OCCUPATIONAL HEALTH AND SAFETY PRACTICES AND PERFORMANCE OF SELECTED SUGAR COMPANIES IN KISUMU COUNTY, KENYA

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A RESEARCH PROJECT SUBMITTED IN PARTILA FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION (HUMAN RESOURCE MANAGEMENT OPTION) IN THE SCHOOL OF BUSINESS OF KENYATTA UNIVERSITY

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DECLARATION

This work presented here is my own original work except those quoted and has not been published or submitted for examination in this or any other university.

Signature…….. Date ……..

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This project has been submitted for examination with my approval as the candidate's University Supervisor.

Signature: ..... Date .....

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DEDICATION

This research project is dedicated to my late mum, wife and daughters.

ACKNOWLEDGEMENT

I wish to thank the Almighty God for this far he has brought me. I also extend my gratified gratitude to my supervisor Prof. Charles Tibbs for his invaluable support and professional advice throughout the research period. Last but not least, I wish to thank my classmates who directly or indirectly assisted me complete this Research Project on time.

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ABBREVIATIONS AND ACRONYMS

COMESA	Common Market for East and Southern Africa
DV	Dependent Variable
IV	Independent Variables
KESREF	Kenya Sugar Research Foundation
KSB	Kenya Sugar Board
MSC	Muhoroni Sugar Company
OHS	Occupational Health and Safety
OSH	Occupational Safety and Health
OSHA	Occupational Safety and Health Act
SDF	Sugar Development Fund
UK	United Kingdom
USA	United States of America
WHO	World Health Organization

OPERATIONAL DEFINITION OF TERMS

Accident denotes an occurrence that occurs during the course of employment and results in harm, ill health, or death; in the case of a person performing a job, this results in personal injury.

Employer refers to any individual or organization with whom the worker has a work contract.

Hazard denotes a source or circumstance that has the ability to impose harm to humans or property, or to the environment.

Ill-health Is an observable, adverse physical or mental disorder arising from work activities or job-related conditions.

Incident means an unplanned incident with the potential to cause an accident.

Occupational health and safety are procedures, processes and organizational methods designed to protect and encourage the health and safety of workers and the wellbeing of workers in the sense of the prevention of injuries or ill-health of employees at work**.**

Occupational health and Safety practices means the part of the overall safeguard measures, Activities, duties, processes and services for the creation, understanding, analysis and protection of workers ' safety and health.

Occupational Health and Safety audit is a structured and documented verification process for collecting and reviewing information objectively to assess whether an

organization's safety and health procedures comply with the standards for auditing the safety and health management system**.**

Occupational Health and Safety Inspection is a scheduled walk through or inspection of the workplace, designated work area and relevant risks, machinery equipment and work practices.

Occupational health and safety policy is a statement by the company outlining its purpose and strategy for comprehensive safety and health quality, serving as a guide for action and defining safety and health targets.

Organization is a public or private company, corporation, firm, undertaking, authority or institution having its own functions and administration.

Performance means the measurable results of the workers based on the organizational objectives and targets.

Risk is the likelihood that a specified undesired event will occur as a result of the hazard being realized by, or during work activities, or as a result of the products and services produced by work activities.

Risk assessment evaluates and categorizes workplace safety and health risks resulting from the identification of hazards.

ABSTRACT

There is a decline in performance in sugar industries as global trends show 10% workers suffer from work-related injuries that cause loss of man-hours, serious injuries and death. Sugar Companies in Kisumu County have experienced health and safety problems with Muhoroni sugar alone reporting 26 accidents in 2017. Previous studies on workplace health and safety policies concentrated on issues of employee well-being and neglected work performance. The purpose of this research was to determine the effect of occupational health and safety practices on performance in selected sugar companies in Kisumu County. The specific objectives were to determine the effect of occupational health and safety awareness on performance, establish the effect of occupational health and safety inspections on performance, determine the effect of occupational health and safety audit on performance and investigate the moderating effect of organization culture and the relationship between occupational health and safety practices on performance in the selected sugar companies in Kisumu county. The study was guided by the systems theory of accident causation and the psychoanalytic theory of personality with a conceptual framework. An explanatory research design was used. The study population consisted of 499 employees from Muhoroni, Chemelil and Kibos sugar companies in Kisumu County and got a sample size of 222 respondents using the Yamane formula and the filled and return tools were 184 creating a response rate of 82.8%. The researcher used stratified and simple random sampling technique and the data collected using structured questionnaires. The data collected was quantitative data that was analyzed using descriptive and inferential and the findings presented in tables, pie charts and discussions. The correlation analysis found that OHS awareness had a positive a fairly significant effect to performance (β =.433), OHS inspection has moderate positive link to performance (β =.371) and OHS audits had positive but low significance effect to performance (β =.251). The regression analysis revealed that OHS practices caused 24.6% change in performance of the selected sugar companies in Kisumu County. The study also revealed that organizational culture moderated the relationship between OHS practices and performance of the selected sugar companies in Kisumu County. The study concluded that OHS practices led to improved performance in the selected sugar companies in Kisumu County. The study recommended for frequent audits, implementation of OHS policies and procedures, adoption of risk averse culture and sensitization of all workers on value of maintaining healthy and safe work environments. To improve performance, management in the sugar companies should improve worker health and safety, do regular inspections of facilities, materials, and compliance activities and during induction, the new employees learn on OHS practices and organizational culture. Also the long interval between audit exercises may not be effective at reducing accidents or injuries at the sugar companies studied. However frequent monitoring and compliance to the standards of occupational health and safety procedures would be beneficial. The report recommends that occupational health and safety officers to go beyond the establishment of policies, plans, and procedures and intensify inspection efforts in order to reduce workplace accidents' and injuries.

CHAPTER ONE

INTRODUCTION

1.1 Background Of The Study

Occupational safety and health is a specialty concerned with work-related injury / disease prevention and healthy workplace care and promotion. The goal is to improve quality of work. Occupational health allows for the development and preservation in all professions the best possible combination of physical, mental, and social well-being for personnel. According to Nordlöf, Wiitavaara, Högberg and Westerling (2017), occupational health can be defined as a state of physical and mental well-being. The state of a person's body or mind as a result of sickness caused by workplace products, processes, or procedures, whereas occupational safety is concerned with safeguarding individuals from physical injury. Amponsah-Tawiah and Mensah (2016) define occupational health as the fundamental state of a worker's physical, psychological, and emotional well-being.

Health and safety 18001 (2008) was used to pinpoint all triggers and circumstances that could affect health and safety in the workplace. Health organizations and security-related organizations have policies aimed to ensure that their employees are injury free in the workplace. It is crucial for the organization to include its staff in the development process, to ensure that the policies are implemented thoroughly and are shown to be successful through Armstrong literature (2006) as noted in the study by Amponsah-Tawiah and Mensah (2016).

Increased workplace interest in health and safety issues led to a reduction of the number of fatalities by 1.2 to 0.1% per 100,000 hours, as per a 2001 study from the United Kingdom's Health and Safety Commission. The study also suggested that staff were involved in the search and adoption of realistic ideas for change in protection while evaluating their safety outcomes. Alli (2001) reiterates the need for an Occupational Health and Safety (OHS) policies not only for the logging industry, but also for all state institutions, should be dedicated to a reduction in government spending on benefits paid to employees as a consequence of injury or incidents at work.

In the US, Loeppke, Boldrighini, Bowe, Braun, Eggins, Eisenberg and Yarbrough (2017) agree that workplace health and safety strategy has a part to play in minimizing accidents and injuries at work. The need for OHS Standards for all departments within an organization may provide workers with a commonly agreed code of rules and procedures for the safe operation of machinery, equipment and appropriate behaviour. Lim (2012) emphasized that once people become informed of their job's health and safety regulations and policies and the techniques used to operate, they will perform effectively and efficiently, leading to better outcomes for employees. Research published by the Australian National Commission for Health and Safety (2002) on the value of promoting occupational safety in organizations indicates that, by using efficient health and safety systems, workers are armed with better working conditions and reduce work environment absenteeism and have a direct impact on their enhanced performance.

In South Africa, van Heerden, Musonda and Okoro (2018) shared that the construction industry is an important sector in terms of contribution to economic growth and gross

domestic product (GDP) of an economy. Thus, occupational health and safety is a critical concern as it impacts on organizations, society and the economy as a whole. Poor health and safety affects productivity, profitability, and organization's reputation, and results in human suffering. Therefore, ensuring occupational health and safety for better performance is important and this is driven by the need to manage hazards; organizations regard for health and safety enhances its reputation and compliance with the legislation. Coulson and Christofides (2020) on worker health and safety in the South African mining sector and need for employer playing a bigger role in minimizing death and injuries. The researcher quotes statistics as founded in the study by Stout (2000) revealing that changes in the prevention of workplace accidents and approaches to mitigate them were hampered. In mining, the deaths have largely reduced over the course of the century, with the latest figures showing that less than 6,000 employees died from injury in 2000 (Stout, 2002). The OHS Survey of Factories found that workers were exposed to a wide range of dangers on the job. More than 5,900 employees were killed in a year, and more than 5,700,000 are seriously injured as a result of work injuries worldwide. Ten percent of the population recovers from work-related injury or illness each year, resulting in a loss of more than 31,000,000 working days per year

In Kenya, Jane (2018) shared that employee's performance is improved when they feel safe and their health is protected. The researcher noted that human resource is one of the most valuable assets that organizations have and its effective and efficient use can enhance job performance. However, there have been instances of lack of occupational health and safety measures at workplace which has left employees exposed to various kinds of health hazards. Therefore, there is need for training of employees and attitude

checks and assessment to confirm application and adoption of Occupational Safety and Health Act (OSHA) standards. The companies must ensure that all employees take part in implementing OSHA standards. In addition, Nyaruai (2019) noted that the Kenyan building and construction industry has grown and employs a large workforce; but the industry is plagued by many health and safety problems and sometimes rated the most dangerous land based industry. The survey revealed that there was no emphasis on health and safety issues hence many accidents health problems where 70.7% of the workers had experienced accidents at work. Protection was minimal in most cases ranging between 0% and 33%. Training levels were found to be low for instance specialized formal training ranged from 3.2% to 33%. The trade was learnt mostly through apprenticeship while documentation was poor or lacking. Compliance levels were rather low with only 25% of sites getting high compliance rating due to low monitoring averaging at 2.3 visits, and poor enforcement. The recommendations were made to effect changes in operations and adopt OSHA standards for protection of workers and high performance. The current study was concerned with occupation health and safety in the sugar industry in Kenya.

1.1.1 Performance

Organizational performance is conceptualized simply as the actual results of a firm as measured by the intended outputs. The results are measured after a specified time frame where managers compare the firm's expectations against the realized outputs (Cristian & Monica, 2017). The performance can use financial elements such as return on investment, return on assets, profit margins and sales volume or it can use non-financial aspects such as customer satisfaction, efficiency and effectiveness of the operations, employee

retention and satisfaction and prudent use of organizational materials and assets. The organizational performance is determined by factors such as operational efficiencies, technical skills and experiences of the staffs, organizational structure, availability of raw materials and resources, support and commitment of top leaders of the firm and participation of stakeholders.

Performance measurement is sector specific and for the case of manufacturing firms, it is in terms of quality of products, volume of products, timeliness and efficient use of tools, machines and equipment (Ankrah & Mensah, 2015). Performance is about value for money from activities, processes and functions undertaken by the company, it can also include financial elements like profit margins, sales volumes and returns and earnings and non-financial elements satisfaction of employees, customers and the market, effective use of resources, tools, systems and machinery, quality of products and cycle time. Keinan and Karugu (2018) noted that there are several formulas adopted by different companies in measuring the performance outcomes. This study measured performance as workout and adopted the Vroom (1964) work output function of skill and motivation as shown in the equation {Work output = Skill × Motivation}.

1.1.2 Occupational Health and Safety Practices

Occupational health and safety practices are activities undertaken by organizations to protect its workers from harm. It is also a branch of public health whose aim is to improve workplace health and safety standards. Kaynak, Toklu, Elci and Toklu (2016) share that it is a multidisciplinary field concerned with the safety, health, and welfare of people at work and its main focus is prevention of health hazards. Premier Workplace

Healthcare (2010) describes occupational health as policies, processes and strategies of organization to preserve and improve the health and welfare of workers. Workplace health and safety improve staff's physical, psychological and social well-being and contribute to growing and maintaining their capacity to work, as well as knowledge and social progress at work. Occupational Health and Safety (OHS) is a complicated matter addressing a broader range of corporate interests and issues. Up to now, OHS is limited to the HRM periphery, in which it has been unable to work, energy and meaning.

All the health and safety bodies across the globe and viewed literature agree on the value of promoting occupational safety in organizations indicates that, by using efficient health and safety systems, workers are armed with better working conditions and reduce work environment absenteeism and have a direct impact on their enhanced performance. Hudson (2012) has reported a significant positive impact on service delivery in promoting health and safety at work. Emphasizing that good practice in OHS planning help build a positive work environment, thus enhancing all employees ' productivity. In an environment where employees feel "concerned" by managers, there is proof that the OHS process is being constructively managed that as a result results for better work practices and also has a positive effect on results such as work morality, participation in the workforce, safety, organizational involvement, job content, mental health and others.

The occupational health and safety (OHS) practices has five dimensions, namely safety procedures and risk management, safety and health rules, first aid support and training, occupational accident prevention, and organizational safety support (Kaynak, *et al.*, 2016). Some of the common occupational health and safety practices adopted by

companies include creation of awareness through trainings and placing visible signage in the working areas; conducting inspections and audits that share areas of concern and measures to be taken to improve on safety of the workers and company's products and equipment. This study focused on awareness, inspections and audits as a means of keeping workers healthy and safe. The study also considered the work environment and how it can impact OHS, thus covered the organizational culture.

Employment health and safety program involves the protection of staff and other persons impacted by the actions of the corporation and the threat posed by its operation and its contact with the enterprise. Workplace health and safety policies address workplace health problems prevention (Lay, Saunders, Lifshen, Breslin, LaMontagne, Tompa & Smith, 2016). Accordingly, OHS can be grasped to be practices, processes and organizational strategies designed to safeguard and inspire the health, safety and well-being of staff in the manner of injury prevention or ill-health at work. The incidence and rate of occupational deaths and injuries have been dramatically reduced during the 20th century. However, some preventable injuries and deaths are still occurring.

The significance and the application of research and development in prevention of injury have expanded through multidisciplinary collaboration among researchers in injury prevention, partnership and coordination between multiple sectors. More growth hurdles include failure to assess the utility of, including economic efficiency, preventive approaches and technology, failure to generalize the provision of existing, active prevention, and lack of effective transformation and distributes skills and resources on workforce prevention. The most effective assessment and execution of prevention efforts

is through cooperation with academics and the risk-based sector, which involves outreach efforts from the workplace research community (Sikpa, 2011). The sugar cane farming is one of the most capital intensive in that the cost of the inputs given by the firms exceeds the value of the crop generated. Firms pursue cross-cutting compliance steps, while ignoring critical activities such as OHS. OHS is accountable for the health and safety of firm employees on the job. The main objective is to prevent accidents and to protect the health of workers.

The role of the system includes, among other things, the establishment of rules on health and safety at work and the implementation of those rules by audits at work, the tracking of incidents at work in the company and the provision of training on health and safety at work to workers (Tak, 2016). It is the responsibility of every employer or self-employed person to provide appropriate health and safety data to every worker, not to be his or her employees who may be influenced by the manner in which the employer or self-employed person conducts his or her business (The OHS Act, 2007).

Workplace health and safety strategies are associated with the protection of employees and the company's products and actions have an impact on other people, and they must protect them from the hazards associated with their jobs or contact with the company. Workplace health and safety services tackle the avoidance of work-related ill-health (Ahmad, Sattar & Nawaz, 2016). They constitute of two parts: Preventative medicine division dedicated to treating and preventing occupational health risks and dealing with any sickness or pressure that arises after preventive measures; occupational hygiene is the

obligation of the chemist and the engineer or ergonomist involved in the evaluation and regulation of occupational health.

Maky, Hassan and Osman (2020) argue that companies can create awareness through trainings, putting up signage and creating an internal OHS manual that is used during the induction of new employees. There is also need for regular inspections done at both the company level as well as the industry level. The government should regularly send inspectors to check that the companies implement OSHA for purposes of keeping employees safe and healthy and safeguarding companies property. The companies and government can initiate audits and report on findings while giving recommendations that if implemented will improve performance outcomes and alleviate safety and health concerns of workers.

1.1.3 The Sugar Industry In Kenya

In Kenya, commercial sugar cane production was introduced in 1902. Sugar based structures are located at medium altitude in the western part of Kenya in the lake basin plateau. Previously some sugarcane was grown in parts of the Coast Province, but farmers abandoned it in the early 1980s when they discovered that it was not an economic undertaking. Sugar production on a commercial basis was established in 1922, when Miwani Sugar Mills Limited established a medium-scale sugar mill in Miwani, Kisumu district of Nyanza, in the western part of Kenya.

The second sugar mill was founded in 1927 by the Associated Sugar Company Limited in Ramisi, in the coastal province of Kwale. Private Asian companies owned these two

sugar mills, large-scale farms that supplied them with cane until the mid-1960 were owned solely by Asians. Africans viewed sugar cane as an Asian commodity and saw it only in the mid-1960s as a national flower. In addition, the aspirations of the sugar industry, as laid out in Session Paper No 10 of 1965 after their independence, were extended to include the following: the impetus for socio-economic development, the rectification of regional economic disparities and the creation of indigenous entrepreneurship.

In the 1960s and 1970s, the Government set up five additional factories in pursuit of these objectives: Muhoroni (1966), Chemilil (1968), Muhoroni (1973), Nzoia (1978), and South Nyanza (1979). Later, several more were launched: Chemelil (1981), Sony Factory (2006) and Kibos Sugar and Allied Companies (2007) raising the total number of milling companies in the country to ten. In 1988, the Ramisi sugar mill went bankrupt, and the Miwani mill was placed in receivership. The construction of publicly-owned companies was expected to lead to self-sufficiency in sugar and export surpluses. in a worldwide lucrative business to create employment, income, and supply raw materials to sugar-related industries and to promote economic growth.

As a result, the Government invested significantly in sugar mills, owning more than 83 per cent of the capital, growing it to 70 per cent after divesting 36 per cent of its stake in the Muhoroni Sugar Company. Apart from the 1992 establishment of the Sugar Development Fund (SDF), these subsector capital investments contributed Kshs.11 billion to the cane development, factory repair, research, and infrastructure development industries. There were attempts to increase domestic output to keep up with demand, but

consumption remained higher than production. As a result, total production increased from 368 970 tons in 1984 to 520 000 tons in 2008, keeping Kenya as a net sugar importer. Imports from the COMESA region and other nations that produce sugar absorbed the surplus.

In 2003, the Government launched a Sugar Industry Crisis Task Force, which sought to to conduct an investigation of the sugar subsector's difficulties and to make recommendations for the sector's rehabilitation. The taskforce among discovered that the Kenyan sugar industry was not competitive within the COMESA region. Most sugar firms utilize out of date technology which is coupled with the out-grower issues. The cost of operating farms in Kenya has been shown to be relatively high when compared to experiences in other countries.

Farming is not financially viable; farmers have small farm holdings that make cane development an expensive affair while workers cry foul over their general welfare, health and safety. The average cost of sugar production and marketing in Kenya was estimated at Kshs. 44,152 (US$ 679) per ton compared to the average price of US$ 300 for COMESA sugar producers. Factors of production and government legislation allowing imported sugar to be imported into the country at the cost of locally produced sugar without ensuring a level playing field further exacerbate the already bad situation. This is an expensive endeavor and sufficient steps need to be taken to reduce costs and make sugar competitive in both the regional and international markets (KESREF Digest, 2015).

1.2 Statement of the Research Problem

Performance in the sugar industry has been on the decline and this has pushed the government to import sugar products for consumption. The sugar production also suffers from mismanagement, misappropriation of funds and corruption that has seen some sugar mills collapse (Wachira, 2017). Another problem with sugar industry is the high accident rates recorded with the most recent case of three people who fell in bagasse at the Transmara Sugar an indication of failure to comply with health and safety standards. The many accidents that occur in sugar companies in Kisumu county are alarming and should be a cause of concern for Muhoroni Sugar Company alone, which recorded 26 cases of accidents among employees in the company in 2017. Furthermore, occupational accident rates have remained high in the world over these last ten years. Recent surveys have shown that more than 5500 people lose their lives at work each year, whereas a greater number of people are hurt throughout the world. Along with the human toll, there is a financial burden. Globally, in one year, the total cost of insurance for injuries at work was projected to be EUR 20 billion and the loss of 149 million working days. In short, individuals, business organizations and society all pay the ultimate price (Mekkodathil, El-Menyar & Al-Thani, 2016).

There are studies on occupational health and safety practices and performance; for instance Indakwa (2013) assessed how occupational health and safety practices influence job satisfaction for employees working at Chemelil Sugar Company. Findings show there was low frequency in safety training and there were accident prevention measures in place, wellness programmes and health care was provided at the company clinic for both

occupational and non-occupational ailments. The employees were satisfied with the quality of healthcare services, the wellness programs and health information. But conceptual gaps were created since performance was not assessed. Chowdhury, Othman, Khan and Sulaiman (2021) study was on occupational training and health-safety of Bangladesh ship-breaking industry workers. The study found positive relationship between occupational training and the health safety of the BD shipbreaking industry workers. The study created contextual gaps since it focused on ship-breaking industry and its background setting was in Bangladesh. Ndegwa (2014) research on the effect of health and safety on morale of workers have shown that there has been job satisfaction among the companies that have adopted OHS programs. Conceptual gaps were created since inspections and audits of OHS and culture of the organization were not assessed. Makori, Warutere and Nguhiu (2018) and Deepali (2014) on workplace health and safety policies and their impact on productivity found that, if well implemented, OHS systems would increase productivity in firms. The study did not consider training and awareness creation or the culture in the organization and hence created conceptual gaps.

The problem with performance based on high rate of occupational health and research gaps identified in the reviewed studies in context and concept, create a need for more research. This study was done to fill the knowledge gaps and sought to assess occupational health and safety practices and effects on performance of sugar companies in Kisumu County, Kenya.

1.3 Objectives Of The Study

The main purpose of this study was to determine how occupational health and safety practices affect performance of sugar companies in Kisumu County, Kenya.

The specific objectives were:

i) To identify occupational health and safety awareness and effect on performance of selected sugar companies in Kisumu County, Kenya.
ii) To assess how occupational health and safety inspections affect the performance of selected sugar companies in Kisumu County, Kenya.
iii) To determine the effect that occupational health and safety audits have on the performance of selected sugar companies in Kisumu County, Kenya.
iv) To assess the moderating effect of organizational culture on the relationship between occupational health and safety practices and performance of selected sugar companies in Kisumu County, Kenya.

1.4 Research Hypothesis

Based on the specific objectives, the study adopted null hypotheses:

H_{01}: Occupational health and safety awareness has no effect on performance of selected sugar companies in Kisumu County, Kenya

H_{02}: Occupational health and safety inspection has no effect on performance of selected sugar companies in Kisumu County, Kenya

H_{03}: Occupational health and safety audits has no effect on performance of selected sugar companies in Kisumu County, Kenya

H_{04}: Organizational culture has no moderating effect between occupational health and safety practices and performance of selected sugar companies in Kisumu County, Kenya.

1.5 Scope Of The Study

The research focused on determining how occupational health and safety practices affected performance of sugar companies in Kisumu County, Kenya. The occupational health and safety practices adopted in this study included awareness, inspections and audits and the moderating effect of organizational culture. The study was done in three sugar companies located in Kisumu County - Muhoroni Sugar Company, Chemelil Sugar Company and Kibos Sugar Factory. The respondents were employees working in these three sugar companies who filled the structured questionnaires.

1.6 Significance Of The Study

This research was relevant because its findings would enable the sugar industry and policy makers to review and develop their OHS policies within their organizations. Employers would also benefit entirely from this report, as it will raise awareness and highlight areas of concern for the welfare of workers. Human resource managers, government officials, and investors would also make future judgments based on and informed by practical information derived from study findings, rather than on ad hoc resolves or historical common knowledge. Finally, it was hoped that the report would

stimulate other scholars to conduct additional research on OHS policies in other manufacturing organizations in light of the findings.

The research findings enabled human resource managers and professionals in the department of OHS to understand the OHS practices. This would change their outlook on the wellness of their employees and put in place the required infrastructure to facilitate the health of the worker hence increasing their performance. The study would also help policy makers to come up with informed policy framework that would guide both the employers and the workers. This would contribute to good relationship between the employers and the workers as well as reducing the healthcare expenses.

1.7 Limitations Of The Study

The study expected that some of the participants will either refuse or take too long to respond to the questionnaires. Therefore, to resolve this issue the researcher increased the number of respondents and questionnaires to attract more respondents and get a sufficient response rate for representation of others. Some respondents may not want to be interviewed for fear of facing of reprimand for sharing information considered confidential such as talking about performance and OHS gaps. To mitigate this problem, the researcher sought permission from the management of the three sugar companies. The researcher also walked with research permit and authorization letter from Kenyatta University for authentication of the research exercise and building confidence. The researcher also assured the respondents of keeping their identities secret and using the information for the research study only.

1.8 Organization Of The Study

This project is divided into chapters, the structure is such that it starts with background, research problems, objectives, importance, scope and limitations of the study are in chapter one. The second chapter comprised of reviews of literature both the theoretical and empirical. It also showed the gaps in research and conceptual framework diagram. Chapter three presented the methodology of selecting the respondents and the instrument used to collect data and how they were analyzed. The section also had the empirical model of the study and operationalization and variables measurement. The fourth chapter presented the data analysis in charts and tables and the last chapter five involved the summaries of the project, the conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section reviewed both theoretical and empirical literature relating to the OHS practices. This chapter is based on a review of previous and current literature. The theoretical framework discussed two theories that inform this study. It discussed empirical review of literature on OHS practices.

2.2 Theoretical Literature Review

The study was underpinned on two theories: the systems theory of accident causation and the Psycho analytic theory of personality.

2.2.1 The Systems Theory Of Accident Causation

The theory on accident causation was developed by Heinrich (1927). Heinrich was a pioneer in establishing the concept of causality of accidents. The discussed the accident causation hypothesis, the interaction between man and machine, the frequency and severity of accidents, the reasons for risky activities, the function of accident management, the cost of accidents, and the effect of safety on performance. Heinrich concluded from accident records that 88% of injuries were caused by dangerous employees, 10% by risky environments, and 2% by acts of God, such as natural disasters.

Heinrich defined an accident as "an unforeseen and uncontrollable occurrence caused by the behavior or reaction of an object, material, individual, or radiation." The origins of the accident causation model may be traced all the way back to Herbert Heinrich's pioneering research in 1931, when his book Industrial Accident Prevention became the first significant work on accident awareness. This theory views an event as a process involving three components: the individual (host), the computer (agency), and the environment. As a result, the likelihood of an incident occurring is determined by the manner in which these components communicate. Changes in communication habits can either increase or lessen the likelihood of an accident. OHS policies are an example of an environmental process that results in an improvement in the way employees conduct service functions in a business. Heinrich's Domino Theory entails five standing dominoes that fall sequentially if the first domino falls. Accidents can be averted only if the chain of succession is interrupted, for example, by removing an illegal act to reduce accidents or associated incidents (Heinrich, 1941).

Heinrich's perspective on accident causation theory can be summarized in two terms: people (Human) are the primary cause of accidents, and administration is accountable for safety programs. According to the systems theory of accident causation, an accident is a brief, unexpected, and unintended occurrence that results in an unintended or unpleasant consequence and must be the direct or indirect effect of human activity rather than a natural occurrence. As a result, the system is a collection of regularly interacting and interconnected components that work cohesively as a whole. Health and safety checks and audits, fire extinguishers and exits, proper ventilation and first aid kits are devices (agencies) that communicate with the worker (host) and cause accidents (Heinrich, 1927).

Work environments such as company preparedness, environmental pollution and employee familiarity with health and safety policies are environmental conditions that may increase or decrease the risk of an accident occurring (Ali, Abdullah & Chandrakantan, 2009). Environmental factors affect organizations may therefore be regarded as a hazard-containing environment that must be under control to minimize risk. This can be done by recognizing the safety and health effects of the system, which will improve the health and safety of people at work. OHS policies were designed to influence the company in order to bring about this change.

As much as this idea makes some sense, there are some problems that the author needs to address. First addresses the dangerous behavior of workers as a cause of accidents at work, as far as this is concerned, employees may be careful to avoid injuries, but other causes may still be responsible for causing the accident. The theory also suggests that injuries at work were, in most situations, unplanned and uncontrolled. As much as this carries some value, there are some injuries that occur as a result of incompetence or negligence on the part of the employee. Finally, the assumption is that the management system is responsible for the occurrence of incidents, which may be valid, but sometimes accidents happen when least expected (Hovden, Abrechtsen & Herrera, 2010).

The theory is relevant in the current study by exposing how the sugar companies can apply the occupational health and safety standards to reduce the number of accidents. The theory anchors the variables of health safety awareness through trainings and communication; audits and inspections and getting reports and feedback and installing cultural practices that will reduce accidents and improve performance outcomes.

2.2.2 The Psycho-Analytic Theory Of Personality

The Psycho analytic theory of personality was advanced by Freud (1955). It holds that one's personality was determined by one's level of consciousness and how they influenced a person's behaviour. According to Freud, people's personality is a product of personality structures that exist in the three levels of consciousness. These structures forces are: The Id, The ego and the super ego. The Id is the first level of personality characterized by childish behaviour. It represents instinctual needs and aggressive gratification. These drives may make one to fight, dominate others aggressively, and engage in sexually aggressive behaviour and thereby likely to cause injuries to people. Children are assumed to be born with the Id but as they grow they outgrow it. The Ego operates on the basis of reality. It comes about as a result of the id. The Id would guide a worker to strangle the boss if not promoted. The Ego would inform them that if that is done and they are caught, they would be arrested, jailed and even miss their job. The ego would therefore assure the worker of OHS and self-preservation of the person against environmental challenges.

In general, according to the psycho analytic theory as presented by Feud (1955), our personality is defined by the extent to which we subscribe to these forces. The id will make workers behave instinctively without logical thought causing accidents and injuries to both self and colleagues. The ego will make us pragmatic as we seek realistic solutions to the problems facing us at the workplace, while the super ego will give us perfectionist or ethical and moral solutions to problems and in the event realize fewer or no injuries and consequently improved performance in the organization. A worker with a stable

personality balances the three forces and enhances the ability to undertake what they are expected to do efficiently with satisfaction at their workplace (Quintar, Lane & Goeltz, 1998).

This theory has been very useful in addressing accident causation; however, the researcher wishes to critique the notion that children are assumed to be born with id but as they grow they outgrow it. As much as this can be true, there are some workers who still have childish behavior even though they are adults. This behavior can cause accidents in the place of work. Further the theory points that Id will make workers behave instinctively without logical thought causing accidents and injuries to both self and colleagues. In reality there are some accidents which happens due to human error and not from behaving instinctively (Mcleod, 2016). The theory helps in explaining how our environments influence organizational culture that explains the behavior patterns of workers. The theory also explains how management can effectively communicate to influence the behavior and working culture in a manner to improve performance outcomes.

2.3 Empirical Review

2.3.1 Health Safety Awareness and Performance

Nyambura and Simon (2019) conducted a study on safety awareness campaigns. The study revealed that employees are the most important resources and hence their safety is of paramount importance to the performance. However, safety risks can negatively affective their performance as they can lead to injuries, which in turn lead to absenteeism

and low productivity. This study found that safety awareness campaigns helped improve employee performance and thus suggests the need to invest in regular staff trainings and involvement of employees in all organizational functions. There is also the need for the government to develop a standard safety management policy that covers safety awareness campaigns, resource allocation to enable enforcement agencies and procedures for safety management. But the study created contextual gaps since it was done in the power transmission companies while the current study was the sugar companies.

Momani, Hirzallah and Mumani (2017) emphasize the fact that health sensitivity goes beyond compliance with the OSH Act and aims to incorporate symbolic and practical improvements in the organization's focus on particular types of injuries to employees. OHS understanding of three components: recognition and communication of risks, strengthening of safe practices and fostering global safety. To define and convey risks to staff, managers and other competent stakeholders need to agree on possible health and safety issues. Work risk assessment technique is one means of accomplishment and, with this technique, each work is broken down into basic elements and each of these is assessed for its potential for harm or injury. If there is a consensus that some job element has a high risk potential, the component is removed and possible technical or behavioral improvements are considered. The management should introduce a safety incentive program to compensate staff for their loyalty and dedication to health and safety targets in order to strengthen their behaviour. The program is designed to focus on improving short-term goals and promoting ideas for health and safety. Those short-term goals were generalized to include long-term objectives. Good evidence shows that such services are effective in reducing accidents and their costs.

Armstrong (2006) suggested steps to increase the efficacy of safety messaging; should stay away from negativity – successful safety propaganda must include positive messaging, not reminders of unpleasant actions' repercussions, the message must be accurately presented and presented to those who need to hear it when it's most important, use of attention to the strategy of deliberately fooled photos can only be remembered for what it is. While Dessler (2005) stresses these constructive reminders as a means of communicating initiatives that are essential for improving safety at work. An assessment of the safety-related conditions in the plant prior to the study suggested a number of areas for development. In fact, supervisors tended to appreciate the security efforts of employees. As a result, health at the plant improved significantly. The OSH Act obliges workers to abide by the safety rules, and administrators with good programs are able to use the administrative process to penalize unsafe work behaviour.

Indakwa (2013) analyzed the suspected impact on job satisfaction among Chemelil Sugar Company workers from the health and safety initiatives of the workplace. The study was structured for assessing the perceived effects on job satisfaction of Chemelil Sugar company employees of OHS practices, and figured that workplace safety and activities relating to safety have an impact on job satisfaction. Despite the fact that safety training was below average, the majority of respondents had a favorable impression of the OHS programs that were in place. We also agreed that injury prevention strategies, fitness services and health care had been put in place at the company's clinic. This showed that hospital employees were satisfied with the level of emergency care and referral services provided by the hospital. The wellness activities and health information offered during promotions and outreach were also well-liked by the people who took part. The research

is qualitative in that only the interpretation of workers can therefore be contextual and can vary from time to time depending on the circumstances surrounding the employee. The study also failed to link the results to the work output of the sugar company employees. It was therefore unclear whether OHS policies can help to change the way workers work.

Chowdhury, Othman, Khan and Sulaiman (2021) research study was on occupational training and health-safety of Bangladesh ship-breaking industry workers. Through occupational training the workers gain different dimensions to professional training. The training and health-safety management demands time to protect workers' health and safety by getting proper training. The results showed positive relationships of the occupational training with the health-safety condition in Bangladesh ship-breaking workers. The information obtained can help companies to widen a systematic occupational training procedure in protecting the health-safety of workers. The study created contextual gaps because it was done in Bangladesh and conceptual gaps were based on occupational training on health-safety was not linked to employee performance.

Fung, Tam, Sing, Tang and Ogunlana (2016) research was on occupational safety and health and the psychological climate for safety awareness of construction workers in South China. The study noted the high number of accidents occurring on the construction sites in the last ten years. Some of the safety measures that can implemented include encouraging workers to put on personal protective equipment and launching regular safety toolboxes. There is also need to strengthen safety awareness and improved compliance with safety regulations. Through a questionnaire, the researcher collected

data from construction workers in South China and revealed that physical working environment and social influence – affect psychological conditions, whereas negative affectivity, risk-taking tendency and perceived utility of safety measures affect the safety awareness of the workers. The study also revealed that physical working environment has the strongest influence on negative affectivity and the perceived usefulness of safety measures has the strongest influence on safety awareness. The study created contextual gaps since it covered construction industry in South China and the areas of Shenzhen, Hong Kong and Macau. Conceptually, safety awareness of construction workers was assessed without link to performance and methodological gaps are created by respondents not revealed in this study.

Makori, *et al.* (2018) researched the effect of OHS on the output of manufacturing firms in Kenya. It has been found that manufacturing companies in Kenya do not have policies and structures in place to improve health and safety at work. As a result, companies are waiting to form ad hoc committees after the event of an incident, the recommendations of which are sometimes not followed. Nevertheless, the study examined the effects of OHS in manufacturing companies throughout the country, which led to a very large sample size. The work was confined to the efficiency of the firms on their own and thus there was no sufficient representation of the sugar companies in Kisumu County.

2.3.2 Health Safety Inspections and Performance

Inspections are a popular and effective method of detecting and correcting problems prior to the occurrence of accidents. Additionally, inspections should be utilized make a statement about healthy living and safety, and encourage others to follow it. The two

kinds of inspections are impromptu and routine. The purpose of informal inspections is to increase worker awareness of health and safety threats and measures. Informal checks are a critical component of an active risk detection and management system that must be implemented by everybody within the organization. Cudjoe (2011) further revealed that spurt of recent accidents in Ghana is worrying and thus calls for adoption of adequate health and safety measures in working spaces. To reverse this trend, the study found the need for assessment of occupational health and safety practices. The current occupational health and safety practices were inadequate, there was low staff commitment and compliance and hence need for having a health and safety committee to regularly monitor, inspect and evaluate occupational health and safety practices. The study created contextual gaps because it was done in Ghana and current study was localized and conducted in Kenya.

Tremblay and Badri (2018) conducted a study on occupational health and safety performance evaluation tools. The focus was on the state of the tools and challenges in applicability in the SMEs. Findings showed that occupational health and safety is weaker and poorer in small and medium sized enterprises when compared to large sized corporations. Fatal accidents are up to eight times more frequent in SMEs and non-fatal injuries are as much as 50% more likely to occur. The SMEs must put in place measures for frequent inspections and assessments to ensure they reduce injuries and risks and also quickly respond to accidents. The study concluded that occupational health and safety performance evaluation in the SME sector can be improved and yield better results through developing effective tools and use of specialists to conduct the inspections and

assessments. The study created gaps in context by focusing on SMEs and conceptually occupational health and safety inspection was not linked to performance of the SMEs.

Mohammadfam, Kamalinia, Momeni, Golmohammadi, Hamidi and Soltanian (2017) study was on evaluation of the quality of occupational health and safety management systems based on key performance indicators in certified organizations. The study noted that issues of occupational health and safety management systems are becoming more widespread in organizations. The paper evaluated the performance of the occupational health and safety assessment series 18001 specification in certified companies in Iran. The results showed that better performance was realized for certified companies that had complies with occupational health and safety management practices and its standards than those non-certified companies. The study concluded that occupational health and safety assessment series 18001-certified companies have a better level of occupational health and safety and get better performance results due to no injuries and time spend on recovery.

According to Hollnagel (2004) a structured inspection is a planned walk or review of a work area, a specified work area, or a specific danger, machinery, gadget, or piece of equipment, or work practices. Every job creates health and safety issues on a daily basis. The world, its people, machinery, materials, and environment are continually evolving. Numerous environmental changes mitigate risks; others introduce new ones. Inspections assist in focusing attention on areas for improvement and in resolving concerns before they become a cause of accidents. To guarantee the adequacy of safe work procedures, formal audits must include a summary of workplace processes and procedures. Internal

reporting systems for all incidents of injury and illness, as well as complaints of not following all applicable regulations in terms of health and safety, should be created in such a way that the information acquired may be put to good use. The company must advocate for open and positive attitudes on matters of reporting and tracking, as well as develop a method to check adherence to reporting standards' requirements.

The company should establish standards for assessing injuries and occurrences in order to determine their causes, which may include health and safety practices are not up to standard. People in charge of investigating injuries and accidents must be identified, and the report must include action plans to address the following: restore compliance promptly; avoid recurrence; detect and mitigate any bad impacts on safety and health; restore compliance as early as possible an examination of accident-related risk assessments evaluation of the consequences of repetition; The company must introduce and report any changes to the documented procedures as a result of corrective or preventive action. Konijn, Lay, Boot and Smith (2018) further shared that risk assessments should be carried out in order to identify and measure the threats associated with specific hazards. An in-depth look at all aspects of health and safety policy is required for health and safety inspections, procedures and activities. Health and safety audits seek to evaluate the company as a whole in order to test whether it meets its health standards and goals. This discusses hierarchies, security planning structures, decision-making, delegation, policy-making and enforcement.

The employer's health and safety authorities must, undertake job inspections with their highly trained health and safety officers. One of the many explanations for injuries at

work is that worker monitoring systems in developing nations are not properly equipped with the equipment they need and cannot do their job on their own. Managers may also carry out audits within their departments.

Sikpa (2011) researched on an assessment of the effects of OHS policies on work output at Tetteh Quarshie Memorial Hospital, Ghana. The work aimed at exploring the effects of OHS on the performance of employment. The research population was established by medical doctors, supervisors, engineers, cooks and nurses in the hospital's departmental units. It found out that existing OHS policies at the hospital were insufficient. It was realized that OHS policies at the hospital were inadequate. Several staff were dissatisfied with the job and health programs already in existence. Employers shall submit federal accident reports, preserve health and safety databases, disclose protection and regulatory information, and provide training and education in health and safety. The Safety Committee was responsible for evaluating injury trends with a view to offering opinions for corrective action, examining security documents and developing proposals for accident reduction, reviewing and discussing security delegate reports and creating proposals for new safety procedures. It also acts as a liaison between the corporation and the law enforcement agency and discusses the security policies of the entity and, if applicable, makes suggestions for changes. On the other hand, the worker is required to comply with all health and safety regulations, recognizing that in the end, he / she is liable for their workplace safety. Employees are required to wear protective clothes, to use the facilities and tools provided for their jobs and to document any violation of the law.

2.3.3 Health Safety Audits and Performance

Auditing is a way of tracking the application and efficacy of OHS policies in a specific and comprehensive manner. According to Blewett and O'Keeffe (2011) performing health and safety inspections is not a solution for removing hazards. There should be regular monitoring of all facilities for potential safety and health issues. Auditing is a way of tracking the application and efficacy of OHS policies in a specific and comprehensive manner. The presence of health and safety commission and system will help the company to monitor and assess its health and safety efficacy on a continuous basis. The company must assess its safety and health performance in order to maximize awareness of its effectiveness, ensure that sufficient action is taken to improve monitoring of particular risks, improve overall health and safety production, and develop safety and health policies and procedures.

Robson, Macdonald, Gray, Van Eerd and Bigelow (2012) add that health and safety reviews should take into account overall health and safety programs, processes and activities at the workplace. Senior managers must review the overall health and safety management policy to decide whether it meets the needs of the company, its stakeholders and the regulatory authorities. Auditing and its successful implementation within the company should be a responsibility of the management board and its senior management. It requires a commitment to take account of inspection results and suggestions in a reasonable timeframe and to take adequate steps if required. Senior and leadership must know that the review should be done objectively when it is determined.

Robson, Ibrahim, Hogg-Johnson, Steenstra, Van Eerd and Amick (2017) in the study on the leading indicators for OHS management audit and properties for audit data and noted that all staffs need to be aware of the aim of conducting the audits. Regular and ad hoc audit audits should be conducted to provide a means of tracking compliance with individual health and safety criteria. The reports of these audits and inspections should be forwarded to the relevant parties as soon as possible in order to allow corrective action to be taken. The inspection plan should be prepared and included in the Health and Safety Policy. Some of the considerations that need to be considered when deciding on the rate of audits include the nature of the risks, the adverse audit and any statutory criteria. Therefore, the auditors need to understand and be qualified to carry out their tasks. They need to have experience and knowledge of the related safety and health requirements and processes we review to help them to assess work output and recognize deficiencies. The auditors should be familiar with the requirements set out in any applicable safety and health regulations so that they can detect dangerous conduct that would not be reflected in the reports and records of the company. In addition, auditors should be mindful of and have access to requirements and guidelines applicable to the work in which they are engaged (Robson, *et al.,* 2012).

Monitoring of audits should be undertaken to provide data so that the company can review its activities and agree on how to increase the performance of the work. Auditing and job quality assessments are the next steps in the monitoring process of health and safety management. They constitute the' feedback loop' enabling a company to improve, maintain and increase its ability to mitigate risk and to guarantee that its safety and health management system remains continuous. Audits carried out by the organization's own

employees or consultants sustain assessment efforts to see if safety and health systems produce the correct results. Blewett and O'Keeffe (2011) also shared that auditing ought to be autonomous from audited operations and includes the support of a wider array of experts, audit process and audit records, including check lists, questionnaires, interviews, calculations and personal observations; auditing guidelines for those responsible for overseeing and encouraging prompt corrective measures; Their retention periods should be defined and comply with the legal requirements. Many organizations rely on other entities, such as the British Safety Institute, to carry out independent audits.

Jespersen, Hohnen and Hasle (2016) in the study on internal audits of psychosocial risks at workplaces with certified OHS management systems. Sharing that in order to enhance the company's overall method to safety and health management, measurement of work results must be linked to audit data. The company must develop and maintain a plan and procedures for regular safety and health management process reviews to be carried out in order to allow a comprehensive review of all aspects of the health and safety activities to be carried out. Auditing is a systematic method of gathering unbiased data on the efficacy, effectiveness and performance of the overall safety and health management system and drawing up corrective action plans. Such reviews should be carried out in addition to regular monitoring, review and analysis of health and safety activities. The aim of these reviews is to ensure the continued suitability, adequacy and efficacy of health and safety activities. The audit process must ensure that the required information is collected to enable the management to carry out this review in an appropriate manner. The policy and procedure for audits, such as the qualifications of the personnel including those of the audit committee, should be formed, recorded, conserved and include, where

possible, the allocation of system resources; the necessary instruction and capacity of auditors to examine physical and human factors, operations and documentation.

Sawe (2013) examined the effect of OHS rules on worker performance at the Muhoroni sugar plant in Kenya. The study intended to establish a link between OHS initiatives and employee productivity. Fire prevention and safety, lighting and ventilation, personal protective equipment, and decent housekeeping all showed a favorable link, whereas seating amenities such as tables and chairs, first aid kits and medical facilities, and drinking water and sanitation all had a negative relationship. The study revealed that when a business fully embraces workplace health and safety policies, worker efficiency increases. A lack of occupational health and safety standards can swiftly lead to absenteeism, high employee turnover, increased medical expenditures and insurance claims, as well as injuries and frequent accidents, as was acknowledged by the organization. According to the findings, workplace health and safety regulations should be improved on a regular basis because they have a significant impact on employee satisfaction, engagement, performance, and output.

Deepali (2014) conducted a study on health and safety measures at a few cooperative sugar refineries. Several cooperative sugar plants in India's Sangli and Kolhapur areas participated in the research. In some cooperative sugar companies, evidence has demonstrated that health safety programs are effective. According to the majority of workers, the health standards implemented in sugar plants help boost labor productivity, resulting in higher job satisfaction. This study focused on a variety of cooperative societies outside of Kenya. It has been about contrasting human resource activities to

health and safety initiatives. The report emphasizes the importance of unions assisting workers in the event that an employer violates OHS policies and expectations. The study did not, however did not highlight the fact that OHS policies should be mandatory for workers to follow and produce results for the company, but gave them space to practice as they are supervised by watchdogs.

Ndegwa (2014) researched the Legal Framework as a Determinant for the Implementation of OHS Systems in the Kenya Manufacturing Sector. The study looked at the familiarity of workers with the Health and Safety Act and how it affects the introduction of OHS systems in the manufacturing sector in Kenya. These included national policies, safety at work and the health experience with the Act, state compliance and audits, government support for the implementation of OHS programs. This focal point focused on the six legal fields expected to influence the execution of the OHS programs. The findings have shown that the regulatory framework and the execution of occupational health and protection programs have been strongly related. The study revealed that the bolstered legal framework, such as the OSHA, government inspections and audits, higher government funding of OHS systems led eventually to a decline in accidents at the workplace, injury and disease, reduced insurance costs and advantages and general organizational effectiveness.

2.3.4 Organization Culture and Performance

An organization includes two or more people working corporately within identifiable boundaries to achieve common objectives. They view it as a consciously coordinated social entity composed of two or more people working towards a common goal.

Organization culture therefore refers to the way workers act in different circumstances in the organization. It looks at individual differences and how it affects work output in organization settings. Organization culture takes a micro view of the organization by narrowing down on people as individual and groups and how they individually or collectively affect the attainment of organizational objectives. In the Joseph and Kibera (2019) study was on organizational culture and performance in microfinance institutions in Kenya. The organizational culture included clan and hierarchy that were dominant in the microfinance organizations. The organizational culture had significant influence on performance while market culture was inversely associated with debt/equity ratio and promoted financial independence. The study created contextual gaps by focusing on microfinance organizations.

Mwangi and Waithaka (2018) research was on organizational culture and performance of public universities in Kenya. Organizational culture is seen as a tool that institutions can use in facing the complex and changing environments and also to improve organizational effectiveness. Organizational culture has been adopted to enhance the attainment of organizational goals and objectives. The study focus was on the performance of public universities in Mount Kenya Region through elements of organizational culture namely power culture, task culture, person culture and role culture. The study established that organizational culture had a significant and a positive effect on the performance of public universities in the Mount Kenya Region. The study established that many of the officers in the universities in exercising their powers makes what they feel is the appropriate decision and emphasizes that the workers have no choice but to comply. It was established that majority of officers and supervisors tries to find some sort of common

ground and attempts to please everyone in carrying their day to day operations. The study created contextual gaps since it covered higher educational institutions in Mount Kenya Region.

Oduol (2015) study was on organizational culture on performance of subsidiaries of selected regional commercial banks headquartered in Kenya. The culture of a group is a pattern of shared basic assumptions that the group has learned as it solves its problems of external adaptation and internal integration that has worked well enough to be considered valid and therefore to be taught to new members as the correct way to perceive, think, and feel in relation to those problems. Firm performance is the outcomes achieved in meeting internal and external goals of a firm. The study focused on ten of subsidiaries of selected regional commercial banks headquartered in Kenya. The study established that firms engaged in various organizational cultures that aligned to boost relationships between employees, employer-senior managers and employees and customers and helped improve performance. The research findings revealed that the provision of rules that provided clear instructions, processes and procedures for employees was the most prevalent culture. This worked to improve implementing work duties with few errors and resulted in better performance. The study concluded that use of supportive culture led to improve performance and to maintain high performance, there is need for adoption of corporate culture.

According to Ponnuswamy and Manohar (2016) organization culture requires fair or sufficient pay, safe and healthy working conditions, continued capacity utilization and increased efficiency for staff, incentives for professional rapid growth and job protection,

social integration in the workforce, constitutional and legal requirements in the organization–defense of workers, harmony The development and promotion of decent work-life balance and increased productivity of employees could improve human resource management in contemporary companies.

A new leadership style is needed with changes in the labor market. However, developments in the organization, such as stress on certain organizations to reach social awareness and compliance and the priorities of the state, has driven companies to seek mobility, self-reliance and integration between work and life for their workers. In this situation, it is not the full permission for skilled professionals to do their work at home that refers to the requirements for independence, freedom and working life balancing (Madu, 2012). It is necessary for the management of each company to genuinely invite its workers to suggest ways of improving the functioning and efficiency of their working life. Management activities that express concern about job satisfaction, employee safety, career opportunities and incentives for workers to have a voice in matters that affect them are fully consistent with carefully managed operations in the interests of productivity, efficiency, quality assurance, customer service, competitiveness and high employee morale.

2.3.5 Performance

Individuals are a ubiquitous component of every business and can be leveraged to achieve greater competitive advantage of the organization. Before human resources, an enterprise is nothing. Workers also need to be aide and cared for such that they can maximize their productivity rates. Cristian and Monica (2017) suggested that job quality

is something that a person leaves behind unintentionally. The employment production should be classed as output of work since it has a stronger connection to industry goals, customer satisfaction, and economic impact.

Keinan and Karugu (2018) quoted Campbell (1990) who claimed that' Work output is action and should be differentiated from output because it can be corrupted by process influences. Work output is a Multi-dimensional layout and Ankrah and Mensah (2015) found out that the components of work output are: job-specific skills; non-job-specific skills (such as corporate citizenship); formal and verbal communication skills; display of effort; preservation of personal discipline; promoting peer and group work output; supervision / leadership; management/management. The theory of work output leads to the conclusion that a number of factors, including inputs and outputs, must be addressed when controlling the work output of teams and individuals. Vroom (1964) proposed that work output is a function of skill and motivation as shown in the equation Work output = (Skill × Motivation). Research by Tallberg, Sommerer, Squatrito and Lundgren (2016) noted that arranging the work process in such a way that non-management workers have the opportunity to make a contribution to discretionary effort is a central feature of a high-quality work production program.

The above equations concern the individual performance of the work, but they are affected by both processes and human factors. It was stressed that disparities in the production of the work were largely due to system variations, thereby identifying the organizational structure to be made composed of individuals who perform tasks but are much more. It encompasses the organization's policies, structure, services, supplies,

facilities, clientele, work culture, and internal and external environments. Each component of the system performs a unique role, but it is also dependent on the other components, and as a result of this interdependence, enhancement methods such as evaluation contribute little to the system's improvement.

2.4 Summary of Empirical Review and Research Gaps

Table 2. 1: Summary of Empirical Review and Research Gaps

Author & Year	**Topic**	**Findings**	**Research Gaps**	**Filling the Gaps**
Nyambura and Simon (2019)	Safety awareness campaigns and employee performance in power transmission companies	Safety awareness campaigns helped improve employee performance	The gaps was in context since it was done in power transmission companies	Linked safety awareness to performance in selected sugar companies in Kisumu County
Fung, *et al.* (2016)	Psychological climate in occupational safety and health: the safety awareness of construction workers in South China	Physical working environment has the strongest influence on negative affectivity and the perceived usefulness of safety measures has the strongest influence on safety awareness.	Contextual gaps –done in South China Conceptual gaps by not assessing performance Methodological gaps, since respondents type and size was not shared	Link safety awareness to performance in selected sugar companies in Kisumu County
Tremblay and Badri (2018)	Assessment of occupational health and safety performance evaluation tools: State of the art and challenges for small and medium-sized enterprises.	The SMEs must put in place measures for frequent inspections and assessments to ensure they reduce injuries and risks and also quickly respond to	The study created contextual gaps since it covered SMEs Conceptual gaps were because performance of	The study assessed the relationship between health safety inspections and performance of sugar

		accidents	the SMEs was not assessed.	companies
Mohammadfa m, *et al.* (2017)	Evaluation of the quality of occupational health and safety management systems based on key performance indicators in certified organizations.	Certified companies that had complied with occupational health and safety management practices and its standards realized better performance results	Contextual gaps since the study was done in Iran	The study was localized to the Kenyan background
Sawe (2013)	The effect of OHS rules on worker performance at the Muhoroni sugar plant in Kenya	Findings established a link between occupational health and sector and employee productivity	The study assessed productivity at Muhoroni sugar in the past and need to consider current performance rate	The study assessed OHS audits and performance of sugar companies in Kisumu County.
Robson, *et al.* 2017)	Developing leading indicators from OHS management audit data: Determining the measurement properties of audit data from the field	Auditing provides a comprehensive evaluation of compliance of the company with health and safety policies and practices.	The study created conceptual gaps since its focus was on OHS audit and audit data and performance was not mentioned	The study assessed OHS audits and performance of sugar companies in Kisumu County.
Joseph and Kibera (2019).	Organizational culture and performance: Evidence from microfinance institutions in Kenya.	Organizational culture had significant influence on performance while market culture was inversely associated with debt/equity ratio	The study created contextual gaps by focusing on microfinance organizations.	The study linked organizational culture for the relationship of OHS practices and performance in sugar companies
Oduol (2015)	Effects of organizational culture on performance of subsidiaries of selected regional commercial banks	The research findings revealed that the provision of rules that provided clear instructions, processes and	The study created contextual gaps by focusing on regional commercial banks	The study assessed how organizational culture moderated the relationship between OHS

	headquartered in Kenya	procedures for employees was the most prevalent culture		practices and performance of the sugar companies in Kisumu County

2.4 Conceptual Framework

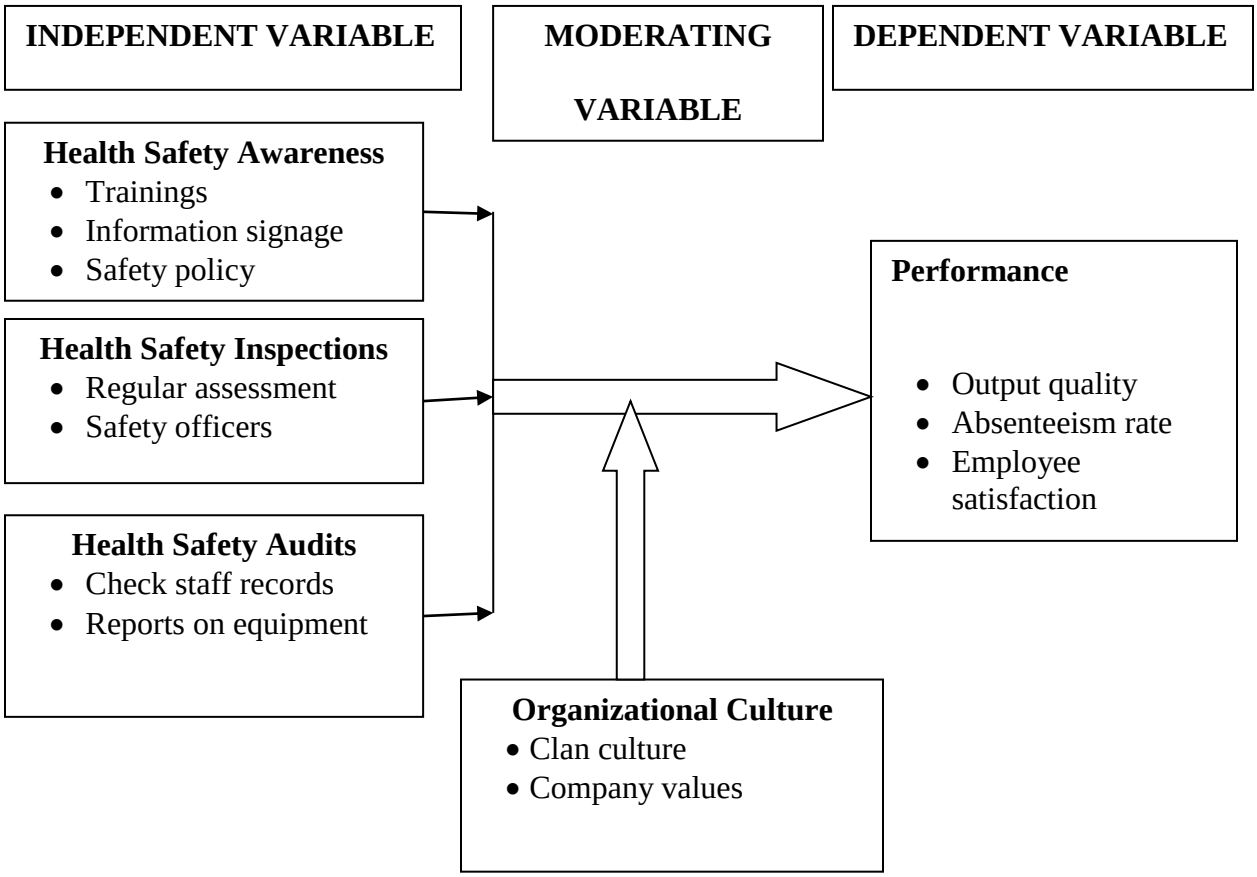

Figure 2. 1: Conceptual Framework

Source: Researcher, 2021

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter addresses the methods used in the study by explaining the sample design, study population, sampling frame, sampling and sampling techniques, data collection techniques, and data analysis methods.

3.2 Research Design

Kerlinger (1973) defines research design as an arrangement of settings for data collection and analysis that aims to balance the importance of the study's purpose with process economy. It is the abstract setting in which work takes place; it serves as the model for data gathering, calculation, and evaluation. Orodho (2003) described research design as the system, diagram or strategy used to respond to research issues. This analysis used descriptive research design that allow the respondents to explain the relationship and interaction between elements of occupational health and safety practices and performance in the three sugar companies.

3.3 Target Population

In any area of investigation, a population alludes to all things or persons under consideration (Sekaran, 2003). Study participants comprised of 499 employees that were

working in Muhoroni Sugar Company, Chemelil Sugar Company, and Kibos Sugar Factory (KSB, 2015). The following table depicts the population's distribution:

Table 3. 1: Target Population

Sugar Company	Company Works
Muhoroni	316
Chemelil	117
Kibos	66
Total	**499**

Source: Kenya Sugar Board (2015)

3.4 Sampling Design

Sample is defined as a sub-group of the entire populace or object by Sekaran (2003). The survey studies presume that the features of the study reflected correctly the characteristics of the community in question and that a researcher ought to be able to draw results which would extend to the target population (Gary, 2009; Mugenda, 2008). The study used purposive sampling to select the three sugar companies in Kisimu County and employed stratified sampling to place the respondents in groups as per the company they work in.

The sample size was obtained by applying the Using the Yamane (1967) formula where: $n=N/1+Ne^2$; where n is the sample size, N is the total population and e is the error, the researcher sampled 222 workers from the three sugar companies. The distribution of the sample was shown below:

Table 3. 2 : Sample Size

Sugar Company	Company Works	Sample Size
Muhoroni	316	141

Chemelil	117	52
Kibos	66	49
Total	**(N) = 499**	**(n) = 222**

Source: Researcher (2017).

3.5 Data Collection Instruments

Both primary and secondary sources were used. Secondary information was collected from the businesses, newsletters and business documents via paper review of records. Data in the form of previously prepared or examined papers or studies by other researchers (Gray, 2009). An in-depth case study, as argued by Myers (2008) used other sources of evidence besides interviews therefore written documents were extremely valuable for this purpose. Primary information was obtained using standardized questionnaires which was distributed to workers from various cadres and managers. This was the tool used for the collection of data and it was the questionnaire.

3.5.1 Questionnaire

Questionnaires were developed in response to research objectives. The study participants were expected to tick in the boxes the appropriate responses. The researcher mostly employed questionnaires since they were simple to organize, monitor, and analyze and were economical.

3.6 Validity And Reliability

3.6.1 Validity

A study's validity is established by how accurately and usefully two or more variables measure the same occurrence (Mugenda & Mugenda, 1999). Piloting respondents who were uninterested in this analysis increased the accuracy of research instruments. Using the data from the pilot study, the researcher was able to pinpoint instrument flaws and establish the instruments' validity. To guarantee the report's validity and accuracy, the author engaged 22 respondents working at Nzoia Sugar Company who tested the instrument. The researcher engaged the university supervisor and research experts who help align the questionnaire and ensured it was fit for use in the study.

3.6.2 Reliability

Mugenda and Mugenda (2012) suggests that a function is said to be reliable based on how consistent results a research tool produces after repeated trials. The same results were obtained by another researcher using the same experiment. The study used the internal consistency method which will compare the contexts in questionnaire and the review of the study on the empirical, theoretical and conceptual framework. The results from the filled questionnaire was applied in the Coefficient Alpha of Cronbach was used to determine the instrument accuracy. A high coefficient means that objects are highly correlated among themselves, according to Mugenda and Mugenda (2012).

This would mean consistency in the calculation of the concept of value among the products. Using Cronbach's Alpha Test, the scores collected from respondents during

piloting will be used to test instrument performance. For business studies, an alpha above 0.7 is great enough (Serakan 2003). This test is commonly used to assess the inter-coherence or average correlation of items in a survey system to determine their reliability.

3.7 Piloting

Piloting was carried out in Nzoia Sugar Company before the actual collection of data for the report. The sugar company was not from the chosen county of Kisumu but has the same characteristics and features as other sugar companies and hence ideal for conducting the pilot study. The pilot study helped the researcher identify flaws in the research tools, tested the consistency of the questions and provided input from respondents to improve data collection tools.

3.8 Data Analysis And Presentation

The intent and quality of the research design and the level to which conclusions could accurately be obtained distinguish the analysis of the data. In order to increase the accuracy of the answers, if the all information was collected, the author performed data purification which involved identification of incorrect, false responses and correction. Using the Statistical Kit for Social Sciences (Kothari, 2003) the data was coded and inserted into the machine for reviewing after data cleaning.

Both quantitative and qualitative methods were used to analyse the data. Descriptive and inferential statistics were used to analyze quantitative data, including: dispersion rate, means and measures of descriptive statistics. Qualitative data was evaluated using content analysis based on the interpretation of definitions and consequences from the knowledge

and recorded data provided by the respondent. Inferential statistics included multiple regressions that was used to assess performance forecasting OHS practices. Quantitative data was evaluated using basic descriptive statistics. Upon study, together with inferential statistics, data will be described in tabular form using frequencies and percentages. The regression models will be as follows:

Model I

$Y= {}^{\delta} + ß_1X_1 + ß_2\ X_{2+}\ ß_3\ X_{3+}e$

Model II

$Y= {}^{\delta} + ß_1X_1OB + ß_2\ X_2\ OB_{+}\ ß_3\ X_3\ OB_{+}e$

Where $^{\delta}$=constant

$ß_1\ ß_2\ ß_3$ = slopes of $X_{1,}\ X_2$ and X_3

$X_{1=}$ Occupational Health and Safety awareness

X_2 = Occupational Health and Safety inspections

$X_{3=}$ Occupational Health and Safety audit

e= error term

OB = Organization culture

3.9 Ethical Considerations For The Research

Until engaging in the analysis, the author received approval from the administration of Kenyatta University and obtained a research permit from NACOSTI. Also approvals from the selected companies, respondents and interviewees were received before commencement of data collection exercise. Data privacy was guaranteed and acknowledgement of sources was done to avoid plagiarism cases. Ethical research concerns were important aspects that applied to the researcher's appropriate behavior and expectations in conducting research.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents results of analysis of primary data involving employees of three sugar companies studied. In the study, primary data were collected by a predesigned questionnaire, that later were analyzed through descriptions and inferential statistics. The results were given in tables, graphs and charts in this report. Results of reliability tests were first presented to show how each factor score was correlated with scale items. The objectives of study guided the analysis carried out to investigate effects of Occupational and safety health awareness, Inspection and audit on performance among sugar companies in Kisumu County.

4.2 Response Rate

A total of 222 questionnaires were administered to employees of three sugar companies namely Chemelil, Kibos and Muhoroni. Respondents from Chemelil Sugar Company who returned their questionnaires were 106, Kibos sugar (28) and Muhoroni (50). Therefore 184 questionnaires dully filled were collected producing a response rate of 82.8%. This outcome was considered good for the researcher to proceed with further analysis. The distribution of respondents was fair across the three sugar companies since at least 80% rate was attained from each of the sugar companies.

4.3 Reliability Statistics

Before subjecting statistical data to actual analysis, it was necessary to test the reliability of data collected. As a rule of thumb, a Cronbach alpha coefficient of 0.70% and above is considered good loading for data analysis. Therefor each factor was tested for this internal consistency between items and scale.

Table 4.1 Reliability Statistics Results

Variable	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
OHS Awareness	.805	.835	8
OHS Inspections	.814	.850	8
OHS Audit	.921	.921	8
Organizational Culture	.696	.706	6
Performance	.384	.276	4

OHS awareness was the first key variable hypothesized to influence employee performance at the sugar companies in Kisumu County. The test for reliability of the scale from 175 respondents and 8 items indicated a coefficient alpha of 0.805. This being above 0.7 which is recommended by Tabachnick and Fidel (2001) as consistent scale

OHS inspection was the second factor thought to influence the performance of these employees in the sugar companies within Kisumu County. Test of reliability of the scale

and its 8 items returned an alpha coefficient of 0.814 which again was good since it is above 0.70 minimum expected coefficient in this study

OHS audit had a coefficient alpha of 0.921 from the 8 items describing the scale. Monitoring of OHS standard has been supported by many authors to be associated with risk reduction in industrial setting. This factor was hence investigated to determine contribution in the sugar companies of Kisumu County. On this scale again eight statements were used to measure the factor on a five-point likert scale; the items include sick of record, ventilation adequacy, safe drinking water, clean toilet sustainable sanitary facilities used for protection, sanitary clothing, fire extinguishers and accident rates.

Organizational culture was represented by artifacts, symbols and titles. Culture was used in the study to test whether it moderates the relationship between the OHS practices and performance of these employees. The element was measured using six (6) items which returned alpha coefficient of 0.696 which is approximately 0.70 assumed satisfactory for the analysis of the factor as moderator variable showing the statistics from the 175 cases out of 184 received.

Employee performance was indicated by punctuality (reporting on duty on time), absenteeism rate, level of motivation and job satisfaction. However, test results realized for the reliability (0.384) here show that absenteeism rate did not elicit reliable responses for the participants hence had to be deleted to increase the alpha coefficient to 0.635 given that none of the other items would do better. After adjustment three items are left indicating the performance with a fairly acceptable consistency coefficient.

Table 4.2: Adjusted Reliability statistic for employee Performance

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Employees report on duty on time	8.37	4.397	.159	.149	.365
Less cases of absenteeism	10.54	5.764	-.217	.086	.635
Employee is highly motivated	9.65	2.137	.513	.377	-.189[a]
Employee satisfied with their job	9.20	2.817	.462	.342	-.018[a]

The value is negative due to a negative average covariance among items. This violates reliability model assumptions.

4.4 Demographic Data

4.4.1 Respondent Gender

The respondents indicated that out of 184 who participated, 68% or 125 were male while 59 were female representing 32%. This was a fairly good representation by gender distribution between three sugar Companies in Kisumu County. Employment statistics from the sugar Companies showed that males were 65% while female make up about 35%. Figure 4.1 shows this result.

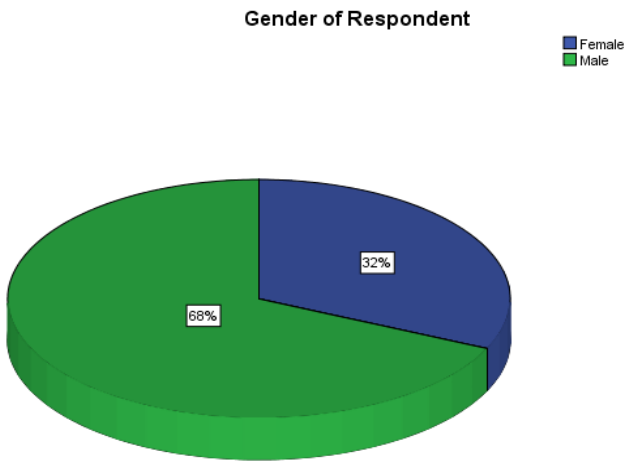

Figure 4.1: showing gender response

4.4.2 Age Of The Respondent

The age of the respondents was measured in years. The Figure 4.2 revealed that 36% of all sampled employees indicated their ages to lie between 36-45 years followed by those in the age of 26-35 years (25%) and 46-55 years (24%) out of the total sampled employees (184). Employees aged 18-25 years made up 12% while those aged 56 and above were least represented by 2.8%. Thus nearly two-third of the respondents were aged 36 years and above (63%). This category of employees are usually experienced and tend to care more about their safety because many are likely to be supporting their families.

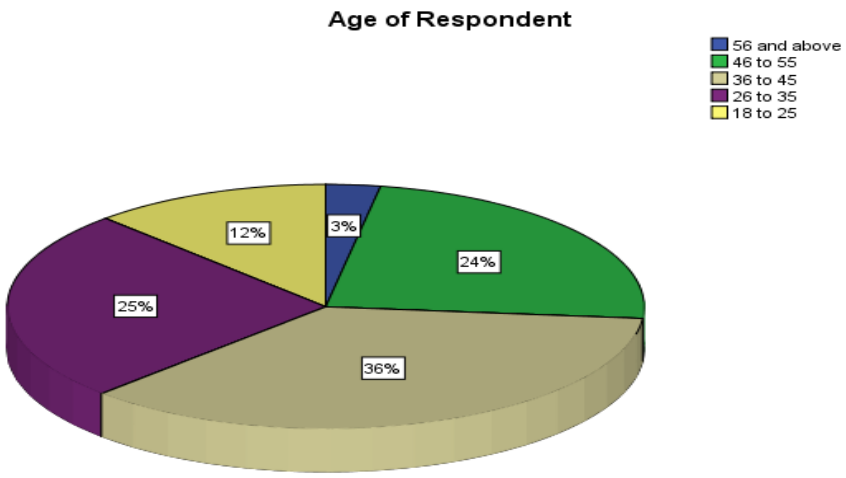

Figure 4.2 Age of Respondent

4.4.3 Education Levels Of Respondent

Employee's education level data was collected as a dummy variable in the relationship between OHS and employee performance. Figure 4.3 shows that of all the sampled employees, nearly half or 48% had a diploma levels education followed by secondary school levels qualifications (27%), degree qualifications (21%) and lastly masters and above (4%) out of the 184 who returned their questionnaires. A majority of the employees therefore had post-secondary school qualifications which would position them to appreciate the role of OHS policy at the work place.

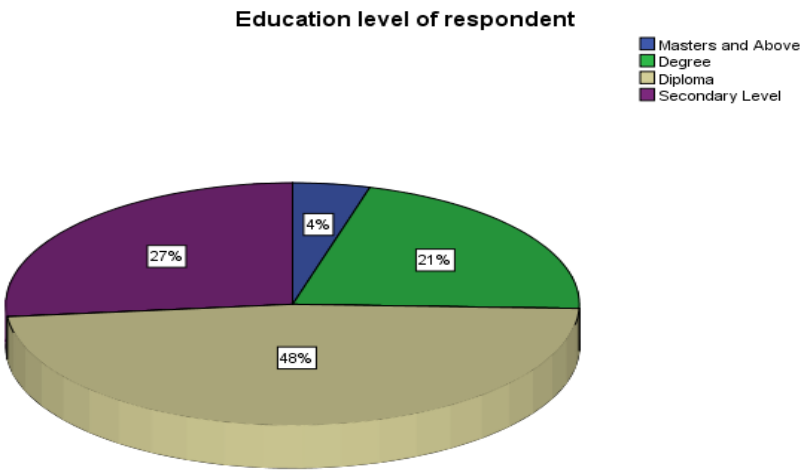

Figure 4.3: Education Level of Respondent

4.4.4 Marital Status Of The Respondents

Going by the marital status of the respondents in the study, statistics shows that 81% of the participating employees are married while 19% are single (figure 4.4)

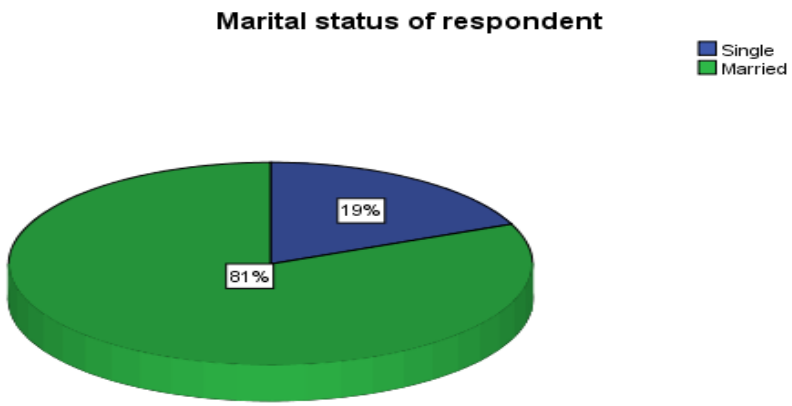

Figure 4.4 Marital Status of Respondent

Married persons are more than those that are single. This means that they are more concerned about their health and safety at work. Married persons care about their spouses and children as dependents. Therefore, risks to their safety and health would be of significant concern. This should inform employers that they need to provide a safer and secure environment for work so that productivity can be improved.

4.4.5 Duration Of Service

Information on the duration of service of employees at their respective companies was collected to find out whether or not it had anything to do with how they responded to the items. A long serving employee is likely to be loyal and committed to work. They accumulate a wealth of knowledge and experience that shape organizational culture which result in high productivity all else remaining the same. Culture in this study was assumed a moderator and therefore analyzing its antecedents would be important.

Length of service would also determine whether an employee would continue to be loyal depending on how their health and safety concerns are addressed. Job security is one of the key safety concerns for an employee. Longer serving employees are likely to continue serving the company compared to those who have only served for a short duration. Descriptive characteristics for this variable shows from figure 4.5 a majority (73%) have served their employer for longer than 6years. This is followed by those who have served for between 1-5years (26%) or 46 employees, those who have served for 11 years and above represented by 58 employees or 33% of the 184 sampled members.

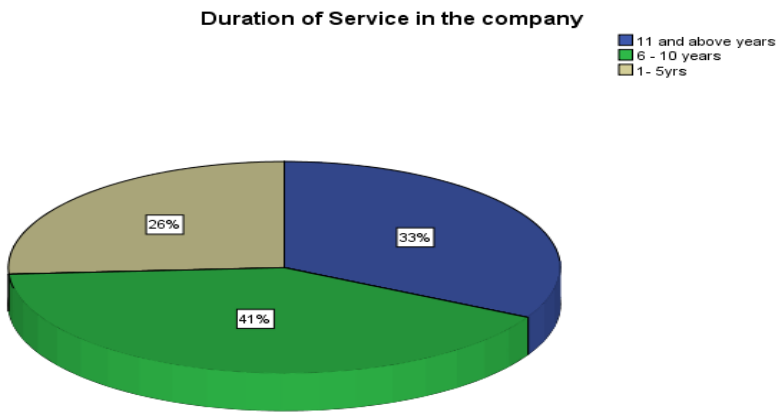

Figure 4.5: Duration of Service

4.4.6 Employee Worked In Another Company

The question of whether employees had worked in another company before joining their current employer, elicited responses indicating 90 of them or 52% affirming to having worked elsewhere while 84 or 48% answered 'No'. Hence the difference between the two

groups was not significant. Since many more seem to stay with the employers more than six years they may be experiencing some levels of satisfaction with their current employers.

Figure 4.6 represent the findings

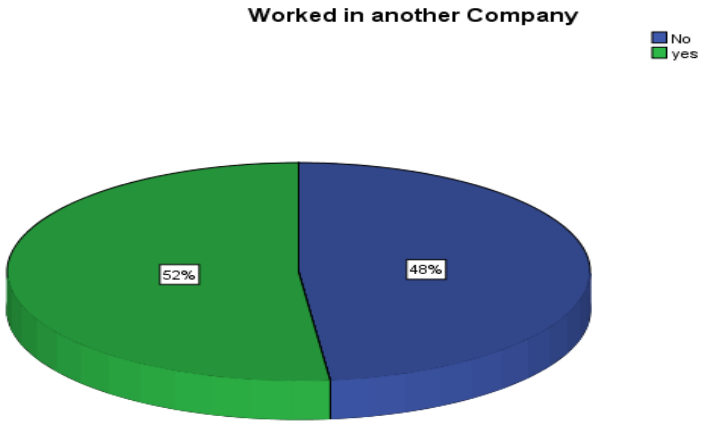

Figure 4.6: Worked in another Company

4.5 Description Statistics For Occupational Health And Safety Awareness

This factor was measured by eight (8) items that loaded highly on the variable. Table 4.3 contains descriptive statistics for awareness which includes frequencies, percentages, means and variation for each item. Results from Table 4.1 shows that 152 of the 181 employees from the sugar Companies agreed that there exist the department for the OHS in the sugar companies representing 84% percent with 50% agreeing strongly. The mean rank is 4.2 and a standard deviation of 1.077. This is evidence of consolidated responses

signifying good effort made at taking care of employees' safety and wellness to enhance performance. However, 5% of the sampled employees were sampled fairly agreed to this while 10.5% disagreed in principle

Table 4.3 Descriptive Statistics for Occupational Health and Safety Awareness

NO.	OCCUPATIONAL HEALTH AND SAFETY AWARENESS	Strongly Agree	Agree	Fairly agree	Disagree	Strongly Disagree	Mean Rank	STD Dev
1	There is an OHS department. n=181	91 50.3%	62 34.3%	9 5%	11 6.1%	8 4.4%	4.2	1.077
2	The company has OHS policy. n=181	102 56.4%	63 34.8%	7 3.9%	5 2.8%	3 1.7%	4.7	3.85
3	You understand your company OHS policy. n=181	80 44.2%	68 37.6%	25 13.8%	7 3.9%	1 0.6%	4.21	0.863
4	OHS information provided to employees. n=178	65 36.5%	66 37.1%	21 11.8%	22 12.4%	3 1.7%	4.17	3.185
5	Newly employed employees are trained on OHS practices. n=178	55 30.9%	60 33.7%	23 12.9%	30 16.9%	10 5.6%	3.6	1.23
6	Employees get refresher trainings on OHS practices. n=179	42 23.5%	72 40.2%	23 12.8%	33 18.4%	8 4.5%	3.83	3.236
7	My company has safety signs. n = 181	105 58%	59 32.6%	8 4.45	7 3.9%	2 1.1%	4.43	0.837
8	I understand the safety signs in your company. n = 180	81 45%	78 43.3%	11 6.1%	9 5%	1 0.6%	4.27	0.831

The second item on Table 4.3 showing that most staff as high as 91% (56.4+34.8) agreed that their company has OHS policy. The mean rank of 4.7 and standard deviations of 3.85

mean that while on average the item score was high, there was wide variation in the level of agreement on whether an OSH policy was in place. Some employees do not appear to know if such a policy is in place. This awareness gap may have to be closed so that all staffs are sufficiently sensitized on the role of OHS practices at the work place. Increasing awareness makes the work place safer and healthier for everyone.

A policy of this nature spells up rules, regulations, procedures and processes to mitigate work place accidents injuries and sickness which is becoming increasingly common according to recent studies and data from OSH experts in the sugar industry. Similarly, understanding the companies occupational and safety and health policy is important because it directs the employee's action and behavior away from dangerous or unsafe situations. It is therefore upon employer to provide guidelines and employees to read and understand the OHS policy so as to apply the right attitude and behavior at work. When accidents are fewer or significantly reduced, disruptions are fewer and productivity is enhanced. The work place becomes safe for all hence less litigation and insurance costs.

Results from Table 4.3 indicate that 44.2% or 80 employees strongly agreed to understand OSH policy. Another 37.7 %, (68) just agreed while 13.8% of fairly understanding the policy. The mean rank of 4.21 and a standard deviation of 0.86 mean that on average majority of staff understood the policy. Providing OHS information to employees in a simple and clear manner is critical to creating a working environment that is safe and healthy through communication of possible hazards. Once hazards are communicated, the appropriate behavior can be provided to reduce incidence of accidents

and injuries at the workplace, out of 178 responses viewed on this question, 65 or 36.5% agreed strongly to receiving information with 37.1 only agreeing.

However, 14% (12.4%+1.7%) did not receive information about OSH. The mean rank is 4.17 while the standard deviation is 3.185 also indicating some variability in the responses attesting to a lack of certainty about the issue. The question of training new employees on OHS practices was item five. Out of 178 respondents, a third of them 30.9% strongly agreed with the further 33.7% agreeing as compared to 2.9% who only fairly agreed. About 22% disagreed with 5.6% disagreeing strongly. The mean rank was lower at 3.6 indicating views that were not strong. It is important that new employees be trained and inducted on matters OSH practices of every company they join. This way they shall understand eminent risks and expected behavior and response to occurrence of such risks.

OHS practices need to be reinforcement continuously through refresher training. The training serves to remind the employees about their role in the event of accidents, injuries or sickness. It is not unusual to be forgetful hence need for regular training to keep everyone on alert and hence reduce accidents or even the severity. This item had a mean rank of 3.83 and a standard deviation of 3.236 (Table 4.3) which is clearly moderate but highly variable response. Consequently, less agreement on this issue highlight a gap in existing policies, programs and structures among the sugar firms. Item seven (7) in Table 4.7 sought to find out whether employees were aware of safety signs in the companies they worked for. Safety signs should be clearly marked, simple to understand and direct behavior signs and symptoms of what one must do in their event of an accident or

emergency. This is done to mitigate risk of increased causality and save lives. Participating employees show that a majority (58%) agreed strongly to having seen safety signs and symbols and a further 32.6% just agreeing. A mean rank of 4.43 signifies overall agreement with existence of safety signs by a majority of the respondents.

The last item on awareness score asked whether employees understood the meaning of the safety signs at the place of work. Understanding the signs and symbols is the communication of information necessary to elicit a desired response in the event of an emergency. When one does not understand a sign or a symbol then their response may not be appropriate to the situation and hence may even make a bad situation worse. Therefore, managers, supervisors need to use signs and symbols that are understood by employees in order to prevent unnecessary losses and injuries. The mean rank for this score was 4.27 which again is quite high while the variation was low at 0.837. More than 88% (154) of the employees sampled agreed to understanding meaning of signs (45 +43.3), those with only fair understanding were 6.1% while a further 5% did not understand meaning of signs (5% + 0.6%).

Hence understanding of the signs and symbols is high among the employees' which means the communication of hazards is effective and that the state of preparedness is good. Overall weaknesses noted in OHS awareness practices include provision of relevant information, inducting new employees and refreshing employees on OHS policy, programs and procedures. These are the areas to pay attention to by supervisors and managers so as to promote job performance. These findings are similar to sentiments shared by Nyambura and Simon (2019) on safety awareness campaigns, Momani, *et al.*

(2017) and Dressler (2005) emphasized the need for communication and communication initiatives to reduce risks and occupational hazards. Furthermore, Chowdhury, *et al.* (2021) talks of signs to pass on safe and healthy messages and Makori, *et al.* (2018) revealed that safety policies reduced health risks and improved productivity

4.6 Descriptive Statistics For Occupational Health And Safety Inspection

OHS inspections are a widespread and effective method of detecting and resolving safety issues prior to the occurrence of accidents. A thorough inspection, whether official or informal, conducted by inspectors inside or externally, would detect dangers prior to them manifesting as actual incidents. Continuous inspections should be conducted in accordance with policy, ensuring that flaws are remedied in real time. According to the findings of this study, industrial/inspections were conducted to determine if certain materials and equipment were available to limit the risk that injuries or losses would occur on the job. This includes wearing protective clothing and making sure there was adequate ventilation, water, and lighting available. For the sake of the workers' safety, more regular inspection is required.

Table 4.4 showing statistics for the factor based on the eight items used to collect data.

NO.	**How often are the following facilities inspected by your occupational health and safety officers?**	Daily	Weekly	Monthly	Yearly	Not at all	Mean Rank	STD Dev

1	Availability of ventilation. n=179	28 15.6%	28 15.6%	36 20.1%	48 26.8%	39 21.8%	2.77	1.37
2	Proper Lighting. n= 180	58 32.2%	23 12.8%	49 27.2%	35 19.4%	14 7.8%	3.59	2.57
3	Availability of Water safety policy. n =177	91 51.4%	30 16.9%	27 15.3%	17 9.6%	12 6.8%	3.97	1.29
4	Cleanliness of toilets. n= 179	107 59.8%	23 12.8%	18 10.1%	16 8.9%	15 8.4%	4.07	1.34
5	Comfortable Chairs and Tables. n = 175	24 13.7%	14 8%	35 20%	52 29.7%	50 28.6%	2.49	1.34
6	Protective Equipment. n = 179	49 27.4%	14 7.8%	19 10.6%	78 43.6%	19 10.6%	2.98	1.43
7	First Aid Kit. n= 178	35 19.7%	22 12.4%	63 35.4%	31 17.4%	27 15.2%	3.04	1.03
8	Fire extinguishers. n = 180	39 21.7%	34 18.9%	67 37.2%	33 18.3%	7 3.9%	3.36	1.12

The overall mean score is at 2.77 and the SD of 1.37 were obtained from an examination of the available ventilation. According to nearly half of the employees (approximately 48

percent), inspection of this plant is either nonexistent or performed only once a year. More than one-fifth (26.8 percent) of employees stated that safety officers check ventilation systems on a daily basis. Another quarter (14.6%) said that safety officers check ventilation systems on a weekly basis, representing 28 people and 'not at all' (21.8%) of the sampled employees. Additionally, safety authorities were reported to evaluate lighting at the workplace daily (32 percent), weekly (12.8 percent), monthly (27 percent), and yearly (19.4 percent), with 7.8 percent of the 180 tested employees stating that no such inspection occurred.

The average inspection frequency is 3.59, which is again in the range of monthly to annual inspections. Water safety inspection at the place of work is important because it reduces incidence of water borne diseases like, cholera, typhoid etc. Employees need to drink and use clean treated water which should also be used in industrial processes. Participants in this study stated that inspection happened daily (51.4%), weekly (16.9%), monthly (15.3%), yearly (9.6%) and not at all (6.8%). A high average frequency for inspecting water (3.97) implies inspection is mostly monthly or yearly. This may have implication on employee health since incidence of consuming contaminated water rises with less frequent inspection.

Toilets that are clean are also a component of a healthy atmosphere. When employees utilize clean washrooms with clean water, their health is significantly improved, since dirty washrooms there is likelihood of contamination, resulting in a disease outbreak such as diarrhea, typhoid, or cholera. OHS requires employers to provide appropriate, clean restrooms in order to keep employees healthy and so inspired to work harder. According

to Table 4.4, 59.8 percent (107) of employees reported inspecting toilets daily, weekly (12.8 percent), monthly (10.1 percent), yearly (8.9 percent), and 'not at all' (8.4 percent). As a result, the average inspection frequency for toilets was weekly (4.07), with some variance (standard deviation) (1.34). When employees use comfortable chairs and tables at work, their performance improves. Whenever the employees are uncomfortable they raise health issues resulting in higher absenteeism for medical care and physiotherapy.

As part of the OSH policy, organizations must provide safe and comfortable work spaces and this involves getting correct furniture and equipment. According to the information obtained, safety officials checked the workplace furniture on a daily basis (13.7 percent) or 24 participating employees, weekly (8 percent), monthly (20 percent), and annual basis (29.7 percent). There were 26.6% of respondents (or 50 employees) who said no furniture inspections were performed. The mean frequency of inspection is 2.49, which is relatively low. This refers to inspections that occur on an annual basis. As a result, firm employees are likely to use uncomfortable chairs at work when inspection periods are spaced widely apart.

According to Table 4.4, protective equipment was inspected daily by 27.4 percent, weekly by 7.8 percent, monthly by 10.6 percent, yearly by 43.6 percent, and not at all by 10.6 percent, indicating that the frequency of the inspections per month on average or greater (Mean score of 2.98). This could create difficulties for staff if equipment fails more regularly. A more frequent assessment of equipment such as protective apparel and materials is expected to eliminate dangers that could result in accidents and avoidable injuries. A well-designed OSH inspection program would include daily or weekly

inspections of manufacturing equipment and protective apparel. The frequency of first aid kit inspections was daily (19.7%), weekly (12.4%), monthly (35.4%), yearly (17.4%), and did not occur at all (12.2 percent). The mean for inspection frequency was at 3.04 (monthly) for first aid kits, which is lower than predicted number of items.

An inspection of the kit on a monthly or daily basis would be preferable. To conclude, safety officers are expected to conduct regular inspections of fire extinguishers to verify that they are fully functional and ready to be used in the event of an emergency fire. A fire can do a lot of damage and perhaps destroy a whole building. It is also essential that managers and supervisors offer employees with information and training on how to use this technology. Fire equipment inspection frequency was reported by 21.7 percent of employees as daily, 18.9 percent as weekly, 37.2 percent as monthly, and 18.3 percent as yearly, with 3.9 percent of 180 sampled employees reporting inspection did not take place at all.

Electrical problems, flammable agents, malfunctioning machines, and other causes of fire are more likely in an industrial setting. As a result, it's important to protect employees against flames. This item was inspected on average 3.36 times per month, which is far too infrequent to ensure the safety of workers. The inspection frequency has a standard deviation of 1.12, indicating a low level of variability in response.

The results are also echoed by findings of researchers such as Cudjoe (2011), Tremblay and Badri (2018), Hollnagel (2004), and Mohammadfam, *et al.* (2017) on informal inspections, informal checks, internal monitoring and reporting that will help reduce accidents and health hazards in the companies. Through regular inspections, the

organizations can reverse the high cases of accidents and occupational risks and create safe working spaces. When employees feel safe and their health concerns are addressed then, they focus on their work tasks and assignments and deliver quality and quantity volume of produce.

4.7 Descriptive Statistics for Occupational Health and Safety Audit

OHS audits were conducted to check on workers who had fallen sick, ventilation, the quality and safety of the available drinking water. The audits were able to tell if the toilets are enough for all workers and the state of their cleanliness. A through audit also considered the available and use of protective clothing and sanitary facilities like gloves, safety boots and headgear. There was also check on fire extinguishers and if they have serviced and ready to be used in case of fires. The audit report also showed the accident rates and severity. The findings are shown in Table 4. 5 indicating the rate of agreement with each of the statements

Table 4.5: Descriptive Statistics for Occupational Health and Safety Audit

NO	How often do external occupational health and safety auditors check the following	Daily	Weekly	Monthly	Yearly	Not at all	Mean Value	Std Dev

	facilities?							
1	Employee sick off records. n=175	25 14.3%	19 10.9%	43 24.6%	41 23.4%	47 26.9%	2.62	1.363
2	Adequacy of ventilation. n= 172	16 9.3%	19 11%	39 22.7%	49 28.5%	49 28.5%	2.44	1.267
3	Safe drinking Water. n=171	69 40.4%	25 14.6%	28 16.4%	28 16.4%	21 12.3%	3.54	1.46
4	Cleanliness of toilets. n=173	72 41.6%	28 16.2%	27 15.6%	21 12.1%	25 14.5%	3.58	1.483
5	Suitable sanitary Facilities. n=171	41 24%	29 17%	35 20.5%	34 19.9%	32 18.7%	3.08	1.443
6	Use of Protective clothing. n=173	53 30.6%	13 7.5%	14 8.1%	59 34.1%	34 19.7%	2.95	1.562
7	Functionality of Fire extinguishers. n= 172	27 15.7%	34 19.8%	50 29.1%	43 25%	18 10.5%	3.05	1.22
8	Accident rates. n= 172	23	27	55	44	23	2.90	1.217

		13.4%	15.7%	32%	25.6%	13.4%		

OHS audit is a process whereby the organization review and continuously evaluate its health and safety effectiveness. It is meant to ensure compliance with policy, procedures and practices (Matebe, 2018). Eight (8) statements were used to measure effectiveness of audit functions in the sugar companies studied (Table 4.5). External health and safety auditors were said to check employee sick off records daily (14.3%), weekly (10.9) monthly (24.6%) and yearly (23.4%) while these who stated this did not happen at all were 47 or 26.9% the 175 sampled responses. The mean frequency for the audit 2.62 which is low (between monthly and annual) assessment

According to Table 4.5, external auditors are also said to check adequacy of ventilation daily stated by 9.3% of the 172 respondents, weekly 11%, monthly (27%) yearly (28%) and 'not at all' (28.85%). Hence a third of the respondents had not witnessed the auditors checking for adequacy of ventilation and an equal number stating this had happened but only annually. With a mean frequency value of 2.44, the overall audit frequency is annual which would be considered too infrequent. Safe drinking water was also monitored by the auditors daily (40.4%), weekly (14.6%), monthly (16.4%). A similar proportion said audit for safe drinking water took place yearly and this was echoed by Blewett and O'Keeffe (2011).

However, 12.3% or 21 employees indicated not having observed water audit at the place of work at all. Therefore, a majority agreed audit of drinking water was done either daily or weekly; an acceptable frequency of audit for a commodity that is so critical to good

health. This score returned a fairly high mean frequency (3.54) and a standard deviation of 1.45. Toilet cleanliness was checked by safety auditors daily as indicated by 72 employees representing 41.6% of the sampled respondents. Robson, *et al.* (2012) argue that cleanliness is one way of reducing illness and regulatory authorities need to checked the toilets and report the condition, while also suggesting actions to be taken if they do not meet the standards.

Out of the 173 sampled members another 26.2% of them said toilets were checked weekly while those indicating monthly and yearly checking were 15.6% and 12.1 respectively. However, 21 employees representing 14.5% did not see this happen at all. The mean value was 3.58 indicating a frequency average between weekly and monthly. Perhaps a more daily monitoring wounds reduce health and safety risk that employees face. Suitable sanitary facilities were checked by safety officers daily and weekly as represented by 24% and 17% of respondents respectively. Nearly 40% said the monitoring frequency was either monthly or yearly and a further 18.7% did not see it happen at all.

This area reveals some audit weakness that may results in audit weakness that may result in higher exposure to health and safety risk among employees of the sugar Companies in Kisumu county. Overall a monthly frequency characterizes monitoring of safety facilities. Use of safety clothing was being monitored daily as attested to by 30.6% of sampled employees. While 7.5% indicated weekly frequency, another 8.1% stated monthly checking and there those who thought that the checking was annual (59 or 34.1%). About 20% said no checking took place to ensure use of protective clothing while at work. The

mean value is 2.95 which was considerately low signifying annual audit. This frequency is low for ensuring safety of employees from danger and illness.

Functionality of fire extinguishers was checked by safety officers mostly monthly or annual as stated by a total of 93 employed representing a proportion of 54.1%. Those saying that checking was daily were 27 (15.7%), weekly 34 (19.8%). Another 18 (10.5%) of employees did not observe any checking for fire extinguisher in their function at their place of work. The mean value is 3.05 and standard deviation of 1.22 indicating less variation in response. A monthly checking of equipment for fighting fires may appear less frequent considering the dangers posed by the fire hazards. It would be preferred if the monitoring was either daily or weekly. From Table 4.9 above monitoring accident rates at the workplace happened daily (13.4%), weekly (15.7%), monthly (32%) and annually (25.6%).

A majority seemed to suggest this happened either monthly or annually (57%) while others (13.4%) said it did not happen at all. The mean value is 2.9 while the standard deviation 1.21. Once more this finding is not good enough for promoting health and safety in the work place. An increased frequency for monitoring accident rates would suffice. Generally, therefore, monitoring of facilities and materials used at work happened according to majority of employees although the frequency was not sufficiently high as would be expected to mitigate danger of accidents, damage to property and equipment, injuries and illness. These findings are also shared by Robson, *et al.* (2017), Blewett and O'Keeffe (2011), Sawe (2013) and Jespersen, *et al.* (2016) who agreed that audits help organizations adhere to the OHS practices and policies or else they risk

having their licenses revoked and reduced productivity linked to workers falling sick or taking time to recovery from injurious.

4.8 Description Statistics For The Organizational Culture

Organizational culture in the company is a moderating variable in the relationship between OHS practices and performances of the employees. The study variable was measured using six items and findings are contained in the Table 4.6.

Table 4.6 Descriptive Statistics for Organizational Culture

NO.	**ORGANIZATION CULTURE**	Strongly Agree	Agree	Fairly Agree	Disagree	Strongly Disagree	Mean Rank	Std Dev
1	All employees report on duty daily. n=178	75 42.1%	55 30.9%	24 13.5%	19 10.7%	5 2.8%	3.99	1.115
2	Most employees fail to report on duty. n= 178	15 8.4%	30 16.9%	28 15.7%	73 41%	32 18%	3.43	1.207
3	Employees have acceptable values. n= 178	43 24.2%	100 56.2%	19 10.7%	11 6.2%	5 2.8%	3.93	0.921
4	Employees	51	104	15	6	3	4.08	0.806

	concentrate on their jobs. n= 179	28.5%	58.1%	8.4%	3.4%	1.7%		
5	Employees are ready and able to combat work related hazards. n= 178	45 25.3%	100 56.2%	16 9%	8 4.5%	9 5.1%	3.92	0.988
6	Employees are prepared for disasters. n= 178	36 20.2%	80 44.9%	26 14.6%	20 11.2%	16 9%	3.56	1.193

Employees report on duty daily as agreed by 73% (42.1+30.9) of sampled members. The mean rank of is 3.99 signify strong agreement on the score. Those who fairly agreed were 24 (13.5%) as up to 13% disagreed about the attendance with 2.8% disagreeing strongly. Values that employee may possess for reporting danger and reaction to emergencies also define the organizational culture. Up to 80% employees agreed that there were acceptable values with 24.2% of them agreeing strongly out of the 178 employee sampled. Those who fairly agreed were 10.7%. Those who disagreed were 8% with 2.8% disagreeing strongly. A mean rank of 3.93 and standard deviation of 0.921 mean that agreement was strong among a majority of respondents that values were acceptable.

Employees concentrate on the jobs also elicited strong positive response with a mean value of 4.8 and a standard deviation of 0.806. Up to 80% agreed to being committed to their job which is a prerequisite for better performance. A culture of hard work is

exemplified by how hard employees concentrate on their jobs. This may also mean a desire to be more accurate and to reduce possibility of error and mishaps. Employees were said to be ready to handle emergencies at work as agreed by 81% with 25.3% agreeing strongly. Only about 10% felt they were not ready and able to combat work related hazards and this also tied to employees being prepared for disaster where 64% indicated in the affirmative but nearly 20% were not. However, only 14% respondents felt fairly confident about preparedness for disasters at the company. Overall culture item number two had to be deleted to improve the reliability of the factor as a moderator in the study. This is discussed under statistical reliability.

Employee performance statistics are contained in Table 4.7. Performance was indicated by punctually, level of motivation and satisfaction. A mean score of 4.14 was realized signifying agreement by a majority of the respondents on employees reporting on time. This is probably because they love their job and have the right attitude toward work. Employees are also said to be motivated as agreed to by 16 (9%) strongly, 55 (30.9%) agreed, 20.2% (fairly agreed) but almost 40% of the 178 participants disagreed with 15.2% strongly disagreeing.

These findings are echoed by researchers Joseph and Kibera (2019), Mwangi and Waithaka (2018), Oduol (2015) and Ponnuswamy and Manohar (2016) who advocated for different types of organizational culture such as clan culture, corporate culture and hierarchical culture that encourage workers to produce quality output. The culture also helps alleviate cases of absenteeism, getting late to work and accepting values, beliefs, patterns and acceptable behaviors while at the workplace.

Table 4.7 Descriptive Statistics for Employee Performance

NO	Statement	Strongly Agree	Agree	Fairly agree	Disagree	Strongly Disagree	Mean	Std Dev
1	The employees report on duty on time n= 178	66 37.1%	89 50%	11 6.2%	6 3.4%	6 3.4%	4.14	0.92
2	The employees are highly motivated n= 178	16 9%	55 30.9%	36 20.2%	44 24.7%	27 15.2%	2.94	1.23
3	I am satisfied with my job n =174	21 12.1%	73 42%	41 23.6%	31 17.8%	8 4.6%	3.39	1.05

On the question of job certification, 21 (12.1%) of the employees (174) agreed that they were satisfied with the job strongly 73 (42%) agreed while 41 (23.6%) were fairly in agreement as 22% disagreed. The mean score was 3.39 (fairly agreed) and standard deviation 1.08 implying job satisfaction was only average. Generally, motivation and satisfaction was average though duty attendance was on time. These findings are echoed by Cristian and Monica (2017), Keinan and Karugu (2018) and Ankrah and Mensah (2015) that saw performance measured as workout quality, job satisfaction and high commitment levels.

4.9 Correlation Statistics

4.9.1 Relationship Between Awareness, Inspection, Awareness And Performance

A correlation test is necessary to determine the direction and strength of association between variables. Correlation coefficients range between -1 through 0 to +1. A strong association is inferred when the coefficient of correlation is close to 1.0 in either direction –ve or positive (+ve). In the study the association between the three factors that describe OSH namely OHS awareness, inspection and audit and their relationship with employee performance was tested. Total scores were computed for each variable and then applied in the spearman rank order correlation technique. Table 4.8 indicate that OHS awareness had a positive fairly strong and significant association with employee performance; rs=0.433.

OSH inspection followed closely with a moderate positive correlation coefficient of 0.371 which was also statistically significant (p=0.000). The weakest link with employee performance is OSH external audit which has a low positive but significant association with employee performance (rs=0.251, sig=0.000). All the coefficients were conducted at the 0.05 level of significance. These results are consistent with Makori, *et al.* (2018), Sawe (2013) and Indakwa (2013) who also found positive associations between OHS practices and performance.

Table 4.8 Correlation Matrix

	Employee Performance

Spearman's rho	OSH Awareness practice	Correlation Coefficient	.433**
		Sig. (1-tailed)	.000
		N	166
	OSH Health inspection	Correlation Coefficient	.371**
		Sig. (1-tailed)	.000
		N	159
	OSH External Audit	Correlation Coefficient	.251**
		Sig. (1-tailed)	.001
		N	151

**. Correlation is significant at the 0.01 level (1-tailed).

Results of correlation tests indicate that for performance enhancement to the achieved, then interventions should focus first on OSH awareness practices followed by inspection activities then lastly audit or monitoring activities. Awareness serves as the foundation for achieving OHS standards. Inspection and audit practices build up on awareness which is then likely to lead to improved performance through increased readiness to combat OHS risks.

4.10 Effect Of OHS And Awareness, Inspection And Audit On Performance

A multiple linear regression model was constructed to determine predictability of, the three OHS practices on employee performance measured by level of motivation and satisfaction. The form of the regression model is equation (1)

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon i \quad (1)$$

Where; β_1, β_2, β_3 are slope coefficients for Awareness, Inspection and Audit respectively

X1 is the value of Awareness

X2 is the value of Inspection

X3 is the value of Audit

εi is the random term for the model.

Y is employee performance represented by rank from low to high on a five-point scale.

OHS awareness, inspection, and audit is hypothesized to predict employee performance in terms of motivation and satisfaction. Data was entered into SPSS 21 spreadsheet after organization, cleaning and editing. Each variable value was computed by summing item scores and analysis conducted both descriptively and inferentially. An OLS multiple regression tool was used to compute the constants of the model (α, and β) which represent the intercept term and slope coefficients. The regression analysis findings are presented in the Table 4.9 and 4.10 representing model validity and coefficients respectively.

Table 4.9 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.410[a]	.168	.151	2.212	.168	9.917	3	147	.000	1.534

a. Predictors: (Constant), Audit item sum, Awareness item sum, Health inspection item sum

b. Dependent Variable: Employee Performance.

Table 4.10 indicate that the regression model was valid with F- value of 9.917 (df 3, 147) and a p- value of 0.000. Thus the three variables collectively explain 15.1% of the changes in employee performance (R^2_{adj}=0.151). The Durbin-Watson value of 1.534 is close to 2.00 which mean that multi-collinearity problem was not present in the data.

Regression coefficients are contained in the Table 4.11. The column on unstandardized coefficients show the betas as β1= 0.022, β2= 0.108 β3 = 0.005 and intercept value (α) is 6.833.

Table 4.10 Regression Coefficients Table

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	6.833	.764		8.947	.000	5.324	8.342					
	Awareness sum	.022	.016	.106	1.392	.166	-.009	.052	.163	.114	.105	.972	1.029
	Health inspection Sum	.108	.031	.367	3.549	.001	.048	.169	.397	.281	.267	.529	1.891
	Audit Sum	.005	.027	.020	.194	.847	-.049	.060	.274	.016	.015	.540	1.852

a. Dependent Variable: Employee Performance

The estimated model is

$$Y= 6.833 + 0.022X_1 + 0.108X_2 + 0.005X_3 \quad (2)$$

P (0.000) (0.166) (0.001) (0.847)

All the coefficients in equation (2) are positive which is theoretically plausible since increased OHS awareness, inspection and audit would result in improved employee performance. Therefore, in the absence of a moderator (organizational culture), employee performance is significantly predicted by OHS inspection (P- 0.001) from the data analyzed. Other variables were not statistically significant since they have higher probability values than 0.05. An increase in inspection level and frequency by a unit result in a rise of employee performance ranking by 0.108 units all else remaining the same. Collinearity statistics show that tolerance and variance inflation factor values were within acceptable level of around 1.0. This signifies absence of multi-collinearity between the independent variables.

This outcome is in support of Hollnagel (2004), Zambon, Vidović, Strauss and Matos (2019). and Saunders (1995) who argued that as changes take place involving people, material and environment, inspection, it helps in concentrating on the changes and resolving the issues before accidents occur. Sawe (2013) also concluded that inspection

of facilities mitigates risk occurrence and improve employee performance, satisfaction and productivity.

4.11 Effects Of Organizational Culture On The Relationship Between Occupational Health And Safety Practices And Performance

A second regression model was developed to determine the effect of a moderator (Organizational culture) on the relationship between OSH practices and employee performance. The equation (2) shows interactive effect of culture on the performance as influenced by OHS awareness, inspection and audit.

$$Y= \alpha + \beta_1 X_1 OC + \beta_2 X_2 OC + \beta 3 X_3 OC + \varepsilon i \quad (3)$$

Where X_1OC is the interactive effects of organizational culture with OHS awareness

X_2OC is the interactive effect of organizational culture with OHS inspection

X_3OC is the interactive effect of organizational culture with OHS audit.

βeta 1, 2, 3 are slope coefficients for each of the interactive terms awareness, inspection and audit respectively. Equation (3) is estimated and the model passes validity test (F value is 16.513, df 3,140 p=0.000). Table 4.11 reveal the coefficient of multiple determination rises to 0.246 from 0.151 which mean organization culture improves the impact of OHS practices on employee performance. In other words, the interactive effect of OC makes the model now explain 24.6 percent of the changes in employee performance.

Table 4.11 Model Validity Table with Interaction Effects

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.511[a]	.261	.246	2.085	.261	16.513	3	140	.000	1.567

a. Predictors: (Constant), AUDCUL, AWNCUL, INSCUL

b. Dependent Variable: Employee Performance.

The estimated regression equation with the moderator now becomes

$Y= 7.063 + 0.001X_1OC + 0.003X_2OC + 0.001X_3OC$

P (0.000) (0.034) (0.006) (0.383)

From the equation employee performance is explained by positive betas for awareness and inspection in the presence of organizational culture. However, culture does not impact performance even in the presence of culture at the 0.05 level of significance. Further interpretation is that raising awareness levels of employees on OHS policy, procedures and practices in the presence of a defined cultural environment is likely to increase employee performance by 0.001 units in terms of motivation and satisfaction. Conversely, an increase in inspection frequency in a predetermined cultural environment increases performance of employees by 0.003 units.

Therefore organizational culture plays a major role of interacting with awareness and inspection to improve performance of Sugar Companies employees in Kisumu County. Culture in an organization takes different forms like compensation methods, work-life balance, social integration and fair practice which define the behavior of employees between themselves and management. The role of culture in moderating effects of OHS practices on performance of employees has also been supported by Joseph and Kibera (2019), Mwangi and Waithaka (2018), Oduol (2015) and Ponnuswamy and Manohar (2016).

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Summary

This chapter summarizes study findings with respect to the objectives formulated. The findings were placed in context of extant literature and conclusions drawn. Eventually appropriate recommendations were made for study and future research. The research purpose was examining the status and effects that the practices of OHS had on performances of these sugar companies located in Kisumu County. Safety and health debate at the work place has continued to preoccupy researchers, practitioners and academics the world over. The reasoning behind it is that productivity of employees could be greatly supported and even enhanced if the working environment is safe and healthy.

The environment comprise human capital applied in production process, equipment used in the processing of goods and service, raw materials and other inputs necessary to accomplish a production goal. Three key OHS practices were investigated to determine whether and how they influence performance. The study was anchored on systems theory that posited all parts of a system must work together in a coordinated fashion to attain the objectives and goal of the organization. The mere presence of physical facilities and personnel does not guarantee high performance. Employers must pay attention to safety issues for employees and quality of the environment where job tasks are carried out in order to raise motivation levels higher performance.

Reducing work related accidents and injuries is the central pillar of implementing workplace safety and health policy. By achieving this objective, companies are likely to enhance their competitiveness through lower medical and insurance bills, more motivated work force, less absenteeism and higher productivity. This was achieved through the intervening action of job satisfaction and increased commitment. The study collected questionnaire data from 184 non-management employees of three sugar millers (Chemelil sugar company, Muhoroni sugar company and Kibos Sugar company). Data from questionnaire was analyzed first descriptively to determine mean values and standard deviation for every item and then inferentially to test hypotheses at 0.05 level of significance.

5.2 Objective One: Effect Of Occupational Health And Safety Awareness On Performance

The findings reveal that the association between awareness and performance of employees was positive significant and fairly strong (correlation coefficient of 0.433). From the descriptive analysis, the polled participants agreed that awareness of OHS helped improve the working conditions and resulted in enhanced performance. However, as a predictor OHS awareness was insignificant in the absence of organizational culture. Hypothesis one was therefore not rejected and alternative hypothesis adopted where OHS awareness led to improvement in performance outcome. This does not agree with Dessler (2005) and Mohammadfam, *et al.* (2017) who found a significant relationship between OHS awareness and performance. Curiously, when awareness interacts with the culture of the organization, the combined effect returns significant result.

5.3 Objective Two: Effect Of Occupational Health And Safety Inspection On Performance

A correlation Analysis for this objective indicate a weaker association (r= 0.37) between inspection and performance. A further test for its forecasting power reveal a significant predictor of performance of employees at the sugar companies at the 0.05 level in the absence of organizational culture and thus hypothesis two is rejected and alternative hypothesis adopted. This outcome is consistent with Hollnagel (2004), Sawe (2013) and Makori, *et al.* (2018). When interactive effects are studied, OHS inspection remains significant and leading in explaining variation of performance of employees in the Sugar Companies.

5.4 Objective Three: Effect Of Occupational Health And Safety Audit On Performance

The finding related to this objective was that the link between the two variables was very weak but significant at β =.251 from the correlation analysis. However, the variable could not be assumed a significant predictor of performance because of higher probability values obtained for significance than was hypothesized. Consequently, hypothesis three was not rejected. Again the presence of a moderator (culture) does not change the result in any significant way. This variable was therefore the weakest of the three in terms of power to forecast and degree of association. Cudjoe (2011), Tremblay and Badri (2018), Hollnagel (2004), and Mohammadfam, *et al.* (2017) share similar results on informal inspections, informal checks, internal monitoring and reporting working to improve performance.

5.5 Objective Four: Moderating Effect Of Organizational Culture On The Relationship Between Occupational Health And Safety Practices And Performance.

Data analysis result show that culture interacts significantly with awareness and inspection to improve the prediction power of these variables. The overall model validity with culture as an integral part of the equation improves to 26 percent from 15 percent although audit practice remains insignificant. Hence hypothesis four is rejected and alternative hypothesis adopted to mean that organizational culture mediated the relationship between OHS practices and performance in the sugar companies in Kisumu County.

5.6 Conclusion

Based on these findings, the study concluded that managers, OHS experts and officers need to appreciate the role of OHS policy and procedures in a work setting because of the contribution it makes to productivity. When employee feel safe and healthy then they are motivated to work harder more so if the environment is fair, supportive of their interests and concerns and guided by the rules and regulations. Health and safety policy programs and practices are important to employees of sugar companies in Kisumu County.

The most important OHS practice for employees of the sugar companies is inspection. A fairly strong link was established for awareness but OHS inspection was the most critical. Therefore, all aspects of inspection should be explored and the leadership in the sugar firms to implement. Awareness was high among employees surveyed but there was need to induct new employees and to intensify refresher training to keep employees alert to

present dangers at the work place. Frequent inspections of the firm facility, its materials and efforts greatly promote the safety and health status of staffs. OHS audit frequency was noted as low because the median rank places it at monthly and beyond. The long interval between audit exercises may not be effective at reducing incidents of accidents and injuries at the sugar companies studied. Continuous or more frequent monitoring of OHS procedures and compliance to standards would be more beneficial. Finally, organizational culture is a very important part of OHS practice. It interacts well with inspection and awareness to scale up forecasting power of the variables on performance.

5.7 Recommendation

i. Sugar company managers and OHS officials in Kisumu County should go beyond the establishment of policies, plans, and procedures to intensify inspection operations to reduce the likelihood of workplace accidents and injuries.

ii. Managers should build the right culture among employees, a culture of respect, citizenship, fair play and equity. A culture of risk aversion where identification, measurement and control become central to employee behavior. Culture built into a system endures and becomes the glue that binds members together.

iii. A more frequent audit and monitoring of OHS procedures should be embraced to diminish occurrence of risk, promote of good health and safety of employees and to improve performance.

iv. Sensitize employees about their role in maintaining a healthy and safe working environment through training, workshops, seminars and drills which is going to keep employees alert and prepared to respond to dangers that may occur at work.

5.8 Further Research

1. Research can be undertaken on the same topic in other manufacturing firms so as to establish the relationship between the findings and conclusions
2. Research can be undertaken to determine why Occupation health and safety inspection and audit frequency is lower than would be expected and how does this contribute to the accident rates and injuries at the work place.

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APPENDICES

Appendix I: Questionnaire

Do not write your name on this questionnaire. All information collected is for the purpose of answering the research topic on: Occupational Health and Safety Practices and Performance of Selected Sugar Companies in Kisumu County, Kenya. The research exercise is for the requirement award of MBA degree of Kenyatta university and will be treated with utmost confidentiality

SECTION A: DEMOGRAPHIC DATA:

Please tick one option for numbers (1-5).

1. Gender: Male [ ] Female[ ]

2. Age range.

18 – 25 [ ]

26 – 35 [ ]

36 – 45 [ ]

46 – 55[ ]

56 and above [ ]

3. Highest level of education.

Secondary school [ ]

Diploma [ ]

Degree [ ]

Masters and above [ ]

4. Marital status: Married [ ] Single [ ]

5. For how long have you been working in this company?

1-5 years [ ]

6-10 years [ ]

15 and above [ ]

6. Have you worked in another company before? YES [ ] NO [ ]

SECTION B: OCCUPATIONAL HEALTH AND SAFETY AWARENESS:

Please tick as appropriate.

NO.	OCCUPATIONAL HEALTH AND SAFETY AWARENESS	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
1	There is an occupational health and safety department.					
2	The company has occupational health and safety policy.					
3	You understand your company occupational health and safety policy.					
4	Occupational health and safety information provided to workers.					
5	Newly employed workers are trained on occupational health and safety practices.					
6	Workers get refresher trainings on occupational health and safety practices.					
7	My company has safety signs.					
8	I understand the safety signs in your company.					

SECTION C: OCCUPATIONAL HEALTH AND SAFETY INSPECTIONS:

Please tick appropriately

NO.	**How often are the following facilities inspected by your occupational health and safety officers?**	Daily	Weekly	Monthly	Yearly	Not at all
1	Availability of ventilation.					
2	Proper Lighting.					
3	Availability of Water safety policy.					
4	Cleanliness of toilets.					
5	Comfortable Chairs and Tables.					
6	Protective Equipment.					
7	First Aid Kit.					
8	Fire extinguishers.					

SECTION D: OCCUPATIONAL HEALTH AND SAFETY AUDIT:

Please tick appropriately

NO.	**How often do external occupational health and safety auditors check the following facilities?**	Daily	Weekly	Monthly	Yearly	Not at all
1	Worker sick off records.					
2	Adequacy of ventilation.					
3	Safe drinking water.					
4	Cleanliness of toilets.					
5	Suitable sanitary facilities.					
6	Use of Protective clothing.					
7	Functionality of fire extinguishers.					
8	Accident rates.					

SECTION E: ORGANIZATION CULTURE

Please tick one for every statement as may deem appropriate

NO.	**ORGANIZATION CULTURE**	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
1	All workers report on duty daily.					

2	Most workers fail to report on duty.					
3	Workers have acceptable values.					
4	Workers concentrate on their jobs.					
5	Workers are ready and able to combat work related hazards.					
6	Workers are prepared for disasters.					

SECTION F: WORK OUTPUT

NO.	**WORK OUTPUT**	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
1	The workers report on duty on time					
2	There are very few cases of absentees					
3	The workforce is highly motivated					
4	Workers are satisfied with their jobs					

Thank You!

Appendix II: Research Authorization

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: D53/KER/PT/26314/2013

DATE: 1st February, 2021

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR KIPKOECH RONO – REG. NO. D53/KER/PT/26314/2013.

I write to introduce **Kipkoech Rono** who is a Postgraduate Student of this University. The student is registered for MBA degree programme in the Department of Business Administration.

Kipkoech intends to conduct research for a MBA Project Proposal entitled, "Effect of Occupational Health and Safety Practices on Performance In Selected Sugar Companies in Kisumu County".

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
DEAN, GRADUATE SCHOOL

EM/lnn

Appendix III: Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **413869**

Date of Issue: **19/February/2021**

RESEARCH LICENSE

This is to Certify that Mr.. KIPKOECH RONO CHEPKWONY of Kenyatta University, has been licensed to conduct research in Kisumu on the topic: ASSESSMENT OF THE EFFECT OF OCCUPATIONAL HEALTH AND SAFETY PRACTICES ON PERFORMANCE IN SELECTED SUGAR COMPANIES IN KISUMU COUNTY for the period ending : 19/February/2022.

License No: **NACOSTI/P/21/9023**

413869

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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