

**THE CONTRIBUTION OF OCCUPATIONAL HEALTH AND SAFETY
KNOWLEDGE ON THE PERFORMANCE OF MBOZI COFFEE CURING
FACTORY IN MBOZI DISTRICT, TANZANIA**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE
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CERTIFICATION

The undersigned certify that, we have read and hereby recommend for acceptance by the Open University of Tanzania a research proposal titled: *“The Contribution of Occupational Health and Safety Knowledge on the Performance of Mbozi Coffee Curing Factory in Mbozi District, Tanzania”* in partial fulfillment of the Degree of Master of Human Resource Management (MHRM).

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DECLARATION

I, **Rahima Rajabu**, declare that, the work presented in this dissertation is original. It has never been presented to any other University or Institution. Where other people's works have been used, references have been provided. It is in this regard that, I declare this work as originally mine. It is hereby presented in partial fulfilment of the requirement for the award of the degree of Master of Human Resource Management (MHRM).

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Signature

.....

Date

DEDICATION

I dedicate this work to my family for their encouragement and support during my studies.

ACKNOWLEDGEMENTS

Thanks be to the Almighty God who helped me to have this work completed. I am also particularly indebted to Dr. Chacha Alfred Matoka and Dr. Salum Mohamed (my supervisors), for their tireless guidance and positive criticisms until this final product came true.

I owe special thanks to my lovely friend Hadija Musa Chima and Mr. Henry Evans (Chief Accountant of the Project) for their tireless encouragements. A notable gratitude should also go to my whole family for its support and encouragements. Lastly, this work cannot be free of errors and anomalies. I will always remain liable for the same.

ABSTRACT

This study investigated the contribution of occupational health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania. Specifically, the study determined the effect of employee safety training, safety-related information cognition and awareness of occupational safety policies. With the Multiple Causation theory, the study used the positivist philosophy and a quantitative approach in conjunction with an explanatory research design. Simple random sampling technique was used to select 144 respondents from a population of 224 employees. Data collection methods were questionnaires. Data were analysed descriptively and multiple linear regression analysis. Through regression analysis, the results showed that, employee safety training and safety-related information cognition positively and significantly affected to the performance of Mbozi Coffee Curing Factory in Mbozi district while awareness of occupational safety policies have an insignificant effect. It is concluded that, employee safety training and safety-related information cognition positively affect the performance of Mbozi Coffee Curing Factory. It is suggested that, human resource officers should enhance employee safety training and safety-related information cognition to improve the performance of Mbozi Coffee Curing Factory in Mbozi district. Occupational safety policies should not be ignored too.

Keywords: *Occupational health and safety knowledge, performance of Mbozi Coffee Curing Factory, employee safety training, safety-related information cognition, awareness of occupational safety policies*

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LIST OF ABBREVIATIONS

AOHSP:	Awareness Occupational Health and Safety Policies
DPGS:	Directorate of Post-Graduate Studies of the Open University of Tanzania
EST:	Employee Safety Training
FEs:	Factory Engineers
FTEs:	Full-Time Employees
HRMs:	Human Resource Managers
ILO:	International Labour Organization
MHRM:	Master's Degree of Human Resource Management
OPI:	Organisational Performance Indicators of Mbozi Coffee Curing Factory
OSHA:	Occupational Safety and Health Authority
SMs:	Section Managers
SRD:	Statista Research Department
SRIC:	Safety-Related Information Cognition
SSs:	Site Supervisors
TEs:	Temporary Employees

CHAPTER ONE

INTRODUCTION

1.1 Chapter Overview

This chapter introduces the study on the contribution of occupational health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania. It also provides the background to the study, statement of the problem and research objectives. Furthermore, it covers research questions, significance, scope and organisation of the study.

1.2 Background to the Study

Workers' health and safety at the workplaces have been a global significant concern (McGuire *et al.*, 2021). According to Statista Research Department-SRD (2022), up to 2021, it is assumed that, about 3.29 billion people in the world were spending most of their lives at the workplaces. Manufacturing industries or factories are sources of several physical hazards like heavy dusts, intense heat, noises or injuries which harm health and safety of workers, and ultimately negatively affect the productivity as well as profitability of that organisation (Abidin *et al.*, 2021; Thambura & Ikiara, 2020). Exposure to these hazards, solvents and other organic liquids can harm workers' organs such as liver, kidneys, heart, blood vessels, bone marrows, and neurological system (International Labour Organisation, 2023). It is, therefore, the employers' responsibility to provide their workers with healthy and safe working environments (United Nations, 2019).

The contribution of health and safety knowledge not only positively affects workplaces but also workers. For instance, Cowan *et al.*, (2021) posited that, health

and safety knowledge among the workers at the workplaces boosts efficiency, job satisfaction and loyalty; it creates a stronger sense of belongingness (Kessy & Raymond, 2021), more enthusiasm for work (Hidayat *et al.*, 2023), higher economic benefits, safe working places, work engagement (Venkataramanan, 2023), and organizational and employee job performance (Prieto & Talukder, 2023; Sears *et al.*, 2020).

Despite the benefits of the contribution of the same at the workplaces, evidence shows that, occupational health and safety knowledge in the world is still limited. Statistic by the International Labour Organisation (*ibid*) indicate that, 153 workers all over the world are injured at every 15 seconds and one worker dies of occupational injuries or diseases. Furthermore, it is presumed that, every year, about 3 million workers are subjected to occupational hazards and accidents (Aichouni *et al.*, 2023; Maksim & Elena, 2023). According to Tarique, Briscoe, and Schuler (2022), the workers of the manufacturing industries encounter workplace illness and accidents that lead to damage of their health and economic losses.

For instance, in Greece, 44.3% of employees working in the restaurant had experienced occupational accidents while 56.7% did not have any knowledge of their being exposed to dangers at their workplaces resulting in a lack of production in 2020 (Dapari *et al.*, 2023). In Malaysia, data depicted that, in 2021, there were 7 994 injury cases in manufacturing sector followed by the construction sector (2 297 cases), and wholesale and retail trade (1 979 cases) leading to low production (Ali & Zulkaple, 2023). These were due to workers' inability to handle harmful chemicals,

forklift operation, working at heights, or lack of awareness about dust collector, ineffective scheduled waste disposal and entering restricted spaces (Ali & Zulkaple, *ibid*). Similarly, Naji *et al.*, (2021) recorded 35 304 industrial accidents in 2016 and 36 661 cases in 2017. In Russia, 20.5 thousand workers suffered accidents at the workplaces due to harmful or hazardous ashes in 2020 resulting to ineffective performance (the Russian Federation, Moscow, 2021). In Saudi Arabia, in the first half of 2020, there were 12 842 cases of injuries in the private supply chain and logistics sector where 683 employees got cured without disabilities, while 152 workers were cured but with permanent disabilities leading to low profits (Saudi Gazette, 2021).

Sub-Saharan Africa is no immune of negative effects of the lack of occupational health and safety knowledge among employees at the coffee processing factories. Empirical evidence in Ethiopia, Debela *et al.*, (2023) highlighted that, 73.4% of workers encountered occupational accidents by failing to appropriately use personal protective equipment or follow commands of occupational safety. In Rwanda, evidence shows that, 63.6% of workers inaccurately followed safety procedures at workplaces, 60.5% had insufficient knowledge of workplace health and safety laws (Mwezi & Wabala, 2023; Umugwaneza *et al.*, 2019). In Ghana, about 88% of the accidents in 2020, emanated from employees' risky and negligent behaviours (Segbenya & Yeboah, 2022).

In curbing and reducing occupational health and safety risks at the workplaces, the government of Tanzania enacted the Occupational Health and Safety Act of 2003.

This law together with its regulations of 2015, created the Occupational Health and Safety Authority (OSHA) to regulate health and safety at the workplaces stipulating various measures to be provided to the employees by the administration (Emmanuel & Abduel, 2023). These measures included: taking frequent and regular medical examinations, fencing of prime movers and transmission machinery, provision of protectives and so forth. Despite the measures taken in curbing and reducing occupational health and safety risks at the workplaces, the situation is contrary. For example, workers in Dar es Salaam lamented for unsafe environments and surroundings, several accidents due to their negligent behaviours and low knowledge concerning occupational health and safety (Kessy & Raymond, 2021). Similarly in Iringa municipal council, Emmanuel and Abduel (2023) found that, there were ineffective preventive and control measures among the workers. Additionally, Bråtveit, Abaya, Sakwari, and Moen (2021), in Songwe region, there was a tremendous dust exposure where respiratory symptoms such as lung dysfunctions among male coffee workers were high and prevalent. This is equally supported by Mekonnen, Solomon, Wondimu, Tesfaye, and Negash (2022) in Mbeya region who found that, occupational injuries and other work-related symptom were prevalent among the coffee processing workers.

This study was guided by the Multiple Causation Theory as it was put forward by Gordon in 1949 (Certificate for Occupational Safety Managers, 2023). It states that, accidents are caused by many contributing factors which are man, machine (equipment, vehicle), media (environment, weather, contaminants policy, procedure, communication) and the management (Necci *et al.*, (2019). Liu, Nkrumah, Akoto,

Gyabeng, and Nkrumah (2020) posited that, for the prevention of multiple causation of accidents, the management should provide comprehensive training, education and skills to workers, promote a culture of occupational safety policy awareness and cognition of safety information. Based on the facts above, this study examined the effect of employee safety training, safety-related information cognition and awareness of occupational safety policies on the performance of Mbozi coffee culling factory in Mbozi district, Tanzania.

1.3 Statement of the Problem

The benefits of the acquisition of health and safety knowledge among employees in the manufacturing industries are still limited despite their importance not only to employees themselves but also to the organisation. This is due to several factors including inability to handle harmful chemicals, lack of dust collector awareness, failure to follow safety procedures at work, insufficient knowledge of workplace health and safety laws negatively affected organisational performance (Ali & Zulkaple, 2023; Dapari *et al.*, 2023; Mwezi & Wabala, 2023; Naji *et al.*, 2021; Segbenya & Yeboah, 2022).

Several studies have examined the contribution of occupational health and safety knowledge among employees but in the construction sector (Sharar *et al.*, 2022), educational institutions (Gajek *et al.*, 2022) and healthcare (Clay-Williams *et al.*, 2020) but they did not assess the contribution of the same in the manufacturing factories. Additionally, those which assessed the contribution of health and safety knowledge among employees and the performance of the manufacturing industries or

factories focused on workers' failure to appropriately use personal protective gears and failure to follow occupational safety commands (Debela *et al.*, 2023), insufficient knowledge of workplace health and safety laws (Mwezi & Wabala, 2023), safety communication and feedback, safety rules and protocols (Perera, 2019) but none attempted to focus on the effect of employee safety training, safety-related information cognition and awareness of occupational safety policies on the performance of Mbozi Coffee Curing Factory in Mbozi district, Songwe, Tanzania.

1.4 Objectives of the Study

1.4.1 General Objective

This study assessed the contribution of occupational health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania.

1.4.2 Specific Objectives

In order to answer the general objective, this study set the following specific objectives:

- i. To determine the effect of employee safety training on the performance of Mbozi coffee curing factory in Mbozi district;
- ii. To determine the effect of safety-related information cognition on the performance of Mbozi coffee curing factory in Mbozi district; and
- iii. To determine the effect of the awareness of occupational safety policies among employees on the performance of Mbozi coffee curing factory in Mbozi district.

1.5 Research Questions

- i. How does employee safety training influence the performance of Mbozi coffee curing factory in Mbozi district?
- ii. Is there any significant relationship between safety-related information cognition and the performance of Mbozi coffee curing factory in Mbozi district?
- iii. To what extent does awareness of occupational health and safety policies affect performance of Mbozi coffee curing factory in Mbozi district?

1.6 Significance of the Study

This study would add new knowledge to the existing literature concerning the contribution of occupational health and safety knowledge on organisational performance. In addition, the results of this study would enable health and safety policy makers to evaluate various strategies and implement new ones for achieving a healthier and safer working environment at the workplaces. Besides, this study would save as reference material for different researchers on the influence of safety knowledge on the performance and productivity of an organisation.

1.7 Organisation of the Study

This study is comprised of five chapters. Chapter one was all about the background to the study, problem statement and research objectives. Furthermore, significance and scope of the study were addressed. Chapter two reviewed the related literature about the study, definitions of terms, theoretical and empirical literature reviews. Additionally, the chapter presented research gaps, conceptual framework as well as

research hypotheses. Chapter three was about research methodology where research philosophy, approach and design were discussed. Furthermore, the chapter discussed the targeted population, study area, sample size and sampling techniques, and methods for collecting data. Others were data analysis procedure, validity and reliability of research instruments, ethical issues and considerations. Chapter four presented the findings as well as the discussions while chapter five dealt with the findings' summary, implication, conclusions, limitations as well as recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Chapter Overview

This chapter reviews on the studies that investigated about the contribution of occupational health and safety knowledge on the performance of processing industries. It is organised into: definitions of key terms, theoretical and empirical literature reviews, research gaps as well as conceptual framework.

2.2 Definitions of Key Terms

2.2.1 Occupational Health and Safety

Rajput, Sharma, and Joshi (2023) defined occupational health and safety as a state of creating a secure working environment for employees and the community. Segbenya and Yeboah (2022) were of the views that, occupational health and safety is a condition in which occupational risks and situations that can harm an employee's body, mental or any material are controlled by the administration. This study adopted Segbenya and Yeboah's definition because it explained how risky situations are controlled by the administration in various workplaces.

2.2.2 Employee Safety Training

According to Ndile *et al.*, (2020), employee safety training is the practice of inducing safety knowledge, compliance, and engagement and practices among employees at their workplaces; while Umugwaneza, Nkechi, and Mugabe (2019) defined employee safety training as an act of providing the needed safety education for the purpose of improving employees' skills and knowledge that can influence their

behaviours and practices to carry out their assigned tasks safely intended to avoid accidents, enhance their confidence and improve their efficiency. This study adopted Umugwaneza's definition because it provided the need for training and education on occupational health and safety at the workplaces.

2.2.3 Safety-Related Information Cognition

Guo *et al.*, (2022) defined safety-related information cognition as the ability of using signals and alerts to react against dangers at the workplace. According to Shi, Tan, and Li (2021), safety-related information cognition is the ability of an employee to be aware of the hazard, knowing its dangerous effect, choosing safe behaviour, and be able to avoid the risk. This study used the definition of Guo *et al.*, because it explained about an employee's ability to recognize and appropriately react against various signals and alerts of dangers in the factories.

2.2.4 Awareness of Occupational Safety Policies

Petrofac limited (2023) defined awareness of occupational safety policies as compliance with all relevant legislations, standards and internal procedures by both employers and employees guiding elimination and preventing of occupational diseases and accidents. Snare, Mills, Genderson, and Gunn (2022), defined awareness of occupational safety policies as those pieces of writings that enforce and stipulate safety standards. This study adopted Petrophic's definitions because it explained about awareness of occupational safety policies in terms of legislations and procedure of both an employer and an employee to eliminate and prevent occupational diseases and accidents at the workplaces.

2.2.5 Organisational Performance

According to Thathsara and Sutha (2021), organisational performance is an outcome of all operations carried out by a certain institution and that their defects are reflected in the institution. Accordingly, Klink *et al.*, (2020), organisational performance referred to the capacity of an organisation to fulfill its set goals through strong corporate governance, efficient management, and a consistent commitment in order to achieve the intended outcomes. Klink *et al.*, definition used in this study because it elaborated how organisational performance is attained.

2.3 Theoretical Literature Review

This study was anchored on the Multiple Causation theory. According to the Certificate for Occupational Safety Managers (2023), this theory was postulated by Gordon in 1949. As per this theory, Necci *et al.*, (2019) posited that, there exists many contributing factors causing accidents and these factors can be man, machine (equipment, vehicle), media (environment, weather, contaminants policy, procedure, communication) and the management. Asad (2019) argued that, the management has to identify those factors and provide necessary measures for prevention of future accidents and injuries. Liu *et al.*, (2020) posited that, for the prevention of the multiple causation of accidents, the management should provide comprehensive training, education and skills to workers, promote a culture of safety policy awareness and cognition of safety information.

This theory has several strengths. According to Tong *et al.*, (2020), this theory enhances knowledge about the causes and prevention of accidents; it improves safety

information, reduced fatal injuries and illness rates among individuals. It also leads to a more scientific approach and greater cost-effective intervention strategies.

However, this theory is faced with some weaknesses. Zhang *et al.*, (2019) were of the views that, the theory does not take into account the age and experience of employees while evaluating the risks; it transfers control of events into the hands of an employee rather than a victim of environmental conditions, health and safety training of employees though required it is limited and obstructed due to financial barriers.

Despite its weaknesses, this theory fitted this study due to the fact that, it highlighted about the contribution of health and safety knowledge on the performance of the manufacturing sector. Additionally, the theory provided some variables to consider in the current study like employee safety training, a culture of safety policy awareness and cognition of safety information among employees and the management.

2.4 Empirical Literature Review

This sub-section discusses the effect of employee safety training, safety-related information cognition and awareness of occupational health and safety policies on the performance of the manufacturing industries.

2.4.1 Effect of Employee Safety Training

In Malaysia, Hafiz and Mohd-Adi (2023) assessed the “safety training and workers’ participation that affected safety performance in in manufacturing sectors.” This

study used a quantitative research approach with a descriptive survey design. Questionnaires were used for collecting data. Data were analysed by the use of Spearman's correlation coefficients. The results showed that, employee safety training positively affected safety performance of the manufacturing sector.

Ghahramani, Ebrahimi, and Hajaghazadeh (2023) carried a study on the "development and psychometric evaluation of an occupational health and safety performance tool for manufacturing companies in Iran." The study adopted a quantitative approach. Questionnaires were used for collecting data. Inferentially analysis through correlation coefficients and confirmatory factor were used to analyse data. The results indicated that, employee safety training positively and significantly influenced the performance of manufacturing companies.

Recently in Kenya, Mwaruta, Karanja, and Kamaara (2023) assessed the "effect of occupational safety and health training on performance of cement manufacturing firms." This study adopted the Entropy Model and Human Factor theory. It also employed a mixed-methods approach together with a descriptive survey design. Questionnaires, interviews and observations were employed in collecting data.

Through multiple linear regression analysis, the findings indicated that, occupational safety and health training significantly and positively affected the performance of the cement manufacturing firms as accidents drastically declined due to wasting of resources and low productivity, absenteeism, loss of time by making follow-ups about healthcare and compensation.

Obong *et al.*, (2021) evaluated the “influence of health and safety training, safety monitoring and enforcement of compliance on employee efficiency in manufacturing firms in Nigeria.” Quantitative research approach with a descriptive survey design were employed. Questionnaires were used for collecting data and the same were inferentially analysed. The results established that, there was a significant and positive effect between health and safety training and employee efficiency and the manufacturing firms; performance because accidents and injuries declined at the workplaces.

2.4.2 Effect of Safety-Related Information Cognition

In the United States of America, Hernández, Martínez, and Zubirías (2023) carried the study on the “effect of occupational health conditions and digital communications in the manufacturing industry.” The study used a quantitative method research approach with a descriptive survey design. The methods for data collection were questionnaires; data were descriptively and inferentially analyzed. The findings indicated that, occupational health, safety information sharing and cognition positively affected the productivity of the manufacturing industry.

Zhang, Liu, Mei, and Zhang (2023) evaluated the “influence of work safety information disclosure on performance of listed companies in high-risk industries in China.” This study employed a quantitative research approach. Close-ended questions were used for collecting data. Descriptive statistical results were presented through mean scores, median and standard deviation values together with multiple regression analysis. The findings established that, the disclosing of safety

information and cognition positively impacted the financial and safety performance, and social reputation of the corporate companies.

In Kenya, Kiprotich (2022) assessed the “influence of information sharing on performance of manufacturing firms.” Quantitative method research approach together with explanatory research design were used in this study. Questionnaires were used for collecting data and the same were analysed descriptively and through inferential analysis. The findings indicated that, safety information cognition positively and significantly affected the manufacturing firms' performance.

2.4.3 Effect of Awareness of Occupational Safety Policies

Younos and Fathi (2023) recently examined the “impact of occupational safety and health on performance improvement in water service projects in Malaysia.” The study used a quantitative method approach with a descriptive survey design. Questionnaires were used for collecting data and descriptive and inferential statistics were used to analyze the same. The results showed that, workers were aware of the requirements stipulated in the occupational safety and health policies which improved the performance of water service projects.

In India, Rajuskar and Warule (2020) conducted a study on “safety environment in manufacturing industry.” This study used a quantitative method research approach in conjunction with a descriptive survey design. Structured questions were the only tools for collecting data. The results indicated that, employees were aware of health

and safety policies which later improved the performance associated with manufacturing industries.

Segbenya and Yeboah (2022) carried a study on the “effect of occupational health and safety on employee performance in the construction sector in Ghana.” The study employed a quantitative method research approach with a descriptive survey design. Questionnaires were the only methods for collecting data and they were analyzed through mean scores, standard deviations and multiple linear regressions. Findings established that, workers recognized the occupational health and safety policies significantly and positively affected the performance of an organization.

In Nigeria, Obong *et al.*, (2021) evaluated the “influence of health and safety training, safety monitoring and enforcement of compliance on employee efficiency in manufacturing firms.” This study employed a quantitative approach together with a descriptive survey design. Closed-ended questions were employed for collecting data. Data were analyzed by the confirmatory factor analysis and inferential statistics. The results indicated that, workers were aware of the health and safety policies. It was also recognized that, awareness of the occupational health and safety policies were statistically significant to the performance of the manufacturing firms.

2.5 Research Gap

Contextually, little attention was given on the contribution of occupational health and safety knowledge on the performance of coffee processing factories both internationally and locally (Debela *et al.*, 2023; Mwezi & Wabala, 2023; Perera,

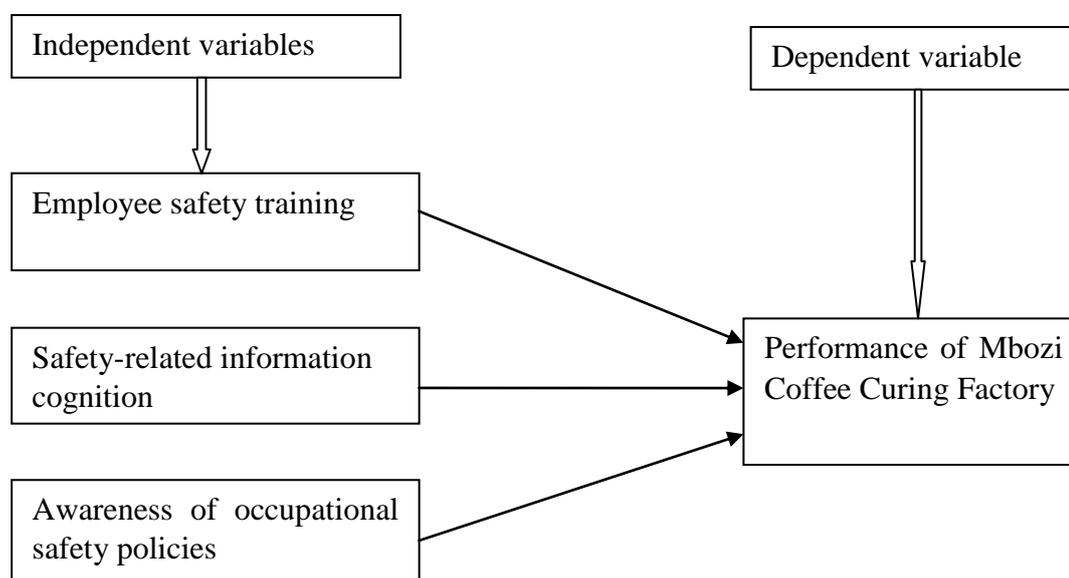
2019). These studies focused on the effect of workers' failure to appropriately use personal protective equipment and occupational safety commands; others were insufficient knowledge of workplace health and safety laws, communication and feedback, rules and protocols about safety. The one which was conducted in Songwe region (Bråtveit *et al.*, 2021), delved on the effects of tremendous dust exposure which led to higher prevalence of lung dysfunctions among male coffee workers unlike the current study which created awareness on various strategies employed in curbing and preventing occupational health and safety situations. It also filled in a knowledge gap delving on the effect of employee safety training, safety-related information cognition and awareness of occupational safety policies on the performance of Mbozi Coffee Curing Factory in Mbozi district in Songwe region because these variables were not assessed by the former studies.

In regard to the theory used by previous studies, none of the reviewed literature was anchored on the Multiple Accidents Causation theory like the current study but on Human Factor theory (Mwaruta *et al.*, 2023).

2.6 Conceptual Framework

The conceptual framework of the study encompassed of three independent variables and one dependent variable as shown below:

Figure 2.1: A summary of the Interrelations of the Study Variables



Source: Gordon's Multiple Causation theory (1949)

2.7 Theoretical Framework

Figure 2.1 above illustrated about the contribution of occupational health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania. The independent variables (IVs) were employee safety training, safety-related information cognition, and awareness of occupational health and safety policies whereas the dependent variable (DV) was the performance of Mbozi Coffee Curing Factory. The researcher believed that, there was a statistical relationship between or among the variables. The assumptions were that, the acquisition of knowledge by the employees on safety training, safety-related information cognition and awareness of occupational health and safety policies significantly and positively affected the performance of Mbozi Coffee Curing Factory in Mbozi district. Likewise, lack of the knowledge by the employees on safety training, safety-related information cognition, and awareness of occupational health and safety policies

would negatively affect the performance of Mbozi Coffee Curing Factory in Mbozi district.

2.8 Research Hypotheses

This study used the null research hypotheses. These were:

H₀₁: There is no any statistical positive and significant effect between employee safety training and the performance of Mbozi coffee curing factory in Mbozi district.

H₀₂: There is no any significant and positive effect between safety-related information cognition and the performance of Mbozi coffee curing factory in Mbozi district.

H₀₃: There is no any statistically significant and positive effect between the awareness of occupational safety policies among employees and the performance of Mbozi coffee curing factory in Mbozi district.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Chapter Overview

This chapter discusses about research philosophy, approach and design. It further discusses about area of the study, targeted population, sample size and sampling procedures. Others are the methods for collecting data, data analysis procedure, as well as, ethical issues and considerations.

3.2 Research Philosophy

This study was guided by the positivist philosophy. The positivist philosophy allows the researcher to present questions in the real world and allows the nature to give answers while allowing the same to gather numerical data and present them quantitatively (Handema *et al.*, 2023). It also assumes that, independent and dependent variables are statistically related (Maksimović & Evtimov, 2023). It also aims at minimizing the influence of external factors and maximize the independent variables' influences on dependent variables (Park, Konge, & Artino, 2020). This positivist approach was preferred to be used in this study due to the fact that, the same collected numerical data (quantitative) through questionnaires unlike the interpretivist philosophy which gathers only qualitative data and presents them as narrations. Positivist philosophy also enabled the researcher to compare and relate both independent and dependent variables of this study on the performance of Mbozi Coffee Curing Factory in Mbozi district.

3.3 Research Approach

This study adopted a quantitative research approach. This approach was preferred to

because it helped the researcher to obtain numerical data which allowed easy development of a statistical relationship between or among variables of the current study (Alharahsheh & Pius, 2020).

3.4 Research Design

This study employed an explanatory research design. According to Dawadi, Shrestha, and Giri (2021), an explanatory study explains and accounts for the descriptive information which looks for causes and effects while supporting or refuting the prediction; it also discovers and reports statistical relationship among the variables under the study. This research design was opted for because it provided a real-life situation and enabled explanation of the lived respondents' experiences and perceptions in relation to the contribution of occupational health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district. Additionally, this design deemed appropriate to this study because it enabled the researcher to support or refute the strategies used in curbing and preventing occupational health and safety in Mbozi Coffee Curing Factory. It was also relevant to the philosophy used in this study since it made it easy to report statistical relationship between or among the variables under the study.

3.5 Area of the Study

The study covered the geographical boundaries of Mbozi district in Songwe region. Currently, this area has a single coffee processing factory called Mbozi Coffee Curing Company (T) Limited. The area was chosen because factory workers were challenged with physical hazards like heavy dusts leading to respiratory diseases

such as dry cough, chest tightness, chest wheezing, and breathlessness) the situation which negatively affected the production of the factory (Bråtveit *et al.*, 2021; Mekonnen *et al.*, 2022). This situation motivated and interested the researcher to determine the effect of employee safety training, safety-related cognition and awareness of occupational health and safety policies in contributing to health and safety knowledge in relation to the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania.

3.6 Targeted Population

In this study, the targeted population was 224 participants from various sections, departments and units of Mbozi coffee curing factory. According to the Coffee Processing Factory Human Resource Office (2024), Mbozi Coffee Curing Company (T) Limited had 5 section managers (SMs), 10 site supervisors (SSs), 4 human resource managers (HRMs), 5 factory engineers (FEs), 200 full-time (FTEs). Section managers, site supervisors, human resource managers and factory engineers were selected because of their being supervisors and having a responsibility of protecting workers under them; full-time workers were selected because they were in most cases exposed to the dangers of dusts, harmful ashes and solvents. These were in a position to share with the researcher how they protected themselves from the rigors of these harmful substances. Table 3.1 summarizes the distribution of the targeted population of this study.

Table 3.1: Population Distribution

S/N	Category	Population
1.	Section Managers (SMs)	05
2.	Site Supervisors (SSs)	10
3.	Human Resource Managers (HRMs)	04
4.	Factory Engineers (FEs)	05
5.	Full-time Employee (FTEs)	200
	Total	224

Source: Mbozi Coffee Curing Factory's Human Resource Office (2024)

3.7 Sample Size and Sampling Techniques

The sample size and sampling techniques were presented and discussed in this section.

3.7.1 Sample Size

This study's sample size was calculated by the Yamane's formula (1967) [$n = N/1+N*(e)^2$] where: n = sample size, N = population, e = error limit (0.05=5%) assuming 95% as confidence level, and 1= constant. In this study $N= 224$ while n was unknown.

Therefore, from the formula above, n was determined as follows:

$$n = \frac{224}{1 + 224 * (0.05)^2}$$

$$n = \frac{224}{1.56}$$

$$n = 144$$

Therefore, this study involved a total of 144 participants (3 SMs, 5 SSs, 2 HRMs, 3 FEs and 131 FTEs) as indicated in Table 3.2.

Table 3.2 Distribution of Respondents (n=144)

Respondent's Category	Frequency (f)	Percentage (%)
Section Managers (SMs)	03	2.1
Site Supervisors (SSs)	05	3.4
Human Resource Managers (HRMs)	02	1.4
Factory Engineers (FEs)	03	2.1
Full-time Employee (FTEs)	131	91.0
Total	144	100.0

Source: The Researcher (2024)

3.7.2 Sampling Techniques

This study used a probability sampling technique to select 144 participants from various categories within which simple random sampling was used. This technique was applied in each department, unit or section. Papers with letters and those without numbers were put in a bucket where every participant in a particular department, unit or section was allowed to pick one of the papers.

Those who hand-picked papers with letters in the particular category were involved in the study. This activity was done to all categories until all 144 participants were selected. This technique was used because it enabled every participant to be selected in the study without being discriminated (Bhardwaj, 2022).

3.8 Data Collection Methods

Only primary method was used for data collection.

3.8.1 Primary Data

According to Taherdoost (2021), primary method always collects information from the first-hand source, using methods such as surveys, interviews, questionnaires or experiments.

3.8.2 Tools Used to Collect Data

In this study, questionnaires enabled the researcher to collect quantitative data from the participants. The series of structured questions were distributed to 144 participants. Structured questions were preferred to because they allowed respondents to give specific answers (Bhardwarj, 2022) on the contribution of employee safety training, safety-related information cognition, and awareness of occupational health and safety policies on the performance of Mbozi Coffee Curing Factory in Mbozi district.

3.8.3 Variables and Measurement Procedures

In this study, all independent variables (employee safety training, safety-related information cognition, and awareness of occupational safety policies) and one dependent variable (performance of Mbozi Coffee Curing Factory) were measured by using the Likert rating scale.

This scale had 5 alternatives (*1=strongly disagree, 2=disagree, 3=undecided, 4=agree, and 5=strongly agree*). This 5-Likert rating scale was opted for because the researcher intended to obtain opinions and experiences regarding the contribution of health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania.

3.9 Data Analysis Procedure

3.9.1 Descriptive Statistics

In this study, data were analyzed through descriptive statistics and the multiple linear regression analysis by the help an SPSS computer programme version 28.0. The mean scores were preferred because they showed how an individual responded while standard deviations showed disparity of their responses between the mean scores and standard deviations. The multiple linear regression analysis was computed to establish a statistical relationship between or among the variables.

3.9.2 Multiple Linear Regressions

Additionally, the multiple linear regression analysis was computed to establish a statistically significant level between independent variables. The $p\text{-value} \leq 0.05$ was used to measure the significance levels of the statistical relationship between or among the variables. The multiple linear regression was specified as follows: $Y = a + b_1X_1 + b_2X_2 + b_3X_3$, where Y = dependent variable (performance of Mbozi Coffee Curing Factory), X_s = independent variables, a = Y intercept, where the regression line crosses the Y axis, b_1 = the partial slope for X_1 on Y , X_1 = employee safety training, X_2 = safety-related information cognition and X_3 = awareness of occupational health and safety policies.

3.9.3 Assumptions of Multiple Linear Regression Model

It is assumed that, the multiple linear regression model underlie with some error terms. According to Jarantow *et al.*, (2023), five assumptions of error terms exist which include: *linearity* which is checked and tested by a scatter plots where

independent and dependent variables are assumed to be linear; and if not, the results are expected to be not correct; *multicollinearity* which is tested by using variance inflation factor (VIF) and the level of tolerance in which independent variables are assumed not to be independent of each other. The level of tolerance is set from 0 to 1. *Homoscedasticity* which is tested by the plots of standardized values computed by model against the standardized residuals observed; where the variance of error terms along regression is assumed to be equal and constant. Others include *normality of residuals* which is tested by the P-P plots to indicate a fairly straight relationship of data in which it is assumed that, the residuals must be normally distributed; finally, *autocorrelation* is tested by a Durbin Watson statistics where errors are assumed to be statistically independent of one another.

3.10 Validity and Reliability of Research Instruments

This section discussed validity and reliability of research instruments.

3.10.1 Validity of Research Instruments

In this study, the content validity was used to determine the instruments' validity. Various expertise were consulted. These included supervisors, researcher's fellow students and academicians. The opinions from the supervisors, fellow students and some academicians were used to assist the researcher to refine the instruments before collecting data (Sugiarta, Arofiati, & Rosa, 2023).

3.10.2 Reliability of Research Instruments

In this study, the Cronbach's Alpha was calculated by using the SPSS version 28.0 computer programme to determine internal consistencies of variables. Internal

consistencies of variables range from 0 to 1 values meaning that, 1 being the perfect consistency (Jiaoa & Sang, 2023). According to Coleman (2021), the scale with Cronbach's Alpha between .70 and above is considered good and acceptable.

3.10.3 Individual Item Reliability Scale Results

This study comprised of four variables (3 independent and 1 dependent variables). Cronbach's Alpha was tested among the variables before they were distributed to the participants. Table 3.3 presents the results of the internal consistency tests on variable reliabilities. The Cronbach's Alpha for employee safety training with 5 items was .862 found to be good and acceptable whereas that of safety-related information cognition with 6 items indicated .877 signifying good and acceptable. The Cronbach's Alpha regarding awareness of occupational safety policies with 6 items was .658 which was moderate and acceptable; while the internal consistency of performance of Mbozi Coffee Curing Factory with 4 items was .958 indicated very good and acceptable.

Table 3.3: Individual Item Reliability Scale Results

S/N	Variable	Cronbach's Alpha	Cronbach's Alpha Based on Items Standardised Items	No. of Items	Strength of Association
1.	EST	.862	.861	5	Good and acceptable
2.	SRIC	.877	.877	6	Good and acceptable
3.	AOHSP	.658	.660	6	Moderate and acceptable
4.	OPI	.958	.959	4	Very good and acceptable

EST=Employee Safety Training, SRIC=Safety-Related Information Cognition,

AOHSP =Awareness Occupational Health and Safety Policies, OPI=Organisational Performance Indicators of Mbozi Coffee Curing Factory

Source: Data Analysis (2024)

3.11 Ethical Issues and Considerations

In this study, ethical issues and considerations were observed. Before collecting data for this study, the researcher procured permission letters from various authorities. Then, the researcher visited the selected places and explained the purpose of the study. Thereafter, the same asked for voluntary consent of all participants to participate in the study and they were explained that, their confidentialities were to be observed. Nobody was allowed to disclose his/her name, department, section or unit.

CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.1 Chapter Overview

This chapter presents the findings of the study that investigated the contribution of occupational health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania. In this study, 144 respondents received the questionnaires which were also worked upon and thoroughly returned amounting to 100 percent. Additionally, the findings are organised into the following sub-sections: descriptive statistics for sample characteristics, effects of employee safety training, safety-related information cognition, and awareness of occupational health and safety policies, and finally, performance of Mbozi Coffee Curing Factory in Mbozi district. Wherever the mean scores and standard deviations are used to present data, they are interpreted as follows: 1.00–1.79 strongly disagree, 1.80–2.59 disagree, 2.60–3.39 undecided, 3.40–4.19 agree, and finally, 4.20–5.00 strongly agree.

4.2 Sample Characteristics

The age of the majority of the participants at Mbozi Coffee Curing Factory was between 18–25 years and were 70 (48.6%) while those with 26–35 years were 33 (22.9%). Furthermore, those with 36–45 years were 28 (19.4%) while those with 46 and above years were 13 (09.0%). The participants' overall mean score for the age was 1.89 with a standard deviation of 1.018.

Gender descriptions of the participants is that, 104 (72.2%) were males while 40 (27.8%) were females. The participants' overall mean score was 0.72 with a standard deviation of 0.449.

The levels of education of the participants follow that, the diploma holders were 66 (45.8%) followed by 37 certificate holders equivalent to (25.7%). The Bachelor degree holders were 34 equivalent to (23.6%) while Master degree holders were 07 equivalent to (04.9%). There was no any participant with the Directorate Degree (PhD). The participants' overall mean score was 2.08 with a standard deviation of 0.829.

The staff occupation of the participants followed that, most of them were full-time employees. These were 131 (91.0%) followed by 05 site supervisors (03.5%). Others included 03 section managers and 03 factory engineers equivalent to (02.1%) respectively. The last cadre was human resource managers. These were 02 with (01.4%). Their overall mean score was 4.76 with a standard deviation of 0.819.

Table 4.1: Sample Descriptions

S/N		Frequency	%	Mean	Std. Dev.
	Age			1.89	1.018
1.	18–25	70	48.6		
	26–35	33	22.9		
	36–45	28	19.4		
	46 and Above	13	09.0		
	Total	144	100.0		
2.	Gender			0.72	0.449
	Males	104	72.2		
	Females	40	27.8		
	Total	144	100.0		
3.	Education Levels			2.08	0.829
	Diploma holders	66	45.8		
	Certificate holders	37	25.7		
	Bachelor degree holders	34	26.3		
	Master degree holders	07	04.9		
	PhD holders	NIL	NIL		
	Total	144	100.0		
4.	Staff Occupation			4.76	0.819
	Full-time employees	131	91.0		
	Site supervisors	05	03.5		
	Section managers	03	02.1		
	Factory engineers	03	02.1		
	Human resource managers	02	01.4		
	Total	144	100.0		

Source: Field Data Analysis (2024)

4.3 The Effect of Employee Safety Training on the Performance of Mbozi Coffee Curing Factory

The first specific objective of the study determined the effect of employee safety training on the performance of Mbozi Coffee Curing Factory in Mbozi district. Table 4.2 presents the output results of the descriptive statistics (mean scores and standard deviations) on the effect of employee safety training on the performance of Mbozi Coffee Curing Factory. The findings indicated that, employee safety training helps the organization avoid costly legal issues due to occupational-related illnesses (M=3.57, SD=1.352), improves employee skills to handle occupational health and

safety emergencies (M=3.45, SD=1.467) and it prevents employee turnover due to occupational-related illnesses (M=3.43, SD=1.299). That, employee safety training enhances employee abilities to identify occupational risks at the workplaces (M=3.01, SD=1.327), the item remained undecided. However, respondents disagreed that, employee safety training enhances employee skills to analyze the magnitude of occupational risks at the workplace (M=2.46, SD=1.486).

Table 4.2: Descriptive Statistics for the Effect of Employee Safety Training (n=144)

Activity	M	SD
Employee safety training helps the organization avoid costly legal issues due to occupational-related illnesses	3.57	1.352
Employee safety training improves employee skills to handle occupational health and safety emergencies	3.45	1.467
It helps the organization to prevent employee turnover due to occupational-related illnesses	3.43	1.299
It enhances employee abilities to identify occupational risks at the workplaces	3.01	1.327
It enhances employee skills to analyze the magnitude of occupational risks at the workplace	2.46	1.486

Source: Field Data Analysis (2024)

4.4 The Effect of Safety-Related Information Cognition on the Performance of Mbozi Coffee Curing Factory

The second specific objective of the study determined the effect of safety-related information cognition on the performance of Mbozi Coffee Curing Factory in Mbozi district. Table 4.3 presents the output results of the descriptive statistics (mean scores and standard deviations) on the effect of safety-related information cognition on the performance of Mbozi Coffee Curing Factory. The results established that, workers share health and safety-related information to reduce risks at the workplace (M=3.70,

SD=1.333) and understand safety-related information laws (M=3.56, SD=1.388). However, the respondents disagreed that, they integrate health and safety-related information into daily health and safety management (M=2.84, SD=1.408) and comply with safety-related information regulations at the workplace (M=2.58, SD=1.366); furthermore, they disagreed that, they use health and safety-related information correctly at the workplaces (M=2.31, SD=1.325) and the factory management implement appropriate corrective health and safety measures (M=2.00, SD=1.263).

Table 4.3: Descriptive Statistics for the Effect of Safety-Related Information

Cognition (n=144)

Activity	M	SD
Workers share health and safety-related information to reduce risks at the workplace	3.70	1.333
Workers understand safety-related information laws	3.56	1.388
Workers integrate health and safety-related information into daily health and safety management	2.84	1.408
Workers comply with safety-related information regulations at the workplace	2.58	1.366
Workers use health and safety-related information correctly at the workplaces	2.31	1.325
Factory management implements appropriate corrective health and safety measures	2.00	1.263

Source: Field Data Analysis (2024)

4.5 The Effect of Awareness of Occupational Safety Policies on the Performance of Mbozi Coffee Curing Factory in Mbozi District

The last specific objective of the study determined the effect of the awareness of occupational safety policies on the performance of Mbozi Coffee Curing Factory in Mbozi district. Table 4.4 presents the output results of the descriptive statistics on the

effect of the awareness of occupational safety policies on the performance of Mbozi Coffee Curing Factory. The results in regard to the awareness of occupational safety policies, employees agree that, they are advised to proactively enhance health and safety measures (M=3.53, SD=1.404) and are consulted in making decisions when occur changes in health and safety policies (M=3.49, SD=1.424).

That, priority is given to health and safety training programmes (M=3.01, SD=1.436), employees are taught of health and safety procedures (M=2.72, SD=1.356) and they are aware of the provision of all health and safety equipment by the administration (M=2.72, SD=1.366) remained undecided. However, respondents disagreed that, they are appropriately trained to effectively react to workplace health and safety crisis (M=2.35, SD=1.406).

Table 4.4: Descriptive Statistics for the Effect of the Awareness of Occupational Safety Policies on the Performance of Mbozi Coffee Curing Factory (n=144)

Activity	M	SD
Employees are advised to proactively enhance health and safety measures	3.53	1.404
Employees are consulted in making decisions when occur changes in health and safety policies	3.49	1.424
Priority is given to health and safety training programmes	3.01	1.436
Employees are taught of health and safety procedures	2.72	1.356
Workers are aware of the provision of all health and safety equipment by the administration	2.72	1.366
Employees are appropriately trained to effectively react to workplace health and safety crisis	2.35	1.406

Source: Field Data Analysis (2024)

4.6 The Performance Indicators of Mbozi Coffee Curing Factory

The study assessed the performance indicators of Mbozi coffee curing factory in

Mbozi district. Table 4.5 presents the output results of the descriptive statistics in regard to the performance indicators of Mbozi Coffee Curing Factory in Mbozi district. The findings revealed that, the performance indicators of Mbozi Coffee Curing Factory are improved market competitiveness (M=3.74, SD=1.357) and improved quality products (M=3.72, SD=1.431). Other indicators were found to be reduced employee turnover (M=3.72, SD=1.372) as well as increased productivity (M=3.67, SD=1.311).

Table 4.5: Descriptive Statistics for Performance of Mbozi Coffee Curing Factory (n=144)

Activity	M	SD
Improved market competitiveness	3.74	1.357
Improved quality products	3.72	1.431
Reduced employee turnover	3.72	1.372
Increased productivity	3.67	1.311

Source: Field Data Analysis (2024)

4.7 Confirmatory Multiple Linear Regression Analysis Results

This study conducted a confirmatory multiple linear regression analysis to ascertain if the independent variables and the dependent variable were statistically related to each other.

4.7.1 Model Summary

Table 4.6 presents the output results of the multiple linear regression analysis. The analysis revealed that, independent variables (predictors) positively and significantly related to the dependent variable. The predictors were employee safety training, safety-related information cognition, and awareness of occupational health and safety

policies while the dependent variable was the performance of Mbozi Coffee Curing Factory in Mbozi district ($R=0.812$; $R^2=0.659$; Adjusted $R^2=0.651$; $Sig=0.000$). This means that, since the R-Squared was .659, the variation of 65.9% in the performance of Mbozi Coffee Curing Factory in Mbozi district was explained by the variation in effect of employee safety training, safety-related information cognition, and awareness of occupational health and safety policies). Other factors explained at 34.1% not identified in this study.

Table 4.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.812 ^a	.659	.651	.762

a. Predictors: (Constant), Awareness of occupational health and safety policies, Employee safety training, Safety-related information cognition

b. Dependent Variable: Performance of Mbozi Coffee Curing Factory

Source: Field Data Analysis (2024)

4.7.2 Analysis of Variance

From Table 4.7, the results showed that, $p=0.000$ and F -calculated is 90.059. Since the $p<0.05$ and F -calculated is greater than F -critical (2.4904), the regression model was significant in ascertaining how occupational health and safety knowledge affected the performance of Mbozi Coffee Curing Factory in Mbozi district.

Table 4.7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	156.764	3	52.255	90.059	.000 ^b
	Residual	81.232	140	.580		
	Total	237.996	143			

a. Dependent Variable: Performance of Mbozi Coffee Curing Factory

b. Predictors: (Constant), Awareness of occupational health and safety policies, Employee safety training, Safety-related information cognition

Source: Field Data Analysis (2024)

4.7.3 Regression Coefficients

The findings in Table 4.8 indicated that, employee safety training has a positive regression coefficient (Beta) of 1.211 indicating that, if other independent variables are kept constant, an increase of one unit in employee safety training results in an increase in the performance of Mbozi Coffee Curing Factory of 1.211 units. The $p=0.000$. This is equally true because since $p<0.05$, employee safety training positively and significantly affected the performance of Mbozi Coffee Curing Factory in Mbozi district. When safety-related information cognition increases by one unit and the other independent variables remain constant, the performance of Mbozi Coffee Curing Factory in Mbozi district increases by 0.755 units. Its $p=0.000$. Since the $p<0.05$, it implicates that, safety-related information cognition positively and significantly affected the performance of Mbozi Coffee Curing Factory in Mbozi district. Likewise, if all other independent variables are kept constant, a unit change in the awareness of occupational health and safety policies would lead to an increase of negative 0.202 units of the performance of Mbozi Coffee Curing Factory in Mbozi

district. Its $p=0.126$ despite being insignificant to the performance of Mbozi Coffee Curing Factory in Mbozi district since its $p>0.05$.

Table 4.8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.488	.249		26.065	.000
	Employee safety training	1.402	.112	1.211	12.491	.000
	Safety-related information cognition	.918	.164	.755	5.612	.000
	Awareness of occupational health and safety policies	.306	.199	-.202	-1.538	.126

a. Dependent Variable: Performance of Mbozi Coffee Curing Factory

Source: Field Data Analysis (2024)

4.8 Summary of Hypotheses Testing

This study aimed at determining the contribution of occupational health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania. The study comprised of three null research hypotheses. These were statistically tested in order to ascertain the validity of the objectives which could be either accepted or rejected. The multiple linear regression model indicated that, the hypothesis one and two were rejected. This is because employee safety training has a positively and significantly affected the performance of Mbozi Coffee Curing Factory in Mbozi district (Beta value=1.211, $p=0.000<0.05$). This is equally to safety-related information cognition (Beta value=0.755, $p=0.000<0.05$). Concerning awareness of occupational health and safety policies among employees has been accepted. This is because the findings indicate that, awareness of occupational health

and safety policies among employees negatively and insignificantly affected the performance of Mbozi Coffee Curing Factory in Mbozi district (Beta value= -0.202, $p=0.126>0.05$). Table 4.9 summarizes research hypotheses testing.

Table 4.9: Summary of Hypothesis Testing

Hypothesis	Model	Coefficient P- Value	Conclusion
H₀₁: There is no statistically positive and significant effect between employee safety training and the performance of Mbozi coffee curing factory in Mbozi district.	Multiple Linear Regression model	($p=0.000<0.05$)	Rejected H₀₁
H₀₂: There is no any significant and positive relationship between safety-related information cognition and the performance of Mbozi coffee curing factory in Mbozi district.	Multiple Regression model	($p=0.000<0.05$)	Rejected H₀₂
H₀₃: There is no any statistically significant and positive effect between the awareness of occupational safety policies among employees and the performance of Mbozi coffee curing factory in Mbozi district.	Multiple Regression model	($p=0.126>0.05$)	Accepted H₀₃

Source: Field Data Analysis (2024)

4.9 Discussion of the Findings

This study assessed the the contribution of occupational health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania. Descriptive statics and multiple linear regressions analysis were computed. Focusing on the study objectives, the discussions based on the results as they were generated from the analysed data. They are going to be compared and/or contrasted with the current findings with the previous related literature. Any contribution of each finding

is going to be highlighted. This created a room to clear an in-depth understanding of the contribution of occupational health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania.

4.9.1 To Determine the Effect of Employee Safety Training on the Performance of Mbozi Coffee Curing Factory in Mbozi District

The findings indicated that, employee safety training helped the organisation to avoid costly legal issues due to occupational-related illnesses, improved employee skills to handle occupational health and safety emergencies and it prevented employee turnover due to occupational-related illnesses. These observations are supported by Mwaruta *et al.*, (2023) and Obong *et al.*, (2021) who informed that, occupational safety and health training was significant and positively affected the performance of the organisation because it reduced the number of accidents at the workplace and wasting of resources, improved productivity and reduced absenteeism. Furthermore, it reduced loss of time due to seeking healthcare services and compensation, and it reduced workplace accidents and injuries. These findings concurred with those of Hafiz and Mohd-Adi (2023), and Ghahramani *et al.*, (2023) who reported that, employee safety training positively and significantly influenced the performance of the manufacturing companies.

4.9.2 To Determine the Effect of Safety-Related Information Cognition on the Performance of Mbozi Coffee Curing Factory in Mbozi District

The results have demonstrated that, workers shared health and safety-related information to reduce risks at the workplace and understood safety-related

information laws. Additionally, the findings indicated that, safety-related information cognition positively and significantly affected the performance of Mbozi Coffee Curing Factory in Mbozi district. This finding concurs with the observations of Hernández *et al.*, (2023), Zhang *et al.*, (2023) and Kiprotich (2022) who reported that, safety information sharing and cognition had a positive relationship between occupational health and on productivity of the manufacturing industries.

4.9.3 To Determine the Effect of the Awareness of Occupational Safety Policies on the Performance of Mbozi Coffee Curing Factory in Mbozi District

Findings unveiled that, employees were advised to proactively enhance health and safety measures. This finding resembles that of Younos and Fathi (2023) who demonstrated that, safety and health policies improved the performance of water service projects because employees were advised to take health and safety measures. Additionally, the results established that, employees were consulted in making decisions when occurred changes in health and safety policies. This finding concurs with that of Rajuskar and Warule (2020) who indicated that, employees were aware of health and safety policies, took part in decision-making which later improved the performance associated with manufacturing industries. Furthermore, the results established that, awareness of occupational safety policies positively but insignificantly affected the performance of Mbozi Coffee Curing Factory in Mbozi district. This finding is contrary to that of Segbenya and Yeboah (2022), and Obong *et al.*, (2021) who established that, awareness of the occupational health and safety policies among employees positively and significantly affected organisational performance.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Chapter Overview

This chapter deals with the study's summary, conclusions and recommendations based on the results of the study that assessed the contribution of occupational health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania.

5.2 Summary of the Main Findings

5.2.1 Effect of Employee Safety Training on the Performance of Mbozi Coffee Curing Factory in Mbozi District

The results indicated that, employee safety training positively and significantly affected the performance of Mbozi Coffee Curing Factory in Mbozi District because it helped the organization to avoid costly legal issues due to occupational-related illnesses and improved employee skills to handle occupational health and safety emergencies. Additionally, it prevented employee turnover due to occupational-related illnesses, it reduced of loss time due to seeking healthcare services and compensation and it reduced workplace accidents and injuries.

5.2.2 Effect of Safety-Related Information Cognition on the Performance of Mbozi Coffee Curing Factory in Mbozi District

The results demonstrated that, safety-related information cognition positively and significantly affected the performance of Mbozi Coffee Curing Factory in Mbozi

district. This is because workers shared health and safety-related information to reduce risks at the workplace and understood safety-related information laws.

5.2.3 Effect of the Awareness of Occupational Safety Policies on the Performance of Mbozi Coffee Curing Factory in Mbozi District

The findings unveiled that, employees were advised to proactively enhance health and safety measures and were consulted in making decisions when occurred changes in health and safety policies.

5.3 Implications of the Findings

Human resource managers and employees are advised to enhance safety training and safety-related information cognition among employees. This is because, the findings have indicated that, the knowledge in safety training and safety-related information cognition positively and significantly affected the performance of Mbozi Coffee Curing Factory in Mbozi District.

5.4 Conclusions

This section presents conclusions from the key findings obtained from the area of the study as well as the discussions presented in chapter four. It is concluded that, employee safety training has a statistically positive and significant relationship with the performance of Mbozi Coffee Curing Factory because it helps the organisation to avoid costly legal issues due to occupational-related illnesses, improves employee skills to handle occupational health and safety emergencies and it prevents employee turnover due to occupational-related illnesses.

Additionally, safety-related information cognition significantly and positively affected the performance of Mbozi Coffe Curing Factory because it helps workers to share health and safety-related information, reduce risks at the workplace and understand safety-related information laws.

Lastly, awareness of occupational safety policies despite having a positive but insignificant relationship with the performance of Mbozi Coffe Curing Factory, shows that, employees are advised to proactively enhance health and safety measures and are consulted in making decisions when occurs changes in health and safety policies.

5.5 Recommendations of the Study

Based on the results of the study, the following suggestions for action are recommended:

- i. Human resource managers in Mbozi Coffee Curing Factory should enhance employee safety training and safety-related information cognition. This is because they have statistically positively and significantly affected the performance of Mbozi Coffee Curing Factory.
- ii. Occupational safety policies should not be ignored by the human resource managers despite being insignificant to the performance of the manufacturing industry in Mbozi district. This is because it helps workers to take part in decision-making process about health and safety policies.

5.6 Limitations of the Study

The researcher faced several limitations in gathering information. These were as follows:

This study employed questionnaires for collecting data from the participants. Some participants were too bureaucratic, reluctant and failed to submit their responses according to the scheduled time-table. The researcher addressed this limitation by reminding them from time to time through mobile phone calls and sometimes visiting their respective departments/units for the collection of the same.

5.7 Recommendations for Further Studies

The following are suggestions for further researches:

- i. It is suggested that, such kind of a study should also be conducted in other remaining districts of Songwe region so as to get a deep understanding of the phenomenon.
- ii. The current study employed a quantitative method research approach, hence insufficient opinions from the participants. A future study can employ a qualitative approach to capture detailed participants' opinions about the phenomenon.

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APPENDICES

Appendix 1: Questionnaires

THE CONTRIBUTION OF OCCUPATIONAL HEALTH AND SAFETY KNOWLEDGE ON THE PERFORMANCE OF MBOZI COFFEE CURING FACTORY IN MBOZI DISTRICT, TANZANIA

This study aims at collecting empirical information that will help to assess the contribution of occupational health and safety knowledge on the performance of Mbozi coffee curing factory in Mbozi district.

SECTION A: DEMOGRAPHIC INFORMATION

Personal details

1. Age (Years)
 - i. 18-25 years
 - ii. 26-35 years
 - iii. 36-45 years
 - iv. 46 years and above

2. Your gender/sex is
 - i. Female
 - ii. Male

3. Level of education
 - i. Certificate
 - ii. Diploma
 - iii. Bachelor Degree
 - iv. Master Degree

v. PhD

4. Staff occupation/cadre.....

i. Section Manager

ii. Site Supervisor

iii. Human Resource Manager

iv. Factory Engineer

v. Full-Time Employee

SECTION B: EFFECT OF EMPLOYEE SAFETY TRAINING ON THE PERFORMANCE OF MBOZI COFFEE CURING FACTORY

Kindly tick (√) in the appropriate box along the statement of your choice. Each statement deserves a single choice. The rating scale is as follows: 1=Strongly Disagree; 2=Disagree; 3=Undecided; 4=Agree; 5=Strongly Agree

A. Effect of Employee Safety Training (EST)

		Response(s)				
S/N	Statement	1	2	3	4	5
1.	It enhances employee abilities to identify occupational risks at the workplaces					
2.	It enhances employee skills to analyze the magnitude of occupational risks at the workplace					
3.	Employee safety training improves employee skills to handle occupational health and safety emergencies					
4.	Employee safety training helps the organisation avoid costly legal issues due occupational-related illnesses					
5.	It helps the organisation prevent employee turnover due to occupational-related illnesses					

**SECTION C: EFFECT OF SAFETY-RELATED INFORMATION
COGNITION ON THE PERFORMANCE OF MBOZI COFFEE CURING
FACTORY**

Kindly tick (✓) in the appropriate box along the statement of your preference. Each item/statement deserves a single choice. The rating scale is as follows: 1=Strongly Disagree; 2=Disagree; 3=Undecided; 4=Agree; 5=Strongly Agree

B. Effect of Safety-Related Information Cognition (SRIC)

		Response(s)				
S/N	Statement	1	2	3	4	5
1.	Workers comply with safety-related information regulations at the workplace					
2.	Workers integrate health and safety-related information into daily health and safety management					
3.	Workers use health and safety-related information correctly at the workplaces					
4.	Workers understand safety-related information laws					
5.	Workers share health and safety-related information to reduce risks at the workplace					
6.	Factory management implements appropriate corrective health and safety measures					

SECTION D: EFFECT OF AWARENESS OF OCCUPATIONAL HEALTH AND SAFETY POLICIES ON THE PERFORMANCE OF MBOZI COFFEE CURING FACTORY

Kindly tick (√) in the appropriate box on along the statement of your choice. Each item/statement deserves a single choice. The rating scale is as follows: 1=Strongly Disagree; 2=Disagree; 3=Undecided; 4=Agree; 5=Strongly Agree

C. Effect of Awareness of Occupational Health and Safety Policies (AOHSP)

S/N	Statement	Response(s)				
		1	2	3	4	5
1.	Workers are taught of health and safety procedures					
2.	Employees are appropriately trained to effectively react to workplace health and safety crisis					
3.	Priority is given to health and safety training programmes					
4.	Employees are trained to proactively enhance health and safety measures					
5.	Employees are consulted in making decisions when occur changes in health and safety policies					
6.	Employees are aware of the provision of all health and safety equipment by the administration					

SECTION E: PERFORMANCE INDICATORS OF MBOZI COFFEE CURING FACTORY

Kindly tick (√) in the appropriate box on along the statement of your preference. Each item/statement deserves a single choice. The rating scale is as follows: 1=Strongly Disagree; 2=Disagree; 3=Undecided; 4=Agree; 5=Strongly Agree

D. Performance Indicators of Mbozi coffee curing factory

S/N	Statement	Response(s)				
		1	2	3	4	5
1.	Increased productivity					
2.	Improved quality products					
3.	Improved market competitiveness					
4.	Reduced employee turnover					

Table 2.1: Summary of the Previous Studies

S/N	Author (year)	Title	Country	Methodology (Data analysis)	Main findings
1.	Hafiz & Mohd-Adi (2023)	"Safety Training and Workers' Participation that Affected Safety Performance Manufacturing Sectors"	Malaysia	Quantitative method approach supported with a descriptive survey design. The methods for collecting data have been questionnaires. Data have been analysed by the use of Spearman's correlation coefficients	Employee safety training significantly an positively influenced safety performance of the manufacturing sector
2.	Obong <i>et al.</i> , (2021)	"Influence of Health and Safety Training, Safety Monitoring and Enforcement of Compliance on Employee Efficiency in Manufacturing Firms"	Nigeria	The study adopted a quantitative research approach in conjunction with a descriptive survey research design. The methods for collecting data were questionnaires while data were inferentially statistically analysed	Health and safety training significantly positively affected the employee efficiency and performance of the manufacturing firms because there was a decline on workplace accidents and injuries
3.	Hernández <i>et al.</i> , (2023)	"Effect of Occupational Health Conditions and Digital Communications in the Manufacturing Industry"	United States of America	The study used a quantitative method research approach with the descriptive survey approach. The methods for data collection	Occupational health and safety information sharing and cognition significantly an positively influenced the

				have been questionnaires and descriptive statistics and inferential analysis were computed by the analysis SmartPLS statistical software	productivity of the manufacturing industry
4.	Kiprotich (2022)	"Influence of Information Sharing on Performance of Manufacturing Firms"	Kenya	Quantitative method research approach together with explanatory research design were used in the study. Questionnaires were used for collecting data and the same were analysed by descriptive statistics and multiple linear regression analysis	Safety information cognition positively and significantly affected the performance of the manufacturing firms
5.	Rajuskar & Warule (2020)	"Safety Environment in Manufacturing Industry"	India	This study used a quantitative method approach in conjunction with a descriptive survey design. Structured questions were the only tools used for collecting data	Employees were aware of health and safety policies which later improved the performance associated with manufacturing industries
6.	Segbenya & Yeboah (2022)	"Effect of Occupational Health and Safety on Employee	Ghana	The study employed the quantitative method research approach and a	Workers were aware of the occupational health and safety policies

		Performance in the Construction Sector"		descriptive research design. Questionnaires were used for collecting data. Data were analysed through mean scores, standard deviations and multiple linear regressions	and these policies significantly and positively affected performance of an organisation.
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Source: Developed by the Researcher (2024)

Appendix 2: Permission Letters

THE UNITED REPUBLIC OF TANZANIA
 MINISTRY OF EDUCATION, SCIENCE AND
 TECHNOLOGY



THE OPEN UNIVERSITY OF TANZANIA

Ref. No OUT/PG2022000279

5th April, 2024

Manager,

Mbozi Coffee Curing Factory,
 P.O.Box 291,
 SONGWE.

Dear Manager,

RE: RESEARCH CLEARANCE FOR MS. RAHIMA RAJABU SHABANI

REG NO: PG2022000279

2. The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No.55 in the official Gazette. The Act was however replaced by the Open University of Tanzania Charter of 2005, which became operational on 1st January 2007. In line with the Charter, the Open University of Tanzania mission is to generate and apply knowledge through research.

3. To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With

this brief background, the purpose of this letter is to introduce to you Ms. Rahima Rajabu Shabani, Reg. No: PG2022000279), pursuing Master of Human Resource Management (MHRM). We here by grant this clearance to conduct a research titled “The Contribution of Occupational Health and Safety Knowledge on the Performance of Mbozi Coffee Curing Factory in Mbozi District, Tanzania”. She will collect her data at your office from 8th April 2024 to 30th May 2024.

4. In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O.Box 23409, Dar es Salaam. Tel: 022-2-2668820. We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,

THE OPEN UNIVERSITY OF TANZANIA



Prof. Magreth S. Bushesha

For: VICE CHANCELLOR



KAMPUNI YA KUKOBOA KAHAWA MBOZI
P.O. BOX 291- MBOZI - SONGWE TEL. +255754291236/0752054311

Email: info@mccco.co.tz

Ref no: P-26/146

Date: 10 May, 2024

Vice Chancellor,
The Open University of Tanzania,
P.O.Box 23409,
DAR ES SALAAM.

RE: RESEARCH CLEARANCE.

Refer to the heading above and your letter dated 5th April, 2024 with reference number OUT/PG2022000279.

Am glad to inform you that, chance for Research Clearance for MS Rahima Rajabu Shabani is granted as requested.

Best regards,

Job Mwakabalula,
For: General Manager



MBOZI COFFEE CURING COMP ANY LIMITED.

THE CONTRIBUTION OF OCCUPATIONAL HEALTH AND SAFETY KNOWLEDGE ON THE PERFORMANCE OF MBOZI COFFEE CURING FACTORY IN MBOZI DISTRICT, TANZANIA

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ABSTRACT

This study aimed at investigating the contribution of occupational health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania. The study used the positivist philosophy. The quantitative approach was employed in conjunction with an explanatory research design. Simple random sampling technique was used to select 144 participants from a population of 224 employees. The methods for collecting data were questionnaires. Data were analysed using descriptive and inferential statistics. The results showed that, employee safety training and safety-related information cognition positively and significantly affected the performance of Mbozi Coffee Curing Factory in Mbozi district while awareness of occupational safety policies have an insignificant effect. It is concluded that, employee safety training and safety-related information cognition positively affect the performance of Mbozi Coffee Curing Factory. It suggested that, human resource officers should enhance employee safety training and safety-related information cognition to improve the performance of Mbozi Coffee Curing Factory in Mbozi district.

Keywords: *Occupational health and safety knowledge, performance of Mbozi Coffee Curing Factory, employee safety training, safety-related information cognition, awareness of occupational safety policies.*

1.0 INTRODUCTION

Workers' health and safety at the workplaces have been a global significant concern (McGuire Holtmaat, & Prakash, 2021). According to Statista Research Department-SRD (2022), up to 2021, about 3.29 billion people in the world were spending most of their lives at the workplaces. Manufacturing industries or factories are sources of several physical hazards like heavy dusts, intense heat, noises or injuries which harm health and safety of workers, and ultimately negatively affect the productivity and the profit of that organisation (Abidin *et al.*, 2021; Thambura & Ikiara, 2020). Exposure to these hazards, solvents and other organic liquids can harm workers' organs such as liver, kidneys, heart, blood vessels, bone marrows, and neurological system (International Labour Organization, 2023). It is, therefore, the employers'

responsibility to provide their workers with healthy and safe working environments (United Nations, 2019).

The contribution of health and safety knowledge not only positively affects workplaces but also workers. For instance, Cowan, Clayton, and Bochantin (2021) argued that, health and safety knowledge among the workers at the workplaces boosts efficiency, job satisfaction and loyalty; it creates a stronger sense of belongingness (Kessy & Raymond, 2021), more enthusiasm for work (Hidayat, Patras, Marini, Sarifah, & Nurjannah 2023), higher economic benefits, safe working places, work engagement (Venkataramanan, 2023), and organisational and employee job performance (Prieto & Talukder, 2023; Sears, Edmonds, & Coe, 2020).

Despite the benefits of the contribution of the same at the workplaces, evidence shows that, occupational health and safety knowledge in both developed and developing countries is still limited. According to the ILO (*ibid*), statistics indicate that, 153 workers all over the world are injured at every 15 seconds and one worker dies of work-related injuries or occupational diseases. Furthermore, it is presumed that, every year, about 3 000 000 workers are exposed to work hazards and accidents at the workplaces (Aichouni *et al.*, 2023; Maksim & Elena, 2023). According to Tarique, Briscoe, and Schuler (2022), manufacturing industries' workers encounter workplace illness and accidents that lead to health damage and economic losses.

This study aims to investigate the contribution of occupational health and safety knowledge on the performance of Mbozi Coffee Curing Factory in Mbozi district, Tanzania. Given the contribution of occupational health and safety knowledge on employee and organisational performance, it is essential to examine the effect of employee safety training, safety-related information cognition and awareness of occupational safety policies among employees and how these contribute to the performance of the Mbozi Coffee Curing Factory in Mbozi district.

Several studies examined the contribution of occupational health and safety knowledge among workers but in the construction sector (Sharar *et al.*, 2022), educational institutions (Gajek, Fabiano, Laurent, & Jensen, 2022) and healthcare (Clay-Williams *et al.*, 2020) but they did not assess the contribution of the same in the manufacturing factories. Additionally, those which assessed the contribution of health and safety knowledge among workers and the performance of the manufacturing industries or factories focused on failure of workers to appropriately use personal protective gears or follow the commands of occupational safety (Debela *et al.*, 2023), insufficient knowledge of workplace health and safety laws (Mwezi & Wabala, 2023), safety communication and feedback, safety rules and protocols (Perera, 2019). It is on these basis that, there is a notable gap which need to be filled

in by this study by examining the contribution of employee safety training, safety-related information cognition and awareness of occupational safety policies on the performance of Mbozi Coffee Curing Factory in Mbozi district.

2.0 LITERATURE REVIEW

Occupational Health and Safety

Occupational health and safety is a state of creating a secure working environment for employees and the community (Rajput, Sharma, & Joshi, 2023). Segbenya and Yeboah (2022) defined occupational health and safety as a condition in which risks and situations that can lead to bodily, psychological, or material harm are highly controlled. In this study, occupational health and safety refers to the ways all risks and health situations are controlled by the administration in the Mbozi Coffee Curing Factory.

Employee Safety Training

Ndile *et al.*, (2020) defined employee safety training as the practice of inducing safety knowledge, compliance, and engagement and practices among employees at their workplaces; while Umugwaneza, Nkechi, and Mugabe (2019) defined employee safety training as a process of providing needed safety education for the purpose of improving employees' skills and knowledge that can influence their behaviours and practices to carry out their assigned tasks safely intended to avoid accidents, enhance their confidence and improve their efficiency. This study refers employee safety training as education on occupational health and safety at the workplaces.

Safety-Related Information Cognition

Guo, Tao, Yang, Chen, and Reniers (2022) defined safety-related information cognition as the ability of using signals and alerts to react against dangers at the workplace. According to Shi, Tan, and Li (2021), safety-related information cognition is the ability of an employee to be aware of the hazard, knowing its dangerous effect, choosing safe behaviour, and be able to avoid the risk. This study refers safety-related information cognition as an employee's ability to recognize and appropriately react against various signals and alerts of dangers in the factories.

Awareness of Occupational Safety Policies

Petrofac limited (2023) defined awareness of occupational safety policies as compliance with all relevant legislations, standards and internal procedures by both employers and employees guiding elimination and preventing of occupational diseases and accidents. Snare, Mills, Genderson, and Gunn (2022) defined awareness of occupational safety policies as those pieces of writings that enforce and stipulate safety standards. This study refers awareness of occupational safety policies as

legislations and procedure of both an employer and an employee to eliminate and prevent occupational diseases and accidents at the workplaces.

Organisational performance

Organisational performance is an outcome of all operations carried out by a certain institution and that their defects are reflected in the institution (Thathsara & Sutha, 2021). Klink, Zhang, and Athaide (2020) defined organisational performance as the capacity of an organisation to execute its set goals through strong corporate governance, efficient management, and a consistent commitment in order to achieve the intended outcomes. In this study, organisational performance refers to how its goals and intended objectives are accomplished in the specified time by the employees.

Theoretical Literature Review

The Multiple Causation theory as was postulated by Gordon in 1949 is encompassed on four contributing factors causing accidents (Necci, Tarantola, Vamanu, Krausmann, & Ponte, 2019; The Certificate for Occupational Safety Managers, 2023). These factors can be man, machine (equipment, vehicle), media (environment, weather, contaminants policy, procedure, communication) and the management. Asad (2019) argued that, the management has to identify those factors and provide necessary measures for prevention of future accidents and injuries. Liu, Nkrumah, Akoto, Gyabeng, and Nkrumah (2020) argued that, in order to prevent multiple causation of accidents, the management should provide comprehensive training, education and skills to workers, promote a culture of safety policy awareness and cognition of safety information.

This theory has several strengths. According to Tong, Yang, Parker, Zhang, and Wang (2020), it enhances knowledge about the causes and prevention of accidents; it improves safety information, reduced fatal injuries and illness rates among individuals. It also leads to a more scientific approach and greater cost-effective intervention strategies.

However, this theory is not free of critics. Zhang, Chen, and Sun (2019) were of the views that, the theory does not take into account the age and experience of employees while evaluating the risks; it transfers control of events into the hands of an employee rather than a victim of environmental conditions, health and safety training of employees though limited and obstructed due to financial barriers.

This theory was used this study because it highlighted some variables to consider in the current study like employee safety training, safety policy awareness and cognition of safety information among employees and the management.

On employee safety training, Hafiz and Mohd-Adi (2023) assessed safety training and the participation of workers that affected safety performance in the manufacturing sectors in Malaysia. That study used a quantitative method approach supported by a descriptive survey research design. Questionnaires being the methods for collecting data, the same were analysed by the use of Spearman's correlation coefficients. The results showed that, employee safety training significantly and positively influenced safety performance of the manufacturing sector. In Iran, Ghahramani, Ebrahimi, and Hajaghazadeh (2023) evaluated occupational health and safety as the performance tool for manufacturing companies and adopted a quantitative research approach. While questionnaires were used for collecting data, the same were analysed using correlation coefficients and confirmatory factor analysis. The results indicated that, employee safety training had a statistically positive and significant relationship with the performance of manufacturing companies. Mwaruta, Karanja, and Kamaara (2023) assessed how occupational safety and health training affected the performance of the cement manufacturing firms in Kenya. This study used a mixed-methods approach together with a descriptive survey research design. Questionnaires, interviews and observations were used as data collection methods. Through multiple linear regression analysis, the findings indicated that, occupational safety and health training significantly and positively affected the performance of the cement manufacturing firms as there were a drastic decline in the number of accidents accompanied with wasting of resources and low productivity due to absenteeism, loss of time while seeking healthcare services and compensation. In Nigeria, Obong, Amadi, Ekpenyong, Harry, and Edodi (2021) examined how health and safety training, safety monitoring and enforcement of compliance influenced employee efficiency in manufacturing firms. This study adopted a quantitative method approach in conjunction with a descriptive survey research design. The methods for collecting data were questionnaires while data were inferentially and statistically analysed through multiple linear regressions. The results established that, health and safety training significantly and positively affected employee efficiency and performance of the manufacturing firms because there was a decline on workplace accidents and injuries.

On safety-related information cognition, Hernández, Martínez, and Zubirías (2023) carried a study on the effect of occupational health conditions and digital communications in the manufacturing industry in the United States of America. The study adopted a quantitative research approach supported by a descriptive survey research design. The methods for data collection were questionnaires; descriptive and inferential statistics were computed to data analysis. The results established that, occupational health and safety information sharing, and cognition significantly and positively affected the productivity of the manufacturing industry. In China, Zhang, Liu, Mei, and Zhang (2023) evaluated how work safety information disclosure

influenced the performance of the listed companies in high-risk industries. With a quantitative research approach, this study employed questionnaires for collecting data. Descriptive statistical results were presented through mean scores, median and standard deviation values together with multiple regression analysis. The findings established that, safety information disclosure and cognition significantly and positively impacted the corporate financial and safety performance, and the social reputation of those companies. In Kenya, Kiprotich (2022) examined the way information sharing influenced the performance of manufacturing firms. Quantitative method approach together with explanatory research design were employed in this study. The methods for data collection were questionnaires. Data were descriptively and inferentially analysed. The results indicated that, safety information cognition positively and significantly affected the performance of the manufacturing firms. On awareness of occupational safety policies, Younos and Fathi (2023) assessed how occupational safety and health impacted the performance improvement in water service projects in Malaysia. This study employed a quantitative method approach with a descriptive survey research design. The methods for collecting data were questionnaires. Data were analysed through descriptive and inferential statistics. The results showed that, workers were aware of the requirements stipulated in the occupational safety and health policies which improved the performance of water service projects. In India, Rajuskar and Warule (2020) conducted a study on safety environment in the manufacturing industries. The study used a quantitative method research approach in conjunction with a descriptive survey research design. Structured questionnaires were the only tools used for collecting data. The results indicated that, employees were aware of health and safety policies which later improved the performance associated with manufacturing industries. Segbenya and Yeboah (2022) assessed how occupational health and safety affected employee performance in the construction sector in Ghana. Quantitative method approach and a descriptive research design were adopted in this study aided by questionnaires as the only data collection methods. Data were analysed through mean scores, standard deviations and multiple linear regressions. The findings established that, workers were aware of the occupational health and safety policies and these policies showed a statistically significant effect on organisational performance. In Nigeria, Obong *et al.*, (2021) examined how health and safety training, safety monitoring and enforcement of compliance influenced employee efficiency in the manufacturing firms. The study used a quantitative method approach together with a descriptive survey research design. Questionnaires were employed in collecting data for this study while the same were analysed by the confirmatory factor analysis and inferential statistics. The results indicated that, workers were aware of the health and safety policies. It was also established that, awareness of the occupational health and safety policies were statistically significant to the performance of the manufacturing firms.

3.0 METHODOLOGY

The positivist research philosophy was used in this investigation. According to Handema, Lungu, Chabala, Shikaputo (2023), positivism places a strong emphasis on analyzing social phenomena using statistical and quantitative methods. The researcher employed quantitative methods to tackle the issue and gather comprehensive data on it. The quantitative approach collects numerical data, while qualitative research explores people's meanings derived from their natural settings, experiences, attitudes, perceptions, and behaviour. This study employed an explanatory research design. This design enabled the researcher to perform an in-depth investigation. This design provides a real-life situation and enables explanation of the lived respondents' experiences and perceptions which can be supported or refuted in relation to the situation under the study.

Table 1: Unit of Inquiry

S/N	Category	Population
1.	Section Managers (SMs)	05
2.	Site Supervisors (SSs)	10
3.	Human Resource Managers (HRMs)	04
4.	Factory Engineers (FEs)	05
5.	Full-time Employee (FTEs)	200
	Total	224

Source: Mbozi Coffee Curing Factory's Human Resource Office (2024)

Taking into account that the Mbozi Coffee Curing Factory employs 224 people in total, all of those employees made up the study's population. Meeting every member of the population during the investigation was challenging for the researcher and so sampling was inevitable in order to a higher overall accuracy than censusing (Kothari, Vegad, Shah, & Hassan, 2022). Because of this, the researcher employed a straightforward random sample procedure. This study used the simple random sampling technique which has no complexities and which allows the researcher to select participants of the study without any discrimination (Bhardwaj, 2022). A total of 144 representatives' supervisors and other staff members were selected at random from each department/unit.

Sample Size

Representatives from the relevant departments/units were selected from the 224 total employees of the Mbozi Coffee Curing Factory to determine the sample size. The sample size was 144 individuals out of a total population of 224. The population size used for the investigation is presented in Table 2 below.

Table 2: The Sampling Distribution

S/N	Department	Population	Sample Size
1.	Section Managers (SMs)	05	03
2.	Site Supervisors (SSs)	10	06
3.	Human Resource Managers (HRMs)	04	02
4.	Factory Engineers (FEs)	05	03
5.	Full-time Employee (FTEs)	200	130
Total		224	144

Source: Researcher's Construct (2024)

Statistically, the following Taro Yamane's (1967) formula was employed to compute the study sample size as shown below:

$$n = \frac{N}{1 + Ne^2}$$

Where n= sample size, N= targeted population size and e= margin of error of 5% (0.05) while the confidence level=95%. $e = 1 - 0.95$; Therefore $e = 0.05$ and $N = 224$.

$n = 224 / (1 + 224 * (0.05)^2)$, therefore, $n = 144$

Also, the sample for each category was obtained as follows: $n = \text{employees in a department} * \text{sample size} / \text{Population sample}$.

Therefore, Section managers, $n = 5 * 144 / 224$, $n = 3$, Site supervisors, $n = 10 * 144 / 224$, $n = 6$

Human resource manages, $n = 4 * 144 / 224$, $n = 2$, Factory engineers, $n = 5 * 144 / 224$, $n = 3$ while

Full-time employees, $n = 200 * 144 / 224$, $n = 130$.

In research, primary data are the ones that are gathered directly from the source by the investigator with a particular goal in mind. It is unique data that have not been examined or published before (Taherdoost, 2021). Many techniques, including surveys, interviews, experiments, direct measurements, and observations, can be used to collect primary data. Only structured questionnaires were employed in this investigation. Additionally, data collection is defined by Bhardwarj (2022) as the methodical process of obtaining and quantifying information on variables to address research questions, test hypotheses, and assess results.

Structured questionnaires targeting 144 respondents were distributed questionnaires based on rank, allowing for a variety of answers depending on experience and occupation, especially for open-ended questions that need explanation. Structured questionnaires ensure uniformity in data collection. All respondents receive the same set of questions in the same order, eliminating variability in the way questions are presented. This consistency enhances the reliability of the data. The questions in structured questionnaires are carefully designed and standardized.

A pilot study was conducted on a small scale to ascertain a preliminary inquiry

before the main research effort. The main goal was to test for the viability, validity, and reliability of the research tools, techniques, protocols, and procedures before they are used in the main study (Sugiarta, Arofiati, & Rosa, 2023). A pilot study was necessary to ascertain the respondents' level of familiarity with the scales. A total of ten (10) participants were chosen to participate in the pilot project and these were part of the those who could not participate in the main study at the Mbozi Coffee Curing Factory. Every individual was given a questionnaire to fill out. Every filled questionnaire was then reviewed and verified. Data were loaded into an SPSS computer software and examined to confirm initial conclusions. Results showed that, the instruments were appropriate to the study. The scales underwent verification. After doing the pilot research, any mistakes or abnormalities were fixed.

Every piece of data provided by survey participants was checked for accuracy. A second, more knowledgeable person verified the accuracy of the data set and the questionnaires to make sure all the data were properly collected. Any mistakes found were corrected. Barchard, Freeman, Ochoa, and Stephens (2020) carried out more descriptive statistical error testing to discover items that fall outside of the scale response range.

The SPSS Missing Value Analysis (MVA) was used to sort the missing data. Since the ratings of the independent and dependent variables ought to be less than 5%—anything higher shows random missing data—Excel was utilised to complete the imputation. The multiple linear regression analysis and descriptive statistics were utilised to determine the statistical relationship between or among the variables under the study.

Regression Model

Therefore, the model guiding the analysis is illustrated below:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \varepsilon$ where:

Y = dependent variable (performance of Mbozi Coffee Curing Factory)

X_S = independent variables

a = Y intercept, where the regression line crosses the Y axis

b_1, b_2, b_3 = the partial slope for X_1, X_2, X_3 on Y,

X_1 = employee safety training,

X_2 = safety-related information cognition

X_3 = awareness of occupational health and safety policies and

ε = Error term

Assumptions of Linear Regression Model

According to Jarantow, Pisors, and Chiu (2023), there are about three assumptions of error terms which include linearity, multicollinearity and normality. According to the United States Pharmacopeia (2023a), linearity is checked and tested by a scatter plot. To check for linearity in the study, independent and dependent variables are assumed

to be linear and if not, then, the results might be incorrect (USP, 2023a). This means that, in order for errors to be assumed normally distributed, the line should show an upward slope running from left to right (USP, 2023b). This signifies that, the results are correct and the coefficient significances have been appropriately corrected and determined (USP, 2023c). Another important thing is that, the mean error of the regression model must be zero signifying that, the line obtained is unbiased; the variance of errors should also be positive and constant implicating that, the variables have a positive correlation (Saha & Wang, 2019).

According to Jarantow *et al.*, (2023), multicollinearity is tested by using variance inflation factor (VIF). The assumption is that, the variables should not attain a high correlation with each other because that can create the results which might be unrealistic during regression. The Variance Inflation Factor (VIF) and Tolerance measures must be utilised in the study to ascertain the presence of a multicollinearity effect between or among the variables. In this case, the acceptable range of the VIF must be less than or equal to ($=$ or <10) while for the Tolerance measure the values must be equal or greater than 0.1 ($=$ or >0.1). This would mean that, the findings are free of multicollinearity to make the findings to realistic (Jarantow *et al.*, 2023).

According to Aenet and Maniha (2023), normality of residuals in the study is observed by using P-P plots. If the plot shows a fairly diagonal straight line running from left to right, it is assumed that, the residuals have a normal distribution and the model would be acceptance (Sondag, Zeng, Yu, Yang, & Novick, 2020).

4.0 RESULTS AND DISCUSSIONS

The Effect of Employee Safety Training Descriptive Statistics Results

Table 3 shows the results of the employee safety training variable. The findings indicated that, employee safety training helps the organisation avoid costly legal issues due to occupational-related illnesses (M=3.57, SD=1.352), improves employee skills to handle occupational health and safety emergencies (M=3.45, SD=1.467) and it prevents employee turnover due to occupational-related illnesses (M=3.43, SD=1.299).

Table 3: The Effect of Employee Safety Training

Descriptive Statistics Results		
Activity	M	SD
Employee safety training helps the organisation avoid costly legal issues due to occupational-related illnesses	3.57	1.352
Employee safety training improves employee skills to handle occupational health and safety emergencies	3.45	1.467
It helps the organisation to prevent employee turnover due to occupational-related illnesses	3.43	1.299

Source: Field Data (2024)

The Effect of Safety-Related Information Cognition Descriptive Statistics Results

Table 4 below shows the results of the safety-related information cognition variable. The results established that, workers share health and safety-related information to reduce risks at the workplace (M=3.70, SD=1.333) and understand safety-related information laws (M=3.56, SD=1.388).

Table 4: The Effect of Safety-Related Information Cognition

Descriptive Statistics Results		
Activity	M	SD
Workers share health and safety-related information to reduce risks at the workplace	3.70	1.333
Workers understand safety-related information laws	3.56	1.388

Source: Field Data (2024)

The Effect of Awareness of Occupational Safety Policies Descriptive Statistics Results

Table 5 presents the findings of the awareness of occupational safety policies variable. The findings indicate that, employees are advised to proactively enhance health and safety measures (M=3.53, SD=1.404) and are consulted in making decisions when occur changes in health and safety policies (M=3.49, SD=1.424).

Table 5: The Effect of the Awareness of Occupational Safety Policies

Descriptive Statistics Results		
Activity	M	SD
Employees are advised to proactively enhance health and safety measures	3.53	1.404
Employees are consulted in making decisions when occur changes in health and safety policies	3.49	1.424

Source: Field Data (2024)

Confirmatory Results of the Multiple Linear Regression Analysis

This study carried out the confirmatory multiple linear regression analysis to ascertain the statistical relationship between the independent and the dependent variables. The findings of the output are presented in Tables 6, 7 and 8.

Model Summary

Table 6 presents the findings of the multiple linear regression analysis. The analysis indicates that, the independent variables (predictors) significantly and positively affect the dependent variable. The predictors were employee safety training, safety-related information cognition, and awareness of occupational health and safety policies while the dependent variable was performance of Mbozi Coffee Curing Factory in Mbozi district (R=0.812; R²=0.659; Adjusted R²=0.651; Sig=0.000). This implies that, since the R²=0.659, the variation of 65.9% in the performance of Mbozi Coffee Curing Factory in Mbozi district is explained by the variation in effects of

employee safety training, safety-related information cognition, and awareness of occupational health and safety policies). Other factors explained at 34.1% not identified in this study.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.812 ^a	.659	.651	.762

a. Predictors: (Constant), Awareness of occupational health and safety policies, Employee safety training, Safety-related information cognition

b. Dependent Variable: Performance of Mbozi Coffee Curing Factory

Source: Field Data (2024)

Analysis of Variance

From Table 7, the results indicate that, $p=0.000$ and $F\text{-calculated}= 90.059$. Since $p<0.05$ and $F\text{-calculated}>F\text{-critical}$ (2.4904), the regression model is significant in determining how occupational health and safety knowledge affect the performance of Mbozi Coffee Curing Factory in Mbozi district.

Table 7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	156.764	3	52.255	90.059	.000 ^b
	Residual	81.232	140	.580		
	Total	237.996	143			

a. Dependent Variable: Performance of Mbozi Coffee Curing Factory

b. Predictors: (Constant), Awareness of occupational health and safety policies, Employee safety training, Safety-related information cognition

Source: Field Data Analysis (2024)

Regression Coefficients

The findings in Table 8 indicate that, employee safety training has a positive regression coefficient (Beta) of 1.211 indicating that, if other independent variables are kept constant, an increase of one unit in employee safety training would result into an increase in the performance of Mbozi Coffee Curing Factory of 1.211 units. The $p=0.000$. This is equally true because since $p<0.05$, employee safety training positively and significantly affect the performance of Mbozi Coffee Curing Factory in Mbozi district. When safety-related information cognition increases by single unit and the other independent variables remain constant, the performance of Mbozi Coffee Curing Factory in Mbozi district increases by 0.755 units. Its $p=0.000$. Since $p<0.05$, it means that, safety-related information cognition positively and significantly affect the performance of Mbozi Coffee Curing Factory in Mbozi district. Likewise, if all other independent variables are kept constant, a unit change

in the awareness of occupational health and safety policies would lead to a decrease of 0.202 units of the performance of Mbozi Coffee Curing Factory in Mbozi district. Its p-value is 0.126 despite being insignificant to the performance of Mbozi Coffee Curing Factory in Mbozi district since $p > 0.05$.

Table 8: Regression Coefficients

Model		Unstandardised Coefficients		Standardised Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.488	.249		26.065	.000
	Employee safety training	1.402	.112	1.211	12.491	.000
	Safety-related information cognition	.918	.164	.755	5.612	.000
	Awareness of occupational health and safety policies	.306	.199	-.202	-1.538	.126

a. Dependent Variable: Performance of Mbozi Coffee Curing Factory

Source: Field Data Analysis (2024)

Discussions

The Effect of Employee Safety Training

The findings indicated that, employee safety training helped the organisation to avoid costly legal issues due to occupational-related illnesses, improved employee skills to handle occupational health and safety emergencies and it prevented employee turnover due to occupational-related illnesses. These findings concurred with those of Mwaruta *et al.*, (2023) and Obong *et al.*, (2021) who informed that, occupational safety and health training significantly and positively affected the performance of the organisation because it reduced the number of accidents at the workplace and wasting of resources, improved productivity and reduced absenteeism. Furthermore, it reduced loss of time while seeking services pertaining to healthcare and compensation and it reduced workplace accidents and injuries. These findings concurred with those of Hafiz and Mohd-Adi (2023), and Ghahramani *et al.*, (2023) who reported that, employee safety training positively and significantly affected the performance of manufacturing companies.

The Effect of Safety-Related Information Cognition

The results have demonstrated that, workers shared health and safety-related information to reduce risks at the workplace and understood safety-related information laws. Additionally, the results established that, safety-related information cognition significantly and positively influenced the performance of Mbozi Coffee Curing Factory in Mbozi district. This finding concurs with the

findings of Hernández *et al.*, (2023), Zhang *et al.*, (2023) and Kiprotich (2022) who reported that, safety information sharing and cognition significantly and positively affected health and on productivity of the manufacturing industries.

The Effect of the Awareness of Occupational Safety Policies

Findings unveiled that, employees were advised to proactively enhance health and safety measures. This finding resembles that of Younos and Fathi (2023) who demonstrated that, safety and health policies improved the performance of water service projects because employees were advised to take health and safety measures. Additionally, the results established that, employees were consulted in making decisions when occurred changes in health and safety policies. This finding concurs with that of Rajuskar and Warule (2020) who indicated that, employees were aware of health and safety policies, took part in decision-making which later improved the performance associated with manufacturing industries. Furthermore, the findings established that, there was a positive but insignificant relationship between awareness of occupational safety policies and the performance of Mbozi Coffee Curing Factory in Mbozi district. This finding is contrary to that of Segbenya and Yeboah (2022), and Obong *et al.*, (2021) who established that, awareness of the occupational health and safety policies among employees significantly and positively affected the organisational performance.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This section aims at presenting conclusions based on key findings obtained in the field as well as the presented discussions. It is concluded that, employee safety training has a statistically positive and significant relationship with the performance of Mbozi Coffee Curing Factory because it helps the organisation to avoid costly legal issues due to occupational-related illnesses, improves employee skills to handle occupational health and safety emergencies and it prevents employee turnover due to occupational-related illnesses.

Additionally, safety-related information cognition significantly and positively affected the performance of Mbozi Coffee Curing Factory because it helps workers to share health and safety-related information, reduce risks at the workplace and understand safety-related information laws.

Lastly, awareness of occupational safety policies despite having a positive but insignificant relationship with the performance of Mbozi Coffee Curing Factory, shows that, employees are advised to proactively enhance health and safety measures and are also consulted in making decisions when occurs changes in health and safety policies.

Recommendations

Human resource managers in Mbozi Coffee Curing Factory should enhance employee safety training and safety-related information cognition because they positively and significantly affect the performance of Mbozi Coffee Curing Factory. Occupational safety policies should not be ignored by the human resource managers despite being insignificant to the performance of the manufacturing industry in Mbozi district. This is because it helps workers to take part in decision-making process about health and safety policies.

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