected to come their way as opposed to the older employees. This encourages them to be more industrious and productive in their areas of work. Organizations still have a limited knowledge of how the possible disparities in the motivational demands of the various generations may affect motivating approaches and organizational performance, despite the growing age diversity in the workforce. This is according to research on how intergenerational workforces and employee motivation relate to one another in a South African company. Understanding the elements that lead to optimal performance and are essential for the pursuit of performance excellence was the aim of the inquiry. The employment landscape in South Africa is rapidly changing as a growing number of members of younger generations enter the labor sector. It is necessary to have a deeper grasp of the motivational factors unique to each cohort as they appear in the workplace because these younger workers are generally thought to have very different ideals and priorities from the older generations. A quantitative study design and a cross-sectional survey methodology were both used. The Basic Need Related to Work Two surveys based on the self-determination theory were used: the Satisfaction Scale and the Work Extrinsic and Intrinsic Motivation Scale. According to findings, generational cohorts do not differ considerably from one another in relation to their divergent intrinsic and extrinsic motivating preferences, which could affect how they behave at work. Regarding the levels of fulfilment of the essential psychological needs that specifically support independent, intrinsically driven conduct, no practically momentous alterations were likewise found. On the other hand, there was one significant distinction between the Generation Y and Generation X groups in terms of the degree to which their psychological demand for autonomy was reported to be satisfied. Management is advised to support an atmosphere that typically fosters autonomously driven behavior and focuses on distinct identified personal preferences for motivation that may be found within groupings, rather than considering generational cohorts as homogeneous groups. The study adds to the limited amount of knowledge on the similarities and distinctions between intrinsic and extrinsic motivating positions among three generations as they appear within a developing country's workplace, (Heyns et al., 2018)

### **2.5.2 Education and Employee Motivation**

More educated employees are believed to work better in comparison to those workers that are not as educated as them. Most companies look at the educational background of their employees before they are employed because the employer expects a worker that is motivated at work. The employer on the other hand can also motivate the workers by giving them additional training at work. With the goal of advising management on how to boost employee motivation levels and directing HR specialists as to which motivation policies and practices to implement, research on highly educated Croatian employees' desire for work, particularly individuals who are experts at the highest ranks of their respective organizations during this "Age of Knowledge," was conducted. The findings revealed that highly educated Croatian employees are generally dissatisfied with the strategies utilized and considerably less content with motivational approaches because they believe they are unimportant. Many popular motivational techniques are misused in their workplaces. Additionally, they give non-material motivating tactics more weight, believe they are more effective, and find them to be overall more rewarding than those that involve monetary gain. Finally, the results showed that highly educated Croatian workers of various characteristics do not differ in their levels of work motivation, (Klindžić et al., 2016)

### **2.5.3 Gender and Employee Motivation**

Male and female workers are motivated differently at work. What motivates one employee may fail to motivate an employee of the same gender in the same field.

In Slovak businesses from 2015 to 2018, a study with the goal of determining how different socio-demographic characteristics affect how people perceive their level of motivation was carried out. An enterprise is a location where a business-related activity is conducted. Employees must be the center of an organization's attention if it is to flourish, accomplish its objectives, and grow. The most crucial of all the resources a business has, according to contemporary thinking, are its people's resources. High personnel performance, effectiveness, and quality can result in subsequent organizational success and development. Considering the data, senior managers must consider the employees' education levels while developing motivational programs in addition to gender, (Hitka et al., 2020)

Additionally, a research was done to evaluate and characterize variations in judgments of the appropriate degree of motivation according to gender and work type. Enterprise values are created by employee work, original concepts, and initiatives to positively represent the company. Both white-collar and blue-collar workers with high levels of motivation use their work to influence the efficiency of the corporation, which in turn influences the success in addition to sustainability of the company. Enterprise management is primarily responsible for selecting the ideal structure for motivating factors, especially those that are specific to gender and job type. In order to ensure the diversity and unpredictability of responder selection, the questionnaires were distributed to a group of employees working for Slovak enterprises, which is crucial for the gathering of useful data. Following the average, the relative relevance of the 3720 respondents' motivational elements was determined. It was done using the students'-test and the Tukey's HSD test. It was confirmed that there are notable statistical variances in how motivation is perceived across distinct job categories. In addition, the study demonstrated gender inequalities in blue-collar workers. In the other investigated employment categories, it was found that there were no gender disparities. Employees in human resource departments should embrace the results and use them in incentive programs to stay up to date with strategic human resource management, (Lorincová et al., 2019)

To ascertain the demographic disparities in the motivational profiles of employees in the Republic of Macedonia's primarily high value-added service industries, a literature study and statistical research were done in this respect. One of the main elements that give firms a competitive advantage is having motivated staff. The management of a firm maintains its success on the market by figuring out the best ways to motivate and enhance staff performance. The firm gets closer to attaining its goals and objectives when each employee receives the best incentive for them personally, or through tailored employee motivation. The topic of tailored employee motivation is the main emphasis of this thesis. It tackles variances in employee motivating profiles that are influenced by demographic factors (such age and gender), to put it more clearly. Contrary to the argument made in the literature review that there are noteworthy variances amongst the motivational profiles of workers of diverse ages plus genders, the study's findings revealed more resemblances than variances. All age ranges and both genders of the workforce are primarily driven by demanding tasks, possibilities for promotion, competitive pay, and a well-run, positive

work environment. However, for all demographic divisions, benefits, employment stability, and workplace location are less of a motivator. However, this study's findings imply that some statistically significant population disparities exist. Benefits are valued significantly differently by the two genders, whereas security, work environment, and challenge are valued differently by the age subgroups. Managers were provided ideas for how to enhance their motivating policies and procedures considering the findings, (Karaskakovska, 2012)

## **2.6 Influence of Occupational Hazards on Productivity of Employees**

In Nigeria, study was done to look at how workplace risks affected workers' productivity in the cement sector. A structured questionnaire was designed and given to 138 workers at the Lafarge Cement Plant in Sagamu, Ogun State, Nigeria as part of the study's survey research technique. The study's findings included all following: at hand was a substantial performance difference between healthy and unhealthy workers; frequent workplace hazards had a big impact on how well workers performed; and employees in the cement industry who felt safe at work typically performed better than those who did not. According to the study, commitment to duties and worker well-being are important indicators of workers' success. The document urges Nigeria's cement industry to adopt occupational health and safety procedures that are in line with international standards. The study specifically highlights the value of a healthy labor force and workplace environment, and recommendations for better occupational health and safety systems were made, (Ademola, Akinbode & Sokefun, 2018)

Similarly, a study was also implemented to determine the link between worker both performance and workplace health and safety. Legally and morally, businesses must safeguard the general wellbeing of their workforce, especially through fostering a secure and healthy work environment. Any health and safety program that is offered differs depending on the organization's size, location, type of work being done, and workers. Employees serve as both working partners and fellow community members for organizations. When workplace violence, stress-related illnesses, occupational diseases, accidents, and unsafe working conditions are reduced, an organization's effectiveness increases significantly. To gather data, a formal questionnaire was used. Using a

five-point Likert scale, the use of various programs by corporate departments was evaluated... The researcher used continuous prose, pie charts, bar graphs, percentages, and the Statistical Package for Social Sciences (SPSS) to present and analyze the data that was acquired by employing questionnaires to discover the facts supporting the problem statement. The relationship between employee performance and workplace safety and health was determined using regression analysis.

The study's findings indicate that Kenya Power Company staff members perform better when they take part in occupational safety and health activities. Additionally, the outcomes revealed a substantial connection between employee performance and health and safety initiatives. The study came to the conclusion that health and safety initiatives had a beneficial influence on employee performance. Businesses should align their business strategy with their workplace safety measures, according to advice, (Oluoch, 2015)

### **2.6.1 Age and Employee Productivity**

The fact of being younger or older may not be good enough to determine how productive an employer ought to be. Employers with more involving duties tend to prefer younger workers because of their energy and enthusiasm. The employers after expertise may go for older workers believing that they are best suited for the position. In order to determine how individual productivity fluctuates with age, a paper examined assessments of employer-employee data, work-sample testing, supervisor ratings, and other methodologies. With a focus on how cognitive talents impact productivity on the job market, the underlying reasons changes in productivity during the life cycle are examined. It has been discovered that individual job performance begins to diminish at the age of 50, in contrast to nearly everlasting income increases. Even though they tend to maintain a fairly high level of productivity in positions that place a higher emphasis on experience and linguistic abilities than other talents, older workers experience productivity decreases that are predominantly noticeable for jobs requiring problem thinking, knowledge, and haste. ( Skirbekk, 2003)

In another study also conducted to provide a more thorough a meta-analysis investigating the connection between experience and productivity at work. Ten job performance dimensions were examined in this study, including initiative, achievement in training programs, organizational citizenship, performance in terms of safety, and general ineffective work habits, hostility at work, and substance use, delay and absence when working. The performance of core tasks has received the majority of the emphasis in past evaluations of the literature about the association age and employment performance, but other work habits that promote productivity have received far less attention. The results demonstrated that while there were substantial relationships between ages and the other 7 performance characteristics, performance on central tasks, inventiveness, and output in training initiatives were mostly unaffected. The results also demonstrate that there are several sample attributes and data collection criteria that influence the connections comparing old and both core task performance and inefficient work habits, (Ng & Feldman, 2008)

### **2.6.2 Education and Employee Productivity**

The level of education may or may not have influence on the level of productivity of the worker. A worker who is self-driven and well-motivated may be as productive as or even more productive than a very educated employee.

In a study done to determine the contribution that education and the workplace environment make to employee productivity in Teso Lovely Indragiri Regency Hulu. To generate the output needed to draw conclusions from this study, the authors processed the data using multiple linear regressions and SPSS (statistical program for social science) version 21. 45 samples were given the questionnaire, and secondary data as well as main data were employed in the investigation. A parallel conclusion may be derived from the research findings: environmental work and education levels have a substantial impact on employees' productivity. The environment and productivity are both impacted by education levels, and the partial level has a big impact on workers' output, (Astarina, 2020)

In addition, similar research was also done to see how schooling affected labor expenses, productivity-wage discrepancies, and profits using linked panel data from Belgium. The results demonstrated that education qualifications have a greater effect on productivity than labor expenses. Businesses are shown to be more lucrative when workers with higher education replace those with lesser education. Women and younger workers seem to be more affected by this effect than are men. The productivity to pay expenses ratio of low-educated workers, particularly if they are young or female, is damaging to their employability, the evidence indicates, (Kampelmann et al., 2018)

### **2.6.3 Gender and Employee Productivity**

Men are assumed to perform better than women in areas that need a lot of energy since women are considered less energetic. While there is typically no difference between the tasks performed by men and women, women typically conduct tasks that need attention to even the smallest details.

Research done experimentally to investigate the relationship between gender equality, productivity, and employment sought to test gender equality from an economic perspective. People have long held the view that promoting gender equality within an organization leads to more peaceful and prolific workplaces, which, then motivates all staff to contribute and greatly improve the performance of the business. The effect of employee and company size as well as the effectiveness of gender equality in the workplace in fostering growth in industrial productivity were explicitly examined by the researchers. Using information from the National Annual Industrial Survey of the Chilean National Statistics Institute, it evaluated Chilean manufacturing enterprises between 2001 and 2007. To avoid possible indigeneity and simultaneity, the study also used a semi-parametric technique to evaluate productivity. Directors and skilled production personnel are examples of high-skill workers, whereas Admin support personnel and auxiliary production personnel are examples of low-skill workers. The statistical analysis and a sizable body of additional material show that gender inequality in Chile is still very severe today. For instance, guys made up 80% of the employees who were under surveillance. Next, an assessment was simultaneously done on gender equality utilizing gender equivalency using the proportion of women who participate in the labor force as a proxy for how much it deviates from 0.5. The effect that these two measurements have on the productivity of businesses across the four employee types



of administrators, specialist employees, managerial professionals, and auxiliary workers was assessed using simultaneous regression. The research produced a number of fascinating findings. Increased female labor force participation among highly skilled workers dramatically boosts a company's output in small businesses with less than 50 employees. The only factor that larger businesses with more than 50 employees have shown to boost productivity among low-skilled workers is an increase in gender equality. Accordingly, based on the size of the business and the categories of personnel, a workforce that is more evenly split between male and female workers does, in fact, result in higher productivity growth. As a result, promoting a company's expansion through a variety of steps for promoting gender equality can be effectively done, such as balancing the welfare benefits for men and women, or by raising public awareness of our initiatives. The size of the company and the types of personnel must also be taken into account, though. The outcomes also provided insight into the company's growth trajectory. Small businesses rely heavily on high-skill workers, whereas big businesses constantly respond to all entry-level workers, (Wu & Cheng, 2016)

Additionally, a study that used data from the Korea Workplace Panel Survey that was finished in 2005, 2007, and 2009 was carried out to investigate how organizational performance is affected by gender diversity in management. Few research, notably in Asian nations, have looked at this relationship for enterprises outside of the US. The study's findings support past research by showing a U-shaped connection amongst managerial gender diversity and corporate performance. Second, in service-based businesses, there is a more rounded affiliation amongst gender diversity in management and firm efficiency than there is in manufacturing industries, with homogeneous management groups having the highest staff productivity. Third, in order to weaken the link, the relationship between organizational success and gender diversity in management, we take into account a measure of family-friendly working practices. Businesses that have a lot of family-friendly policies were found to also display the U-shaped tendency. This demonstrates that gender diversity in management significantly affects Korean companies' productivity through interactions with family-friendly policies. (Bae & Skaggs, 2019)

In order to bolster the claims made in the aforementioned article, data on 1,082 manufacturing companies in six Sub-Saharan African nations Ghana, the Democratic Republic of the Congo, Tanzania, Uganda, Zambia, and Kenya were used to review prior theories regarding the connection between gender diversity and firm productivity. According to a recent study, a company's access to the wide range of talent, knowledge, and viewpoints needed to stimulate creativity and problem-solving as well as to raise firm productivity is boosted by having a gender-diverse staff. Given the importance of manufacturing in Africa for both structural change and jobs, the research used the Industry without Smokestacks (IWOSS) categorization to examine structural heterogeneity (heterogeneity) among manufacturing businesses in order to test the gender diversity-productivity hypothesis. Although gender diversity increases corporate productivity initially, research shows that the impact diminishes as firm productivity increases. The results did not suggest that IWOSS firms are more successful in emphasizing the connection between diversity and productivity (Abbey & Adu-Danso, 2022)

## **2.7 Literature Review Summary**

The main motivators for workers of all sexes and ages are challenging jobs, opportunities for advancement, competitive compensation, and a well-run, positive work environment. The literature research reveals that the occupational danger to a worker is inversely connected to the sum of their competence and motivational indicators and directly correlated with the average occupational risk value. While many small businesses still lack occupational health and safety regulations, some do. SME owners are unsure whether the limits will assist to decrease workplace accidents, and risk evaluations are commonly undertaken without adhering to a systematic system of evaluating dangers. The findings of in-depth research, with a focus on the private service sector in Kenya, indicated that while labor productivity was greatly and negatively impacted by factors such as capital intensity, worker income, high school education, and managers' experience, tax burden and across all firms, power disruptions severely reduced employee productivity.

Numerous sample attributes and data collection criteria have been shown to influence connections between age and both core task performance and inefficient work habits. Moreover, employees

from both genders and across all age groups were primarily driven by demanding tasks, possibilities for promotion, competitive pay, and a well-run, positive work environment. In relation to work motivation, highly educated workers of various characteristics do not differ in their levels of work motivation. Younger workers and women appear to be more affected by this effect than males are, and businesses are demonstrated to be more lucrative when people with greater levels of education replace those with lower levels. This suggests that low-educated workers' productivity to pay costs ratio is harmful to their capacity to get employment, particularly if they are young or female. The frequency of workplace dangers had a considerable impact on employees' performance, and the levels of performance of healthy and unwell employees differed significantly. A critical examination of the occupational hazards in SMEs and their influence on motivation and productivity of employees in SMEs in Kenya lacks in recent literature thus the main objective of this study.

## **2.8 Theoretical Framework**

In this section, the theoretical framework chosen to inform this study is presented. Hierarchy of Needs by Maslow and Motivation Theory by Herzberg.

### **2.8.1 Hierarchy of Needs by Maslow**

Maslow's hierarchy of needs is a significant psychological driving theory. Five levels of human desires are taken into account by this hierarchy, often known as Maslow's hierarchy of needs: physiological, safety, love and belonging, esteem, and self-actualization. In order for a person to feel satisfied, they must complete the requirements at each level. The hierarchy is commonly represented as a pyramid since the lower levels must be completed before moving on to the higher ones. A person won't feel pressured to advance if they are dissatisfied at the level immediately below them in the hierarchy. You can assess if your needs are being satisfied at work and how you can best serve your team by knowing this psychological idea. This page discusses the Maslow hierarchy of needs, how it is used in the workplace, and its theoretical underpinnings.

Applying Maslow's hierarchy of needs at work requires an understanding of expectations and how they impact motivation. A person may feel more content as needs are satisfied one at a time, which inspires perseverance and original problem-solving. The biological requirements are level 5 in the Maslow hierarchy of needs. In this hierarchy, the most fundamental prerequisites for being a human are physiological. To ensure that employees experience the satisfaction of their basic needs being met, it is essential that they have access to necessary facilities and opportunities during their work hours. This includes access to amenities such as bathrooms, the ability to take breaks for meals and snacks, and a comfortable work environment. A stable income, crucial for meeting physiological needs such as housing, food, and utilities, is also a fundamental requirement in the workplace.

An individual's total job happiness may be impacted by another basic necessity, safety. Concern about your own safety and the protection of others you care about is common. For example, you could place a strong value on your family's safety, which explains why you go to such efforts to satisfy their housing demands. Personal physical safety depends on self at work feeling important and valued. One's assets and personal property should be confidently secured and protected. Safeguarding the area by steering away anyone who could be hazardous and installing comfortable, supportive workplace furniture to lower your risk of injury are two different strategies to establish a safe workplace. The ability to feel secure and supported emotionally is another facet of workplace safety. It could be more difficult to muster the motivation to go up the management ladder and give it your best if you are concerned that you might lose your job as a result of layoffs or budget cuts. Future ambiguity drastically reduces employee enthusiasm at work.

Love and belonging: In accordance with Maslow's hierarchy, your level of love and belonging at work is slightly different from your degree of belonging and affection in other areas of your life. If you don't experience a sense of belonging, your motivation and engagement in your work may be compromised. Building and sustaining connections at work can be challenging for certain individuals. Companies that place a higher emphasis on employee engagement often prioritize work-life balance, frequently organize social events, and provide more opportunities for connections beyond the workplace. It is simpler to be motivated to work hard and provide results

once you recognize how effectively you connect with and integrate into your team, career, and workplace.

One more is one's sense of worth. The confidence feels your work is worthwhile and serving a wider good is self-esteem. You must feel as though your career is moving forward, that you are improving, that you are seeing consequences, as well as the knowledge of your successes among others around you. You have a better chance of succeeding if you have confidence in your abilities, your own abilities, and other people's support. The extent to which an employee contributes ultimately depends on their perception of value. Even when they are suffering, an employee may feel better about themselves if they are frequently thanked for their efforts. Respect from the workforce may decline if feedback is solely given in the form of an annual review.

Self-actualization comes last. The greatest level in Maslow's hierarchy of needs is self-actualization, which is defined as realizing one's full potential at work. In essence, everyone seeks to feel that they are excelling in every situation, as it motivates them to advance in their careers. An employee who has achieved self-actualization feels a sense of trust and empowerment, fostering both personal and professional growth. Providing employees with opportunities to succeed is a key method to ensure the realization of this goal. To assist their staff in enhancing their careers without pushing them into roles they may not enjoy, managers should prioritize recognizing and leveraging the skills and competencies of their team members. If you want to reach self-actualization, your job has to be challenging without being too demanding or overwhelming, (Herrity, 2019)

### **2.8.2 Motivation Theory by Herzberg**

Understanding what motivates people to work is the aim of Herzberg's Theory of Motivation. This idea can help you inspire your team to give their best effort. The Two Factor Theory, commonly known as Herzberg's Motivation Theory, suggests that a company has the ability to modify two elements to impact employee motivation in the workplace. These elements consist of motivators, which have the potential to stimulate employees to put forth increased effort. When motivators are

present, employees are inclined to work more diligently. They can be found in the position itself, which he refers to as hygiene factors: If these aren't present, workers won't be as driven to work more if they're not there. Motivators are generally referred to as components that contribute to contentment, whereas hygiene factors are frequently referred to as problems that contribute to unhappiness.

Achievement is one of the motivational factors. A job must make a worker feel accomplished. You'll feel proud of yourself for completing such a challenging but valuable task. A job must provide an employee with praise and recognition for their achievements. This praise should come from both their peers and their bosses. The actual work: The actual activity itself must be engaging, exciting, and challenging enough to keep employees motivated. Employees should be in charge of their own work. They shouldn't encounter micromanagement and should take charge of finishing it. Promotions should be possible for the person to pursue. Growth: People should have the opportunity to learn new skills in this role. This is doable, either through additional formal schooling or on-the-job training.

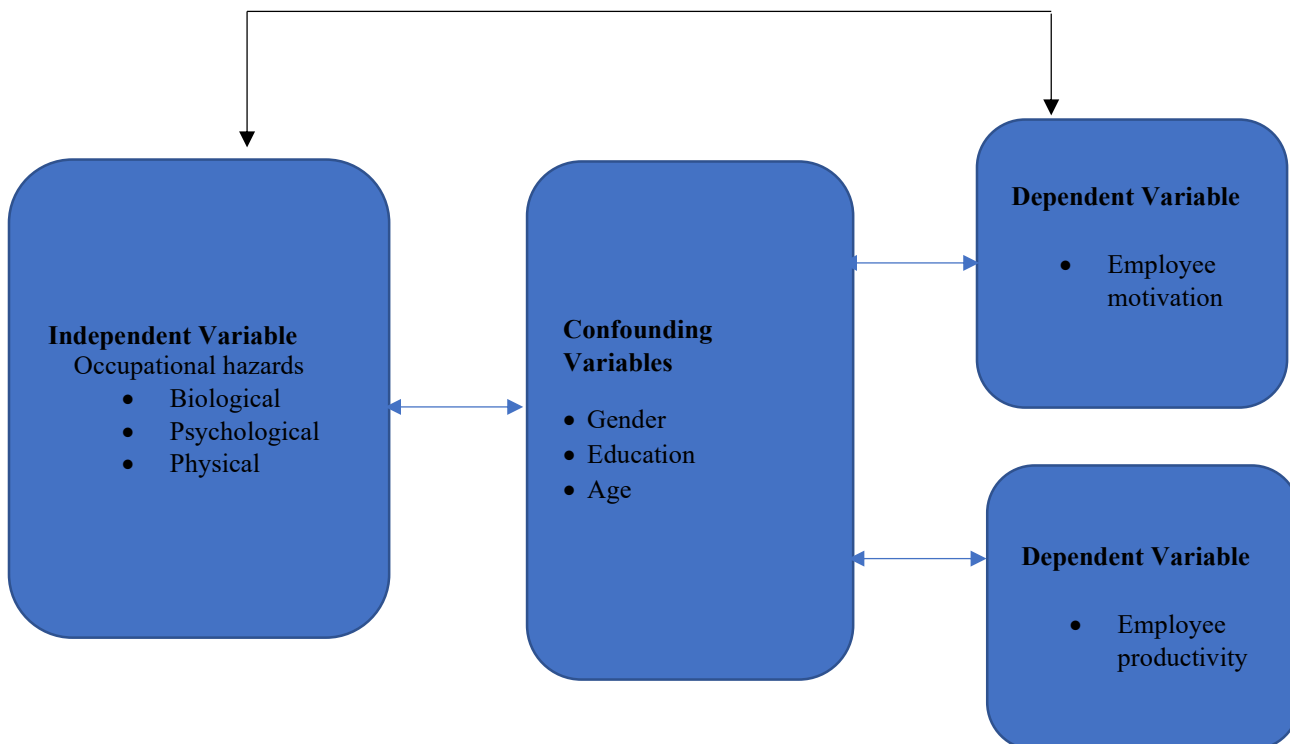
Company policies, which have to be fair and transparent to all employees, are among the hygiene considerations. Additionally, they must be comparable to those of rivals. Fair and adequate oversight is necessary. The employer needs to be allowed as much discretion as is practical. Relationships: Tolerating bullying and cliques is unacceptable. Coworkers, superiors, and subordinates must get along and keep positive working affairs. Workplace surroundings: The tools and surroundings should be safe, sanitary, and suitable for the position. Pay: Employers should put in place a just and appropriate remuneration structure. Additionally, it must successfully go up against rival companies in the same industry. Status: The Company must keep track of everyone's whereabouts. When one is working hard, they may feel prestigious. Safety: It's important for to give workers the impression that their jobs are safe and that they aren't always in jeopardy of losing them.

An organization or team can exist in one of four general states according to the Two Factor Theory. Every manager should strive to attain the ideal conditions of strong motivation and high standards

of hygiene. Everyone who works here is motivated and rarely complains. High Hygiene and Low Motivation: Although there aren't many employee grievances in this situation, there isn't much motivation. When wages and working conditions are competitive yet the work isn't especially engaging, as in this instance. An employee's attendance is required in order to be paid. 3. Low Hygiene and High Motivation; despite their high levels of motivation, the staff in this situation also has a lot of complaints. This is an example of employment that is intriguing and thrilling, but the salary and working conditions are below those of competitors in the same sector. ( Herzberg, 1964)

## 2.9 Conceptual Framework

The conceptual framework demonstrates how the variables that directed this investigation are related to one another. It explains how occupational hazards, motivation and productivity interact with the influence of confounding factors including gender, education level, and age.



**Figure 2. 1: Conceptual Framework**

## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter gives details of the research design. Data collection instruments, targeted population, sampling methods are outlined and data analysis procedure for the variables of the study.

#### 3.2 Research Design

The project used a case study approach, and quantitative data was collected to explore the relationship between workplace hazards, employee motivation, and productivity in SMEs in Nairobi County.

#### 3.3 Target Population

A population is defined as any finite or infinite collection of individual elements (Stratton, 2021). The study targeted owners of 98071 registered SMEs based in Nairobi County. Hence, the target population for the study was 98071 owners from the registered SMEs in Nairobi County.

#### 3.4 Sample Size

A representative sample of the intended audience was used when doing research. The sample size for this study was determined using a formula created by Nassiuma (2000), as shown in the formula below:

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

Where  $n$  = sample size

$N$  = population (98071)

$cv$  = Coefficient of variation (0.3)

$e$  = tolerance (0.02)

$$n = \frac{98071 (0.3^2)}{0.3^2 + (98071-1) * 0.02^2} = 224$$

From the formula, the sample size was 224.



### **3.5 Sampling Procedure**

The researcher opted for a random sampling procedure. This method involved first defining the entire population of SMEs eligible for inclusion in the study. Then, through the use of a random selection process, which involved a computer-generated random number generator, a subset of SMEs was selected. This approach ensured that every SME within the defined population had an equal opportunity to be part of the study. After obtaining consent from the selected SMEs, the researcher proceeded to collect data on occupational hazards, motivation, and productivity. By employing random sampling, the study aimed to mitigate bias and increase the chances of generating findings that could be broadly representative of SMEs, enhancing the overall generalizability of the research results.

### **3.6 Research Instruments**

The study used a questionnaire which was self-developed by the researcher. The questionnaire had four parts. Part A collected information about the participant's demographic factors to characteristics of the participants. Part B examined the independent variable, which is occupational hazards. Part C examined the first dependent variable, which is motivation of employees. Part D examined the second dependent variable productivity of employees. The instrument was developed entirely using literature reviewed.

### **3.7 Data Collection Procedure**

An introductory letter was sent out to all SMEs in Nairobi County via Email and a follow up phone call made by the researcher. A study permission issued by NACOSTI, the National Commission for Science, Technology, and Innovation One week before to the planned day of conducting the study, the researcher approached the sampled SMEs' owners with the permit and an introduction letter to inform and request consent for conducting the research. The researcher physically distributed and collected back the questionnaires.

### **3.8 Validity and Reliability**

Content validity was determined by ensuring that the variables reflected the content intended to be measured. To ensure reliability, internal consistency technique was adopted, whereby items measuring the matching idea in the Likert scale was correlated and a score of 0.7 and above in

each scale was established, indicating that the questionnaire had “inner consistency” and thereby dependable (Cronbach & Shavelson, 2004).

### **3.9 Data Analysis**

Data collected was stored and analyzed using relevant statistical methods in the Statistical Package for Social Sciences (SPSS) version 27. Descriptive and inferential methods were used to analyze quantitative data. Descriptive statistics in type of tendencies as mean, standard deviation and percentages were applied to show the distribution of respondents across different demographic descriptions, while Pearson Correlation was performed to determine a linear correlation to examine the association amongst variables for the two hypotheses. Regression was used to show the causative relationship between variables for the second and third objectives. Chi square was used to help map the contribution of confounding variables on motivation and productivity of employees. To answer research question one, data collected via objective one was analyzed and presented in form of narrations in 4.4.

### **3.10 Ethical Considerations**

To help introduce the researcher to the appropriate authority on location, the institution got an official letter from the necessary authorities. The researcher observed high confidentiality of the data collected and assured all participants of anonymity. Prior to gathering data, the researcher sought consent and informed the respondents about the study's purpose and timeframe. The researcher offered accurate data from the study without fabricating or making it up. The researcher respected the respondents' privacy during the entire investigation.

## CHAPTER FOUR

### DATA ANALYSIS, PRESENTATION, INTERPRETATIONS AND DISCUSSION

#### 4.1 Introduction

The chapter covers the data analysis for study that intended to investigate the influence of occupational hazards on motivation and productivity among employees in SMEs in Nairobi County, Kenya. The findings presented in tables are based on study objectives sought to be achieved. The section in this chapter includes response rate, confounding variables, occupational hazards, employee motivation, and employee productivity, test of hypothesis and regression analysis.

#### 4.2 Response Rate

The researcher distributed questionnaires to 224 participants. Out of these, only 173 questionnaires were received back which resulted into a response rate of 77.2%. This was adequate for conducting study analysis as per Stratton (2021) recommendations that rates of response which are more than 50% are adequate for undertaking a statistical analysis. The results are illustrated in Table 4.1.

**Table 4. 1: Response Rate**

	<b>Number of informants</b>	<b>Percent</b>
Response	173	77.2
Non- Response	51	22.8
<b>Total</b>	<b>224</b>	<b>100</b>

#### 4.3 Confounding Variables

This section covers the study outcomes on confounding variables like age, gender, and highest level of education of the participants.

### 4.3.1 Participants' Age

The researcher needed the participant's data on their age. As per the study outcomes in Table 4.2, the participants stated to be aged between 18 and 35 years as represented by 67.1% while other participants specified their age to be 35 years and above as represented by 32.9%. This illustrates that the data obtained was from every targeted age group and thus a wide scope that increases the possibility of getting detailed information regarding the subject being studied.

**Table 4. 2: Age of the Participants**

	<b>Frequency</b>	<b>Percent</b>
18 to 35 years	116	67.1
35 years and above	57	32.9
<b>Total</b>	<b>173</b>	<b>100</b>

### 4.3.2 Gender of the Participants

The participants were required to specify their gender. As per the study outcomes in Table 4.3, majority of the participants were female as represented by 50.3% and the rest of the participants were male as represented by 49.7%. This specifies that collection of data was not gender biased as it obtained information in regard to subject being studied from every participant irrespective of their gender.

**Table 4. 3: Gender of the Participants**

	<b>Frequency</b>	<b>Percent</b>
Male	86	49.7
Female	87	50.3
<b>Total</b>	<b>173</b>	<b>100</b>

### 4.3.3 Participants' Level of Education

The researcher needed the participants to specify the level of education. From the study outcomes in Table 4.4, most of the participants specified their level of education to be tertiary as represented by 39.3%. Other participants specified that their education level was undergraduate as represented by 24.3%, secondary as represented by 22.5%, primary as represented by 9.2% and post-graduate as represented by 4.6%. This is a specification that every participant had attained basic education to be in a position to give credible information about how occupational hazards are related to motivation and productivity among employees.

**Table 4. 4: Participants' Level of Education**

	<b>Frequency</b>	<b>Percent</b>
Primary	16	9.2
Secondary	39	22.5
Tertiary	68	39.3
Undergraduate	42	24.3
Post-graduate	8	4.6
<b>Total</b>	<b>173</b>	<b>100</b>

### 4.3.4 Types of SMEs

From the data collected, the researcher targeted different types of SMEs. These included manufacturing (4.6%), retail (46.8%), professional services (30.6%) and sole proprietorships (17.9%). This implies that the data was collected from SMEs in retail category, though all the SMEs were considered for data collection.

**Table 4. 5: Types of SMEs**

	<b>Frequency</b>	<b>Percent</b>
Manufacturing	8	4.6
Retail	81	46.8
Professional services	53	30.6
Sole proprietorships	31	17.9
<b>Total</b>	<b>173</b>	<b>100</b>

#### 4.4 Occupational Hazards

The study intended to determine the occupational hazards in SMEs in Nairobi County, Kenya. The participants were asked about the kinds of health and safety hazards they might be exposed to in their job. From the study outcomes in Table 4.5, the participants specified that in their job, they work in an environment where the noise level is so loud that they must raise their voice when speaking to persons who are less than one meter away as represented by 76.3% and that the labor in a crooked, bending, or unnatural position as represented by 73.4%. Further, the participants specified that in their job, they labor in a 2 meter or higher height above the ground or floor as shown by 73.4% and they do more than two hours straight of standing as shown by 72.8%. The findings agree with Shangareev (2018) who established a substantial amount of labor activities depend on employees being able to react precisely, swiftly, and correctly to specific workplace circumstances. The knowledge and abilities necessary for these kinds of events must also be thoroughly entrenched in one's brain. Occupational risk of a worker is inversely related to the sum of their indicators of motivation and competence and directly proportionate with relation to the typical occupational risk value. A substantial reduction in the number of injuries brought on by employees' unsafe behavior will be possible with the development of efficient mechanisms for employee training and motivation within the occupational risk management system of a firm, in addition to valid and efficient techniques for assessing and controlling competence.

Further, the participants specified that in their job, they spend at least three hours every day using their hands or wrists to accomplish repetitive tasks like pushing, clearing, sorting, assembling, packing, and typing as represented by 67.6% and that they lift, carry, or push something that weighs more than 20 kg by hand at least ten times per day as represented by 63.6%. Moreover, the participants specified that in their job, they do not encounter bullying or harassment at work as represented by 91.9%, that they do not interact with chemicals, flammable liquids, and gases that is dangerous as represented by 82.7% and do not perform tasks or uses methods that are unfamiliar to, them at work as represented by 78.0%. The results agree with Ferreira, *et al.* (2011) who argues that SME owners are unsure whether the limits are effective in lowering workplace accidents, although risk evaluations are normally performed without the use of a systematic system of classifying threats. Given that internal training is the norm, respondents don't seem to see why formal training is necessary. The safety of SMEs in the country is significantly impacted by this

situation. The respondents agreed that promoting safety awareness and providing safety education and training are essential components in reducing the rate of accidents. Addressing these issues will surely result in reductions in costs and, more crucially, a decrease in the rate of accidents in South Africa's SME sector, in addition to establishing a safer working environment.

**Table 4. 6: Health and Safety Hazards Participants are exposed to.**

<b>In your job, do you...?</b>	<b>Yes</b>		<b>No</b>	
	<b>f</b>	<b>%</b>	<b>f</b>	<b>%</b>
Lift, carry, or push something that weighs more than 20 kg by hand at least ten times per day.	110	63.6	63	36.4
Spend at least three hours every day using your hands or wrists to accomplish repetitive tasks like pushing, clearing, sorting, assembling, packing, and typing.	117	67.6	56	32.4
Performs tasks or uses methods that are unfamiliar to you at work	38	22.0	135	78.0
Interaction with chemicals, flammable liquids, and gases that is dangerous.	30	17.3	143	82.7
Labor in a crooked, bending, or unnatural position.	127	73.4	46	26.6
Labor in a 2 meter or higher height above the ground or floor.	127	73.4	46	26.6
Work in an environment where the noise level is so loud that you must raise your voice when speaking to persons who are less than one meter away.	132	76.3	41	23.7
Encounter bullying or harassment at work.	14	8.1	159	91.9
More than two hours straight of standing.	126	72.8	47	27.2

#### **4.5 Employee Motivation**

The study further intended to establish the influence of occupational hazards on motivation of employees in SMEs in Nairobi County, Kenya. The participants were required to specify how strongly they agree or disagree with statements regarding employee motivation. From the study outcomes in Table 4.6, the participants agreed that strongly agreed that they engage in this kind of employment to fulfill a specific objective as shown by an average of 4.526. Further, the participants agreed that they perform this kind of employment because it pays well as shown by an average of 4.382, they work in the field since it enables them to make money as shown by an average of 4.266 and that they choose to pursue this kind of employment since it will help them achieve a number of significant goals as shown by an average of 4.168. The findings agree with Honore (2009) who

noted that employers should retain employee motivation by maintaining a positive work environment and offering opportunities for progress since employees are always more precious to them than money, things, or profits. Employee retention or turnover is reduced, zeal is raised, and motivated employees perform better than unmotivated ones. Over the years, employers have put a lot of effort into perfecting the art of inspiring employees. Vinberg (2020) noted that protecting workers from injuries and accidents, and exposure to harmful substances is the key goal of occupational health and safety (OHS). Despite the fact that accidents can occur at any moment, it is the establishment's duty to see that safety measures are taken to reduce the risk of disasters and maintain a safe workplace.

Moreover, the participants agreed that the kind of labor has ingrained itself into their life, therefore they do it as represented by a mean of 4.145 and that they perform this kind of work to advance their professional objectives as represented by a mean of 4.075. In addition, the participants agreed that they work in this field because it gives them security as represented by a mean of 3.948, that they work in this field because it has shaped who they are on a fundamental level as represented by a mean of 3.844 and that they engage in this kind of employment because it makes them happy to take on challenging tasks as represented by a mean of 3.804. Furthermore, the participants agreed that in order to be a "winner" in life, they perform this kind of labor as represented by a mean of 3.763, that they choose to live their life in this manner, thus they do this kind of work as represented by a mean of 3.549 and that they engage in this kind of employment because it makes them happy to complete challenging assignments as represented by a mean of 3.509. The findings correlate with Ahmed, Islam, and Al Asheq (2021) who noted that some notable distinctions between the driving variables for service and manufacturing workers. Because of this, it's essential for all managers to have a thorough understanding of the elements that drive each of their individual teams' exceptional organizational performances. In conclusion, the results of this study can be used to establish suggestions for enterprises in Bangladesh, a nation that is quickly developing.

However, the participants were neutral that they work in this field because they need to excel at it; else, they would be quite disappointed as represented by a mean of 3.283 and that there are too



many demands placed on them, therefore they are not sure why they undertake this kind of employment as represented by a mean of 3.254. Additionally, the participants disagreed that they can't seem to keep up with the crucial tasks involved in the job as represented by a mean of 2.330 and that they engage in this kind of employment because they enjoy expanding their knowledge as represented by a mean of 2.116. The findings correlate with Ikupolati *et al.* (2017) who noted that employees are the organization's driving force, and inducement is its fuel. Without its workforce an organization cannot fulfill its established mission. Organizations should provide incentives to employees that satisfy their demands with regard to their fundamental requirements, such as bodily, safe, and social requirements. Motivation is a bodily, social, or psychological feeling that urges someone to choose a particular course of conduct. Determination is an urge that drives someone to carry out or keep doing something based on their own needs and desires. There are both inner and extrinsic motivations.

**Table 4. 7: Agreement with Statements on Employee Motivation**

	<b>Mean</b>	<b>Std. Dev.</b>
I engage in this kind of employment to fulfill a specific objective.	4.526	0.744
I perform this kind of employment because it pays well.	4.382	0.781
I can't seem to keep up with the crucial tasks involved in this job.	2.330	1.281
I engage in this kind of employment because I enjoy expanding my knowledge.	2.116	0.895
I work in this field because it has shaped who I am on a fundamental level.	3.844	0.781
I perform this kind of work to advance my professional objectives.	4.075	0.707
I engage in this kind of employment because it makes me happy to take on challenging tasks.	3.804	0.826
I work in this field since it enables me to make money.	4.266	0.538
I choose to live my life in this manner; thus, I do this kind of work.	3.549	1.020
I work in this field because I need to excel at it; else, I would be quite disappointed.	3.283	1.081
In order to be a "winner" in life, I perform this kind of labor.	3.763	0.840
I choose to pursue this kind of employment since it will help me achieve a number of significant goals.	4.168	0.507
I engage in this kind of employment because it makes me happy to complete challenging assignments.	3.509	0.819
I work in this field because it gives me security.	3.948	0.871
There are too many demands placed on us, therefore I'm not sure why I undertake this kind of employment.	3.254	1.075
This kind of labor has ingrained itself into my life, therefore I do it.	4.145	0.502

#### **4.6 Employee Productivity**

Further, the study intended to examine the influence of occupational hazards on productivity of employees in SMEs in Nairobi County, Kenya. The participants were required to specify how strongly they agree or disagree with statements regarding employee productivity. From the study outcomes in table 4.8, the participants strongly agreed that they have the ability to complete their work effectively as represented by a mean of 4.520. Further, the participants agreed that they have the ability to prioritize as represented by a mean of 4.445, that they are able to plan their work so that they can complete it on schedule as represented by a mean of 4.428 and that they are conscious of the professional outcome they want to accomplish as represented by a mean of 4.387. The findings correlate with Amutabi and Wambugu (2020) who noted that the variations in the factors affecting worker productivity between the two enterprises were minor and inconsequential. Creating a welcoming business environment and investing in human capital as two important ways to increase the productivity of the service sector. Selectivity was also a significant factor in both organizations, confirming the idea that self-selection plays a part in studies of labor productivity.

Moreover, the participants agreed that they are efficient with their time as represented by a mean of 4.370, that they make an effort to maintain their knowledge of their line of work current as represented by a mean of 4.278 and that they make an effort to maintain my professional abilities current as represented by a mean of 4.266. The participants also agreed that they devise original answers to fresh issues as represented by a mean of 4.185 and that they accept difficult assignments when they are offered as represented by a mean of 4.116. Additionally, the participants agreed that when their previous tasks are finished, they start new ones on their own initiative as represented by a mean of 4.081, that they share the drawbacks of their work with those outside the organization as represented by a mean of 3.960 and that in discussions and/or meetings, they take an active part as represented by a mean of 3.873. The findings concur with Lorincová, *et al.* (2019) who argued that enterprise values are created by employee work, original concepts, and initiatives to positively represent the company. Both white-collar and blue-collar workers with high levels of motivation use their work to influence the efficiency of the corporation, which in turn influences the success in addition to sustainability of the company.

However, the participants were neutral that they grumble at work about trivial workplace problems as represented by a mean of 3.116. The participants disagreed that in their profession, they constantly look for fresh challenges as represented by a mean of 2.104 and that they take on additional duties as represented by a mean of 2.041. The participants also disagreed that instead of concentrating on the positive parts of the situation at work, they do focus on negative ones as represented by a mean of 2.006, that they do not discuss the unpleasant aspects of their job with coworkers as represented by a mean of 2.001 and that in their line of business, they exaggerate issues as represented by a mean of 1.728. The results are in line with Cheng, *et al.* (2016) who noted that the only factor that larger businesses with more than 50 employees have shown to boost productivity among low-skilled workers is an increase in gender equality. Accordingly, based on the size of the business and the categories of personnel, a workforce that is more evenly split between male and female workers does, in fact, result in higher productivity growth.

**Table 4. 8: Agreement with Statements on Employee Productivity**

	<b>Mean</b>	<b>Std. Dev.</b>
I am able to plan my work so that I can complete it on schedule.	4.428	0.675
I am conscious of the professional outcome I want to accomplish.	4.387	0.586
I have the ability to prioritize.	4.445	0.543
I have the ability to complete my work effectively.	4.520	0.596
I'm efficient with my time.	4.370	0.725
When my previous tasks are finished, I start new ones on my own initiative.	4.081	0.758
I accept difficult assignments when they are offered.	4.116	0.689
I make an effort to maintain my knowledge of my line of work current.	4.278	0.838
I make an effort to maintain my professional abilities current.	4.266	0.681
I devise original answers to fresh issues.	4.185	0.610
I take on additional duties.	2.041	0.668
In my profession, I constantly look for fresh challenges.	2.104	0.850
In discussions and/or meetings, I take an active part.	3.873	0.944
I grumble at work about trivial workplace problems.	3.116	1.109
In my line of business, I exaggerate issues.	1.728	0.916
Instead of concentrating on the positive parts of the situation at work, I do focus on negative ones	2.006	1.102
I discuss the unpleasant aspects of my job with coworkers.	2.001	0.717
I share the drawbacks of my work with those outside the organization.	3.960	0.979

## 4.7 Test of Hypothesis

Pearson Correlation was performed to determine a linear correlation and establish the relationship between variables for the hypotheses one and two.

### 4.7.1 Test for Hypothesis One

The null hypothesis one asserts, “ $H_{01}$ : There is no relationship between occupational hazards and motivation of employees in SMEs in Nairobi County, Kenya”. As per the study outcomes in Table 4.9, the study showed that occupational hazards are significantly related to motivation of employees in SMEs in Nairobi County, Kenya ( $r = 0.761$ ). Because the p-value (0.000) did not exceed 0.05, then study rejected the first null hypothesis and deduced that there is a substantial relationship between occupational hazards and motivation of employees in SMEs in Nairobi County, Kenya. This implies that existence of various occupational hazards at workplace affects the motivation of employees in SMEs in Nairobi County, Kenya.

**Table 4. 9: Results of Hypothesis Test One**

		Occupational Hazards	Employee Motivation
Occupational Hazards	Pearson Correlation	1	.761**
	Sig. (2-tailed)		.000
	N	173	173
Employee Motivation	Pearson Correlation	.761**	1
	Sig. (2-tailed)	.000	
	N	173	173

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### 4.7.2 Test for Hypothesis Two

The null hypothesis two asserts, “ $H_{02}$ : There is no relationship between occupational hazards and productivity of employees in SMEs in Nairobi County, Kenya”. As per the study outcomes in Table 4.10, the study showed that occupational hazards are significantly related to productivity of employees in SMEs in Nairobi County, Kenya ( $r = 0.772$ ). Because the p-value (0.000) did not

exceed 0.05, then study rejected the second null hypothesis and deduced that there is a substantial relationship between occupational hazards and productivity of employees in SMEs in Nairobi County, Kenya. This implies that existence of various occupational hazards at workplace affects the productivity of employees in SMEs in Nairobi County, Kenya.

**Table 4. 10: Results of Hypothesis Test Two**

		<b>Occupational Hazards</b>	<b>Employee Productivity</b>
Occupational Hazards	Pearson Correlation	1	.772**
	Sig. (2-tailed)		.000
	N	173	173
Employee Productivity	Pearson Correlation	.772**	1
	Sig. (2-tailed)	.000	
	N	173	173

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### 4.8 Regression Analysis

Linear regression was used to assist in showing the influence of occupational hazards on motivation and productivity among employees in SMEs in Nairobi County, Kenya.

##### 4.8.1 Influence of Occupational Hazards on Employee Motivation

From the study outcomes in Table 4.11, the R-square was 0.579 which shows that 57.9% of the variations in the motivation of employees in SMEs in Nairobi County, Kenya could be linked to various occupational hazards existing at workplace. The model of regression was significant because F-computed (234.974) was greater than F-critical (3.8964) and p-value (0.000) did not exceed 0.05. Based on the regression coefficients formed the following equation:

$$ME = 0.252 + 0.968 OH$$

Where: **ME** = Motivation of employees; **OH** = Occupational Hazards

Based on study outcomes, occupational hazards have a significant influence on motivation of employees in SMEs in Nairobi County, Kenya (B=0.968; p=0.00). This implies that occupational hazards accounts for a lot of changes in motivation of employees in SMEs in Nairobi County, Kenya.

**Table 4. 11: Results on Influence of Occupational Hazards on Employee Motivation**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error		
1	.761 <sup>a</sup>	.579	.576	.315		
ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.288	1	23.288	234.974	.000 <sup>b</sup>
	Residual	16.948	171	.099		
	<b>Total</b>	<b>40.236</b>	<b>172</b>			
Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.252	.234		1.075	.284
	Occupational Hazards	.968	.063	.761	15.329	.000

a. Dependent Variable: Employee Motivation  
b. Predictors: (Constant), Occupational Hazards

#### 4.8.2 Influence of Occupational Hazards on Employee Productivity

From the study outcomes in Table 4.12, the R-square was 0.596 which shows that 59.6% of the variations in the productivity of employees in SMEs in Nairobi County, Kenya could be linked to various occupational hazards existing at workplace. The model of regression was significant because F-computed (252.671) was greater than F-critical (3.8964) and p-value (0.000) did not exceed 0.05. Based on the regression coefficients formed the following equation:

$$PE = 1.010 + 0.817 OH$$

Where: **PE** = Productivity of employees; **OH** = Occupational Hazards

Based on study outcomes, occupational hazards have a significant influence on productivity of employees in SMEs in Nairobi County, Kenya ( $B=0.817$ ;  $p=0.00$ ). This implies that occupational hazards accounts for a lot of changes in productivity of employees in SMEs in Nairobi County, Kenya.

**Table 4. 12: Results on Influence of Occupational Hazards on Employee Productivity**

<b>Model Summary</b>						
<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error</b>		
1	.772 <sup>a</sup>	.596	.594	.308		
<b>ANOVA<sup>a</sup></b>						
<b>Model</b>		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	23.996	1	23.996	252.671	.000 <sup>b</sup>
	Residual	16.240	171	.095		
	<b>Total</b>	<b>40.236</b>	<b>172</b>			
<b>Coefficients<sup>a</sup></b>						
<b>Model</b>		<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>		<b>Sig.</b>
		<b>B</b>	<b>Std. Error</b>	<b>Beta</b>	<b>t</b>	
1	(Constant)	1.010	.273		3.698	.000
	Occupational Hazards	.817	.074	.772	11.054	.000

a. Dependent Variable: Employee Productivity  
b. Predictors: (Constant), Occupational Hazards

#### **4.8.3 Influence of Biological Hazards on Employee Motivation**

From the findings in Table 4.13, the R-square was 0.115 which shows that 11.5% variations in employee motivation could be explained by biological hazards. Further, the study established that a unit change in biological hazards leads to 0.422 changes in employee motivation in SMEs in Nairobi County, Kenya. This implies that biological hazards significantly influence the employee motivation in SMEs in Nairobi County, Kenya.

**Table 4. 13: Results on Influence of Biological Hazards on Employee Motivation**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error		
1	.340 <sup>a</sup>	.115	.110	.359		
ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.868	1	2.868	22.297	.000 <sup>b</sup>
	Residual	21.991	171	.129		
	Total	24.859	172			
Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.040	.140		21.758	.000
	Biological Hazards	.422	.089	.340	4.722	.000
a. Dependent Variable: Employee Motivation						
b. Predictors: (Constant), Biological Hazards						

**4.8.4 Influence of Physical Hazards on Employee Motivation**

From the findings in Table 4.14, the R-square was 0.117 which shows that 11.7% variations in employee motivation could be explained by physical hazards. Further, the study established that a unit change in physical hazards leads to 0.475 changes in employee motivation in SMEs in Nairobi County, Kenya. This implies that physical hazards significantly influence the employee motivation in SMEs in Nairobi County, Kenya.

**Table 4. 14: Results on Influence of Physical Hazards on Employee Motivation**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error		
1	.342 <sup>a</sup>	.117	.112	.358		
ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.908	1	2.908	22.651	.000 <sup>b</sup>
	Residual	21.951	171	.128		
	Total	24.859	172			
Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.073	.132		23.313	.000
	Physical Hazards	.475	.100	.342	4.759	.000
a. Dependent Variable: Employee Motivation; b. Predictors: (Constant), Physical Hazards						



#### 4.8.5 Influence of Psychological Hazards on Employee Motivation

From the findings in Table 4.15, the R-square was 0.085 which shows that 8.5% variations in employee motivation could be explained by psychological hazards. Further, the study established that a unit change in psychological hazards leads to 0.427 changes in employee motivation in SMEs in Nairobi County, Kenya. This implies that psychological hazards significantly influence the employee motivation in SMEs in Nairobi County, Kenya.

**Table 4. 15: Results on Influence of Psychological Hazards on Employee Motivation**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error		
1	.292 <sup>a</sup>	.085	.080	.365		
ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.117	1	2.117	15.920	.000 <sup>b</sup>
	Residual	22.741	171	.133		
	<b>Total</b>	<b>24.859</b>	<b>172</b>			
Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.043	.164		18.598	.000
	Psychological Hazards	.427	.107	.292	3.990	.000
a. Dependent Variable: Employee Motivation						
b. Predictors: (Constant), Psychological Hazards						

#### 4.8.6 Influence of Biological Hazards on Employee Productivity

From the findings in Table 4.16, the R-square was 0.077 which shows that 7.7% variations in employee productivity could be explained by biological hazards. Further, the study established that a unit change in biological hazards leads to 0.287 changes in employee productivity in SMEs in Nairobi County, Kenya. This implies that biological hazards significantly influence the employee productivity in SMEs in Nairobi County, Kenya.

**Table 4. 16: Results on Influence of Biological Hazards on Employee Productivity**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error		
1	.277 <sup>a</sup>	.077	.071	.305		
ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.320	1	1.320	14.169	.000 <sup>b</sup>
	Residual	15.926	171	.093		
	<b>Total</b>	<b>17.246</b>	<b>172</b>			
Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.229	.119		27.163	.000
	Biological Hazards	.287	.076	.277	3.764	.000
a. Dependent Variable: Employee Productivity						
b. Predictors: (Constant), Biological Hazards						

**4.8.7 Influence of Physical Hazards on Employee Productivity**

From the findings in Table 4.17, the R-square was 0.100 which shows that 10% variations in employee productivity could be explained by physical hazards. Further, the study established that a unit change in physical hazards leads to 0.367 changes in employee productivity in SMEs in Nairobi County, Kenya. This implies that physical hazards significantly influence the employee productivity in SMEs in Nairobi County, Kenya.

**Table 4. 17: Results on Influence of Physical Hazards on Employee Productivity**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error		
1	.317 <sup>a</sup>	.100	.095	.30120		
ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.732	1	1.732	19.095	.000 <sup>b</sup>
	Residual	15.513	171	.091		
	<b>Total</b>	<b>17.246</b>	<b>172</b>			
Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.194	.111		28.829	.000
	Physical Hazards	.367	.084	.317	4.370	.000
a. Dependent Variable: Employee Productivity; b. Predictors: (Constant), Physical Hazards						

#### 4.8.8 Influence of Psychological Hazards on Employee Productivity

From the findings in Table 4.18, the R-square was 0.086 which shows that 8.6% variations in employee productivity could be explained by psychological hazards. Further, the study established that a unit change in psychological hazards leads to 0.357 changes in employee productivity in SMEs in Nairobi County, Kenya. This implies that psychological hazards significantly influence employee productivity in SMEs in Nairobi County, Kenya.

**Table 4. 18: Results on Influence of Psychological Hazards on Employee Productivity**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error		
1	.293 <sup>a</sup>	.086	.081	.304		
ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.481	1	1.481	16.062	.000 <sup>b</sup>
	Residual	15.765	171	.092		
	Total	17.246	172			
Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.130	.136		22.976	.000
	Psychological Hazards	.357	.089	.293	4.008	.000
a. Dependent Variable: Employee Productivity						
b. Predictors: (Constant), Psychological Hazards						

#### 4.9 Three Way Chi-Square for Cofounding Variables

Chi square was used to help map the contribution of confounding variables (age, gender, and level of education) on motivation and productivity of employees in SMEs in Nairobi County, Kenya. As per the study outcomes in Table 4.19, the study revealed that age contributed significantly to improved motivation and productivity of employees in SMEs in Nairobi County, Kenya (Chi-square =162.977; p=0.000). The findings concur with Heyns *et al.* (2018) who noted that employees who are younger in age tend to be more motivated to work as a result of the many opportunities that are expected to come their way as opposed to the older employees. This encourages them to be more industrious and productive in their areas of work. Organizations still have a limited knowledge of how the possible disparities in the motivational demands of the various generations may affect motivating approaches and organizational performance, despite the

growing age diversity in the workforce. Skirbekk (2003) noted that the fact of being younger or older may not be good enough to determine how productive an employer ought to be. Employers with more involving duties tend to prefer younger workers because of their energy and enthusiasm. In order to determine how individual productivity fluctuates with age, a paper examined assessments of employer-employee data, work-sample testing, supervisor ratings, and other methodologies.

Further, the study revealed that gender contributed significantly to enhanced motivation and productivity of employees in SMEs in Nairobi County, Kenya (Chi-square=166.778;  $p=0.000$ ). The findings correlate with Hitka *et al.* (2020) who noted that male and female workers are motivated differently at work. What motivates one employee may fail to motivate an employee of the same gender in the same field. Employees must be the center of an organization's attention if it is to flourish, accomplish its objectives, and grow. The most crucial of all the resources a business has, according to contemporary thinking, are its people's resources. High personnel performance, effectiveness, and quality can result in subsequent organizational success and development. Considering the data, senior managers must consider the employees' education levels while developing motivational programs in addition to gender. Cheng, *et al.* (2016) argued that men are assumed to perform better than women in areas that need a lot of energy since women are considered less energetic. While there is typically no difference between the tasks performed by men and women, women typically conduct tasks that need attention to even the smallest details. People have long held the view that promoting gender equality within an organization leads to more peaceful and prolific workplaces, which, then motivates all staff to contribute and greatly improve the performance of the business. The effect of employee and company size as well as the effectiveness of gender equality in the workplace in fostering growth in industrial productivity were explicitly examined by the researchers.

Finally, the study found that level of education contributed significantly to improved motivation and productivity of employees in SMEs in Nairobi County, Kenya (Chi-square=626.401;  $p=0.000$ ). The results agree with Klindžić, *et al.* (2016) who argued that more educated employees are believed to work better in comparison to those workers that are not as educated as them. Most companies look at the educational background of their employees before they are employed, reason being, and the employer expects a worker that is motivated at work. The employer on the

other hand can also motivate the workers by giving them additional training at work. Astarina (2020) noted that the level of education may or may not have influence on the level of productivity of the worker. A worker who is self-driven and well-motivated may be as productive as or even more productive than a very educated employee. A parallel conclusion may be derived from the research findings: environmental work and education levels have a substantial impact on employees' productivity. The environment and productivity are both impacted by education levels, and the partial level has a big impact on workers' output.

**Table 4. 19: Three Way Chi-square Results**

	<b>Pearson Chi-square</b>	<b>df</b>	<b>Sig. value</b>
Age	162.977 <sup>a</sup>	69	.000
Gender	166.778 <sup>a</sup>	69	.000
Level of education	626.401 <sup>a</sup>	276	.000

## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

The research intended to examine the influence of occupational hazards on motivation and productivity among employees in SMEs in Nairobi County, Kenya. Hence, the chapter highlights the findings summary, findings' discussion, conclusion based on study findings and recommendation for policy, practice, and future research.

#### 5.2 Summary of Findings

This section presents summary of the findings for confounding variables, occupational hazards, influence of occupational hazards on employee motivation and influence of occupational hazards on employee productivity.

##### 5.2.1 Confounding Variables

Chi square was used to help map the contribution of confounding variables (age, gender, and level of education) on motivation and productivity of employees in SMEs in Nairobi County, Kenya. The study revealed that age contributed significantly to improved motivation and productivity of employees in SMEs in Nairobi County, Kenya (Chi-square=162.977;  $p=0.000$ ). Further, the study revealed that gender contributed significantly to enhanced motivation and productivity of employees in SMEs in Nairobi County, Kenya (Chi-square=166.778;  $p=0.000$ ). Finally, the study found that level of education contributed significantly to improved motivation and productivity of employees in SMEs in Nairobi County, Kenya (Chi-square=626.401;  $p=0.000$ ).

##### 5.2.2 Occupational Hazards

The study intended to determine the occupational hazards in SMEs in Nairobi County, Kenya. The study found that in most SMEs, employees work in an environment where the noise level is so loud that they must raise their voice when speaking to persons who are less than one meter away and that the labor in a crooked, bending, or unnatural position. Further, the study found that

employees in SMEs labor in a 2 meter or higher height above the ground or floor and do more than two hours straight of standing. The study also found that employees in SMEs spend at least three hours every day using their hands or wrists to accomplish repetitive tasks like pushing, clearing, sorting, assembling, packing, and typing and also lift, carry, or push something that weighs more than 20 kg by hand at least ten times per day. Moreover, the study found employees in SMEs do not encounter bullying or harassment at work, that they do not interact with chemicals, flammable liquids, and gases that is dangerous and do not perform tasks or uses methods that are unfamiliar to, they at work.

### **5.2.3 Occupational Hazards and Employee Motivation**

The study further sought to examine the influence of occupational hazards on motivation of employees in SMEs in Nairobi County, Kenya. The study showed that occupational hazards are significantly related to motivation of employees in SMEs in Nairobi County, Kenya ( $r = 0.761$ ). The study revealed that 57.9% of the variations in the motivation of employees in SMEs in Nairobi County, Kenya could be linked to various occupational hazards existing at workplace. The study established that occupational hazards have a significant influence on motivation of employees in SMEs in Nairobi County, Kenya ( $B=0.968$ ;  $p=0.00$ ). This implies that occupational hazards accounts for a lot of changes in motivation of employees in SMEs in Nairobi County, Kenya. The study established that employees engage in this kind of employment to fulfill a specific objective, that employees in SMEs perform this kind of employment because it pays well.

The study found that employees in SMEs work in the field since it enables them to make and that they choose to pursue this kind of employment since it will help them achieve a number of significant goals. Moreover, the study found that kind of labor has ingrained itself into employee's life, therefore they do it and that employees perform this kind of work to advance their professional objectives. In addition, the study established that employees in SMEs work in this field because it gives them security, that they work in this field because it has shaped who they are on a fundamental level and that they engage in this kind of employment because it makes them happy to take on challenging tasks. The study revealed that employees choose to live their life in this manner, thus they do this kind of work and that they engage in this kind of employment because

it makes them happy to complete challenging assignments. The study found that employees can seem to keep up with the crucial tasks involved in the job and engage in this kind of employment because they enjoy expanding their knowledge.

#### **5.2.4 Occupational Hazards and Employee Productivity**

Further, the study intended to examine the influence of occupational hazards on productivity of employees in SMEs in Nairobi County, Kenya. The study found that occupational hazards are significantly related to productivity of employees in SMEs in Nairobi County, Kenya ( $r = 0.772$ ). The study established that 59.6% of the variations in the productivity of employees in SMEs in Nairobi County, Kenya could be linked to various occupational hazards existing at workplace. The study found that occupational hazards have a significant influence on productivity of employees in SMEs in Nairobi County, Kenya ( $B=0.817$ ;  $p=0.00$ ). This implies that occupational hazards accounts for a lot of changes in productivity of employees in SMEs in Nairobi County, Kenya. The study revealed that employees in SMEs have the ability to complete their work effectively and have the ability to prioritize.

The study revealed that employees in SMEs are able to plan their work so that they can complete it on schedule and are conscious of the professional outcome they want to accomplish. Moreover, the study established that employees in SMEs are efficient with their time, that they make an effort to maintain their knowledge of their line of work current and that they make an effort to maintain my professional abilities current. The study found that employees in SMEs devise original answers to fresh issues, discuss the unpleasant aspects of their job with coworkers and accept difficult assignments when they are offered. The study also found that employees in SMEs finish previous tasks and start new ones on their own initiative and share the drawbacks of their work with those outside the organization. The study established that employees in SMEs do not constantly look for fresh challenges, take on additional duties and instead of concentrating on the positive parts of the situation at work, they do focus on negative ones.



### **5.3 Conclusions**

The study concluded that there are various occupational hazards that employees in SMEs in Nairobi County are exposed to. These include noisy working environments, crooked and bending working conditions and doing more than two hours straight of standing. Others identified included spending at least three hours every day using their hands to accomplish repetitive tasks like pushing, clearing, sorting, assembling, packing, and doing hard manual jobs, bullying or harassment at work.

The study concluded that occupational hazards are significantly related to motivation of employees in SMEs in Nairobi County, Kenya. This could be attributed to the fact that occupational hazards have a significant influence on motivation of employees in SMEs in Nairobi County, Kenya. Employees in SMEs engage in this kind of employment to fulfill a specific objective, work in the field since it enables them to make and choose to pursue this kind of employment since it will help them achieve a number of significant goals. Moreover, employees in SMEs work in this field because it gives them security that they work in this field because it has shaped who they are on a fundamental level and choose to seek employment because it makes them happy to complete challenging assignments.

Further, the study concluded that occupational hazards are significantly related to productivity of employees in SMEs in Nairobi County, Kenya. It was clear that occupational hazards accounts for a lot of changes in productivity of employees in SMEs in Nairobi County, Kenya. Employees in SMEs have the ability to complete their work effectively and have the ability to prioritize. Employees in SMEs are able to plan their work so that they can complete it on schedule and are conscious of the professional outcome they want to accomplish. Moreover, employees in SMEs are efficient with their time, that they make an effort to maintain their knowledge of their line of work current and that they make an effort to maintain my professional abilities current. Employees in SMEs finish previous tasks and start new ones on their own initiative and share the drawbacks of their work with those outside the organization.

#### **5.4 Recommendations**

The study recommends that county government of Nairobi should establish comprehensive occupational health and safety policies that address the specific hazards present in SMEs in Nairobi County. The formulated policies such as workplace violence and harassment prevention policy should support regular risk assessments to identify potential hazards and develop strategies to mitigate them.

There is also a need for management of SMEs owners to provide proper training to employees about the risks they may encounter and the safety measures they should follow. The management of SMEs owners needs to ensure that necessary safety equipment and personal protective gear are readily available and well-maintained.

Further, the study recommends that the Kenyan government should provide financial incentives in terms of tax incentives and grants to SMEs that invest in occupational health and safety measures. This would effectively encourage SMEs to allocate a portion of their budget for safety equipment, hazard mitigation, and employee wellness programs.

The study also recommends that management and owners of SMEs in Nairobi County needs to ensure that their employees are exposed to favorable working environment. This can be done by coming up with strategies aimed at reducing unfavorable working conditions like exposure to high noise levels by introducing noise canceling headphones.

The study further recommends that there is need for SMEs owners to create a platform for sharing best practices for mitigating occupational hazards. This can be done by establishing a platform, such as seminars, workshops, and online portals where SMEs can share successful strategies for mitigating occupational hazards and improving employee motivation.

There is need for SMEs owners to motivate workers to adopt a favorable outlook towards occupational safety and health administration. This approach can significantly help in reducing workplace injuries by fostering an understanding of the importance of embracing OSHA regulations, employees can prioritize their own safety and well-being while on the job.

The study also recommends that management of SMEs should foster open lines of communication between employees and management regarding safety concerns. This will encourage employees to report hazards and unsafe conditions without fear of reprisal and also enable the employees to discuss the unpleasant aspects of their job with coworkers. This will allow the SMEs to come up with strategies to avert hazards in an effort to enhance employee productivity and motivation.

There is also need for SMEs owners to Introduce incentive programs that reward employees for adhering to safety protocols and reporting hazards. This can help create a safety-conscious culture and improve employee productivity and motivation.

### **5.5 Suggestions for Further Research**

This study was limited to SMEs in Nairobi County. Therefore, further research needs to focus on SMEs in other counties and investigate the influence of occupational hazards on motivation and productivity among employees. Future studies should also investigate the intervention strategies aimed at mitigating the negative impact of occupational hazards on motivation and productivity among employees in SMEs.

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## APPENDICES

### Appendix 1: Study Questionnaire

You are kindly asked to complete the form completely and honestly, and to give your best opinion.

Kindly tick suitably.

#### SECTIONS A AND B: INFORMATION DEMOGRAPHIC

##### Age

- a. 18 to 35 years ( )
- b. 35 years and above ( )

##### Gender

- a) Male ( )
- b) Female ( )

##### Level of Education

- Primary ( )
- Secondary ( )
- Tertiary ( )
- Graduate ( )
- Postgraduate ( )



**SECTION B: Occupational hazards**

This section asks about the kinds of health and safety hazards you might be exposed to in your job. For each item below, please indicate which best describes your work environment by ticking a Yes or a No.

<b>In your job, do you...?</b>	<b>Yes</b>	<b>No</b>
Lift, carry, or push something that weighs more than 20 kg by hand at least ten times per day.		
Spend at least three hours every day using your hands or wrists to accomplish repetitive tasks like pushing, clearing, sorting, assembling, packing, and typing.		
performs tasks or uses methods that are unfamiliar to you at work		
Interaction with chemicals, flammable liquids, and gases that is dangerous.		
Labor in a crooked, bending, or unnatural position.		
Labor in a 2 meter or higher height above the ground or floor.		
Work in an environment where the noise level is so loud that you must raise your voice when speaking to persons who are less than one meter away.		
Encounter bullying or harassment at work.		
More than two hours straight of standing.		

**SECTION C: Employee motivation**

Please indicate how strongly you agree/disagree with the following statements, where SD stands for Disagrees Strongly, D stands for Disagrees, N stands for Neutral (Neither Agrees nor Disagrees), A stands for Agrees, and SA stands for Agrees Strongly.

Statement	SD	D	N	A	SA
I engage in this kind of employment to fulfill a specific objective.					
I perform this kind of employment because it pays well.					
I can't seem to keep up with the crucial tasks involved in this job.					
I engage in this kind of employment because I enjoy expanding my knowledge.					
I work in this field because it has shaped who I am on a fundamental level.					
I perform this kind of work to advance my professional objectives.					
I engage in this kind of employment because it makes me happy to take on challenging tasks.					
I work in this field since it enables me to make money.					
I choose to live my life in this manner, thus I do this kind of work.					
I work in this field because I need to excel at it; else, I would be quite disappointed.					
In order to be a "winner" in life, I perform this kind of labor.					
I choose to pursue this kind of employment since it will help me achieve a number of significant goals.					
I engage in this kind of employment because it makes me happy to complete challenging assignments.					
I work in this field because it gives me security.					
There are too many demands placed on us, therefore I'm not sure					

why I undertake this kind of employment.					
This kind of labor has ingrained itself into my life, therefore I do it.					

**SECTION D: Employee productivity**

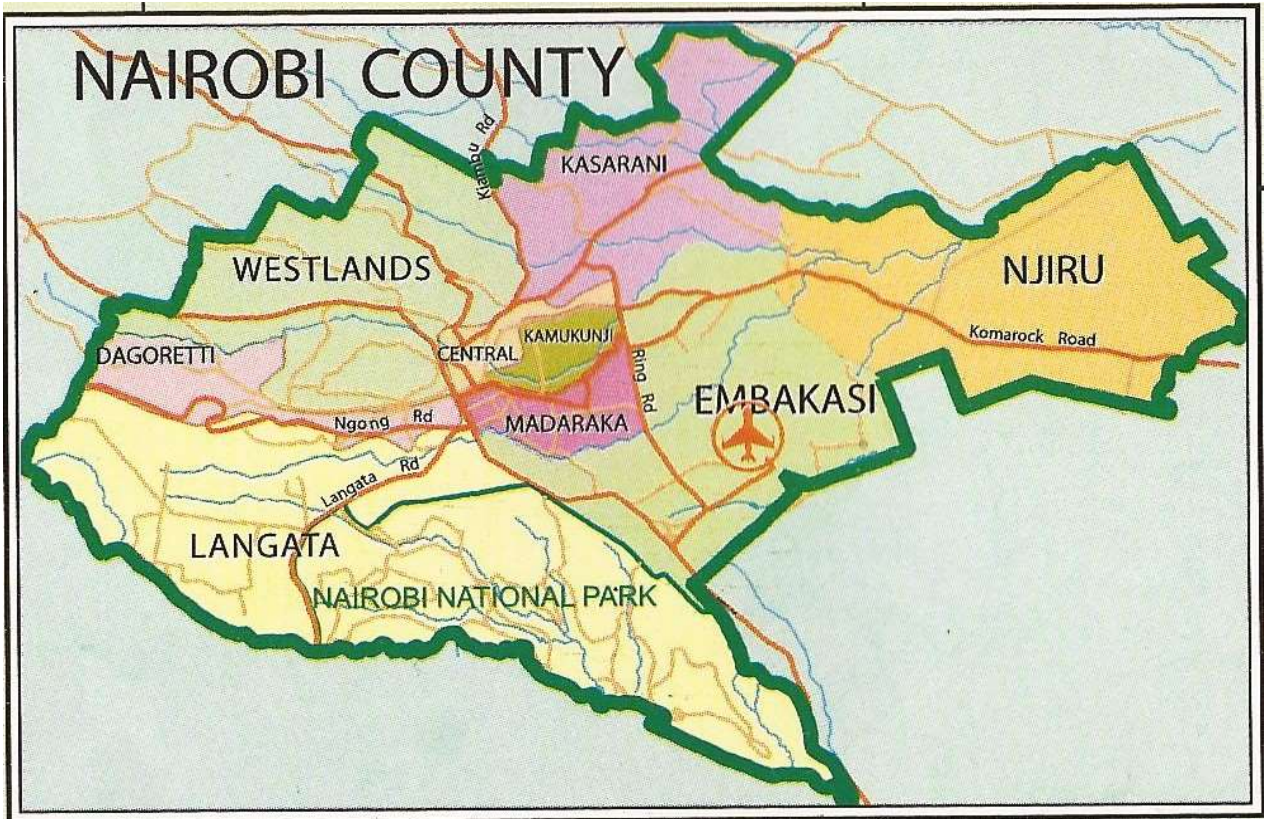
Please indicate how strongly you agree/disagree with the following statements, where SD stands for Disagrees Strongly, D stands for Disagrees, N stands for Neutral (Neither Agrees nor Disagrees), A stands for Agrees, and SA stands for Agrees Strongly.

Statement	SD	D	N	A	SA
I am able to plan my work so that I can complete it on schedule.					
I am conscious of the professional outcome I want to accomplish.					
I have the ability to prioritize.					
I have the ability to complete my work effectively.					
I am efficient with my time.					
When my previous tasks are finished, I start new ones on my own initiative.					
I accept difficult assignments when they are offered.					
I make an effort to maintain my knowledge of my line of work current.					
I make an effort to maintain my professional abilities current.					
I devise original answers to fresh issues.					
I take on additional duties.					
In my profession, I constantly look for fresh challenges.					
In discussions and/or meetings, I take an active part.					

I grumble at work about trivial workplace problems.					
In my line of business, I exaggerate issues.					
Instead of concentrating on the positive parts of the situation at work, I do.					
I discuss the unpleasant aspects of my job with coworkers.					
I share the drawbacks of my work with those outside the organization.					

**THE END.**

Appendix 2: Map of Nairobi County




## Appendix: Budget

<b>NO.</b>	<b>ITEM</b>	<b>QUANTITY</b>	<b>COST</b>
1	Questionnaires Photocopying	224	3,360
3	Data analysis	1	25000
4	Logistics	5 people	3000
5	Nacosti permit	1	1000
	Total		32,360

Appendix: Nacosti Permit

125317

**RESEARCH LICENSE**



**This is to Certify that Ms. SARAH KERUBO ONCHURU of University of Nairobi, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: INFLUENCE OF OCCUPATIONAL HAZARDS ON MOTIVATION AND PRODUCTIVITY OF EMPLOYEES IN SMES IN NAIROBI COUNTY for the period ending : 24/August/2024.**


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