Occupational Safety & Health (OSH) and Employee Productivity

Case Study: Gumutindo Coffee Cooperative Enterprise Ltd (GCCE)

Agaba Myres Muganga

2015-M102-40002

September 2018

Occupational Safety & Health (OSH) and Employee Productivity
Case Study: Gumutindo Coffee Cooperative Enterprise Ltd (GCCE)

A Postgraduate Dissertation presented to the Faculty of Business Administration and Management in partial fulfillment of the requirements for the award of degree of Master of Business Administration

Uganda Martyrs University

Agaba Myres Muganga
2015-M102-40002

September, 2018

DEDICATION

This dissertation is dedicated to my lovely wife Nalongo Julian Agaba, our wonderful sons Favour Embabazi, Shalom Nomwesigwa & Enoch Rukundo. I am blessed to have such a wonderful and lovely family.

ACKNOWLEDGEMENTS

I take this opportunity to acknowledge everyone who contributed towards the success of this Dissertation. First of all I thank my supervisors Fr. H. R. Waiswa and Mr. Kiizah Pastor for their wise guidance in the entire process of conceptualizing the research problem, writing the research proposal, defending the proposal, data analysis and dissertation writing. Their counsel clearly guided me through the best way of doing research.

I take this opportunity to thank Mr. Ekwang Raymond and my course mates for their support towards putting together the information for this work. I am grateful to the management of Gumutindo Coffee Cooperative Enterprise Ltd for allowing me to conduct the research undertaken for this dissertation and all respondents who accepted to complete the questionnaires.

I would like thank my family, siblings, daddy, mummy and brethren at Pearl Haven Christian Center for their moral support.

Lastly but not least, I bless the Lord God for enabling me to start this course and also completing this dissertation.

God bless you all.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ABS: Australian Bureau of Statistics

ASR: Accident Severity Rate

CVI: Content Validity Index

CY: Coffee Year

DIFR: Disabling Injury Frequency Rate

EU: European Union

FIFR: Fatality Injury Rate

GCCE: Gumutindo Coffee Cooperative Enterprise

GDP: Gross Domestic Product

HERO: Health Enhancement Research Organization

ICT: Information Computing and Technology

ILO: International Labor Organization

ISO: International Standards for Organizations

MLRA: Multivariate Linear Regression Analysis

OHS: Occupational Health and Safety

OHSMT: Occupational Health and Safety Management Team

OSH: Occupational Safety and Health

OSHE: Occupational Safety, Health and Environment

PPE: Personal Protective Equipment

RPE: Respiratory Protective Equipment

SPSS: Statistical Package for Social Sciences

UCDA: Uganda Coffee Development Authority

UCF: Uganda Coffee Federation

US: United States

WHO: World Health Organization

ABSTRACT

This study sought to investigate the effect of Occupational Safety and Health on Employee Productivity a case of Gumutindo Coffee Cooperative Enterprise Ltd. The specific objectives were; to examine the effect of safety policy on employee productivity, to examine the effect of personal protective equipment (PPE) on employee productivity and to examine the effect of work conditions on employee productivity. The researcher used a case study research design. The sample size of the study was 76 respondents drawn from a population of 94.

Findings indicated that safety policy had Adjusted $R^2 = 0.933$. This means that 93.3% (0.933×100) variations in employee productivity is explained by safety policy; Personal Protective equipment (PPE) had Adjusted $R^2 = 0.938$ meaning that PPE results into 93.8% variation in Employee productivity; and work conditions had Adjusted $R^2 = 0.930$ meaning that work conditions result into a 93.0% variation in Employee productivity in Gumutindo Coffee Cooperative Enterprise Ltd. The multiple regression gave Adjusted $R^2 = 0.946$ meaning that Occupational Safety and Health account for 94.6% variation in Employee productivity in Gumutindo Coffee Cooperative Enterprise Ltd.

The following recommendations were derived from the results, findings and conclusions of the study. First, the management of GCCE should continuously avail to all employees the organization's safety policy. Secondly, PPE should continuously be availed to all workers and then sensitized on how to adequately use them while on the organization premises. Thirdly, the researcher recommends that the management of Gumutindo should continuously improve the work conditions if they are to register a great improvement in the Employee productivity. Lastly, the management of GCCE should explore and implement sustainable policies inclined towards improving work conditions, PPE usage and adhering to safety policy as a means of enhancing its Employee productivity.

CHAPTER ONE

GENERAL INTRODUCTION

1.0 Introduction

This chapter discussed the back ground to the study, statement of the problem, the objectives of the study, research questions, significance of the study, justification, scope of the study, limitations of the study and the conceptual framework.

1.1. Background to the study

Employees play a vital role in organizations' productivity. According to Armstrong (1995), human resource is the most important component in the company and in the implementation of the production process. It can, therefore be said that organizations can experience improved employee productivity if proper consideration is given to occupational safety and health of employees (Allen and Meyer, 1990). An environment that is professional and conducive for work needs to be created by an employer in order to keep employees motivated. If this environment is created, the employees are likely to work hard and successfully complete each assignment as expected of them. However, the number of accidents in factories resulting into body injury and in extreme cases death is a great cause of worry. This draws from the fact that these unhealthy and unsafe work conditions not only results into frequent absenteeism and huge compensation costs but above all negatively affects employee productivity in the long run.

According to Dr. Emmanuel Iyamulemye Niyibigira, the Managing Director Uganda Coffee Development Authority, "a total of 3.315 million 60-kilo bags of coffee were exported compared to 3.455 million bags the previous year. This represents a 4.06% drop in export volume. On the

other hand, the value of coffee exports dropped by 20% from US$ 410 million in the coffee year (CY) 2014/2015 to US$ 327 million in the CY 2015/2016'.

According to the export records of Gumutindo, the number of containers exported in coffee years 2014/2015, 2015/2016, 2016/2017 is 32, 33, & 28 respectively as compared to an average of 38 containers in the recent previous years. Annan (2010), noted that there are negative implications that unsafe and unhealthy work conditions have on productivity but there is usually a significant increase in volumes and quality of the production output where employees safety and health are given due diligence.

Health and safety in the workplace is essential for ensuring that people are not harmed during work, and that pain, suffering and loss of life are avoided. Ensuring that people are not injured can extend the productive working lives of citizens and contribute to economic growth and prosperity. The International Labour Organization (ILO, 2003) defines occupational health and safety (OHS) as the outcome of adequate protection of a worker from sickness, injury and disease arising from work. In the words of (Abddllah et al, 2009) Occupational health can be described as a sound state of the body and mind of people from illness resulting from the materials, processes or procedures used in the workplace, while occupational safety is the protection of people from physical injury. In the views of (Mathis and Jackson, 2004), occupational health refers to a general state of physical, mental, and emotional well-being of a worker. Thus, these writers share the same view that a healthy worker is the one who is free from illness, injury, mental and emotional problems that may impair his normal work activity or routine.

The benefits of promoting occupational health and safety include enabling people to live happier and longer lives, enhancing economic activity, reducing demand on health and social services and reducing the costs associated with illness and injury on both individual and community bases (Cudjoe, 2011and Bennet, 2011). According to the Daily Monitor newspaper of Uganda of Friday, June 24, 2016 page 38, "International Labor Organization estimates that over 270 million work-related accidents occur, 2 million of which are fatal. In economic terms, the cost of losses resulting from workplace diseases and accidents is estimated at about 4% of global GDP" and also "Half of Ugandan Workers have no Protective gear".

It is on this back ground therefore that this study was done.

1.1.2 Background of the Case Study

The manufacturing and processing sector in Uganda is growing at a fast rate and the development of the sector is sustained by a productive workforce. Meeting the needs of employees, safe work conditions and retention help the sector grow. Gumutindo coffee cooperative Enterprise limited is one of the players in the manufacturing and processing sector.

Gumutindo Coffee Cooperative Enterprise Ltd. (GCCE) is a secondary producer which began in 1998 as a joint project between Bugisu Co-operative Union (BCU) and Twin Trading, a UK alternative trading organization that sources Fair-trade coffee for partners such as Cafédirect. The project initially comprised four primary cooperative society members from BCU but currently the co-operative is owned by 15 primary co-operative societies with 9,000 individual members. They produce 100 percent certified organic and fair trade Arabica coffee. They also address trade integrated with climate change adaptation, gender and HIV/AIDS. Gumutindo – means 'excellent'. A study for the UK government found that farmers in Gumutindo's supply chain received a number of benefits, including training to improve coffee quality, assistance to

convert to organic production, access to transparent market information, exposure to new market opportunities and greater involvement in the company's operation which enhanced mutual trust and commitment. They export 900 tons of coffee to markets in Europe, America, New Zealand and Asia. Their turnover in 2011 was USD 7 million. Because of fluctuations in the production quality and quantity, the researcher decided to make Gumutindo a case study.

1.2. Statement of the Problem

According to Dr. Emmanuel Iyamulemye Niyibigira, the Managing Director Uganda Coffee Development Authority, "a total of 3.315 million 60-kilo bags of coffee were exported compared to 3.455 million bags the previous year. This represents a 4.06% drop in export volume. On the other hand, the value of coffee exports dropped by 20% from US$ 410 million in the coffee year (CY) 2014/2015 to US$ 327 million in the CY 2015/2016'(THE COFFEE YEAR BOOK 2015/2016).

One quality personnel at Gumutindo Coffee Cooperative Enterprise (GCCE) who spoke on condition of anonymity noted that feedback from the buyers shows that the coffee quality has been inconsistent of recent; and one of the company technicians who also spoke on condition of anonymity, said that "we operate in a hazardous working environment yet the management does not care to give us adequate protective gear which is partly why our quality and volumes are fluctuating". Annan (2010), noted that there are negative implications that unsafe and unhealthy work conditions have on productivity but there is usually a significant increase in volumes and quality of the production output where employees safety and health are given due diligence.

Human resource is the most important component in the company and in the implementation of the production process (Armstrong, 1995). Therefore a company should pay attention to

maintaining the Occupational safety and health of its employees. However, the number of accidents in factories resulting into body injury and in extreme cases death is a great cause of worry. This draws from the fact that these unhealthy and unsafe work conditions not only results into frequent absenteeism and huge compensation costs but above all negatively affects employee productivity in the long run.

This study therefore endeavored to establish the effect of occupational safety and health (OSH) on Employee productivity taking Gumutindo Coffee Cooperative Enterprise (GCCE) as case study.

1.3. Objectives of the Study

1.3.1 Major Objective

To examine the effect of Occupational Safety and Health (OSH) on Employee productivity, a case study of Gumutindo Coffee Cooperative Enterprise (GCCE)

1.3.2 Specific objectives

i. To examine the effect of Safety Policy on Employee Productivity.
ii. To examine the effect of Personal Protective Equipment (PPE) on Employee Productivity.
iii. To examine the effect of Work Conditions on Employee Productivity.

1.4. Research Questions

i. What is the effect of Safety Policy on Employee Productivity?
ii. What is the effect of Personal Protective Equipment (PPE) on Employee Productivity?
iii. What is the effect of Work Conditions on Employee Productivity?

1.5. Scope of the Study

1.5.1 Geographical Scope

The study was based in Gumutindo Coffee Cooperative Enterprise (GCCE) head quartered at Plot 8-12 Mwanyi road, which is found in Mbale Industrial Area in Eastern Uganda. The researcher selected it because its productivity has not been stable in the recent years which could be attributed to poor occupational safety and health.

1.5.2 Time Scope

This study covered the period of 2014 to 2017, which included two major coffee production seasons; thereby including busy working periods and also time when there are many potential work hazards around the workstation. The years 2014/2015, 2015/2016 and 2016/2017 were years when the production problems were very rampant. However the study itself was conducted from October 2016 up to August 2017.

1.5.3 Content Scope

The Case Study was Gumutindo Coffee Cooperative Enterprise (GCCE) and major emphasis was put on Employee Productivity in relation to Occupational Safety and Health (OSH). This is because it is hard to separate an organization from its employees and achieving business goals can easily come about when the working environment is safe for the employees. The study thus involved all categories of staff that face different categories of work related hazards, accidents and illnesses because they are the same people who determine the level of productivity of the organization.

1.6. Significance of the Study

This research will help employers, human resource managers, technical supervisors and operational staff to give due attention to OSH such that the desired productivity will be achieved.

It will also help academicians and future researchers. When OSH is prioritized, the workers will feel protected from any work related hazard and it's also a motivation that the employer(s) care about their workers lives. Once employees feel secure about their safety and health, this will be very pivotal on increasing the productivity of the employees.

1.7. Justification

The researcher got interested in the study because organizations have difficulties with their productivity which can easily be attributed to challenges related to laxity in the emphasis of Occupational Safety and Health (OSH) in most manufacturing and processing industries in Uganda. According to the Daily Monitor of Friday, June 24, 2016 page 38, Half of Ugandan workers have no protective gear. This has led to many accidents, time loss, loss of revenue and low work morale. All these result into less Employee productivity. It's on this back ground that there is need to develop better understanding about the effect of OSH on employee productivity of any organization a case study of Gumutindo Coffee Cooperative Enterprise (GCCE). According to Armstrong (2011), the achievement of healthy and safe place of work & elimination to the maximum extent possible hazards to health and safety is the responsibility of every one employed in an organization. Some effects of the hazards/accidents are permanent; others are long and painful even when the victim is compensated.

1.8 Definitions of Key Terms

Occupational Health

Occupational health from the literature of Abddllah et al (2009) is described as a sound state of the body and mind of people from illness resulting from the materials, processes or procedures used in the workplace, whiles occupational safety is the protection of people from physical

injury. In the views of Mathis and Jackson (2004), occupational health refers to a general state of physical, mental, and emotional well-being of a worker.

Health

As defined by the WHO, Health is a state of complete physical, mental and social wellbeing, and not mere the absence of disease or infirmity.

Safety

It is the elimination of hazards, or their control to levels of acceptable tolerance as determined by the law, institutional regulations, ethics, personal requirements, scientific & technological capacity, experimental knowledge, economics and interpretations of cultural and popular practice. Safety is the protection of workers from the danger of industrial risks and hazards or accidents (Baker et al 1991).

Environment

According to The Oxford Reference Dictionary (Edited by Joyce M. Hawkins), an environment means surroundings, especially as affecting people's lives; conditions or circumstances of living

Work Environment.

Longman dictionary of contemporary English (2003) defines work environment as 'all the situation, events, people that influence the way in which people live or work' while " work" is defined as ' a job you are paid to do or an activity that you do regularly to earn money'.

Accordingly, Kohun (1992), defines work environment as "an entirely" which comprises the totality of forces, actions and other influential factors that are currently and, or potentially contending with the employee's activities and performance. Work environment is the sum of the

interrelationship that exists within the employees and between the employees and the environment in which the employees work.

Productivity

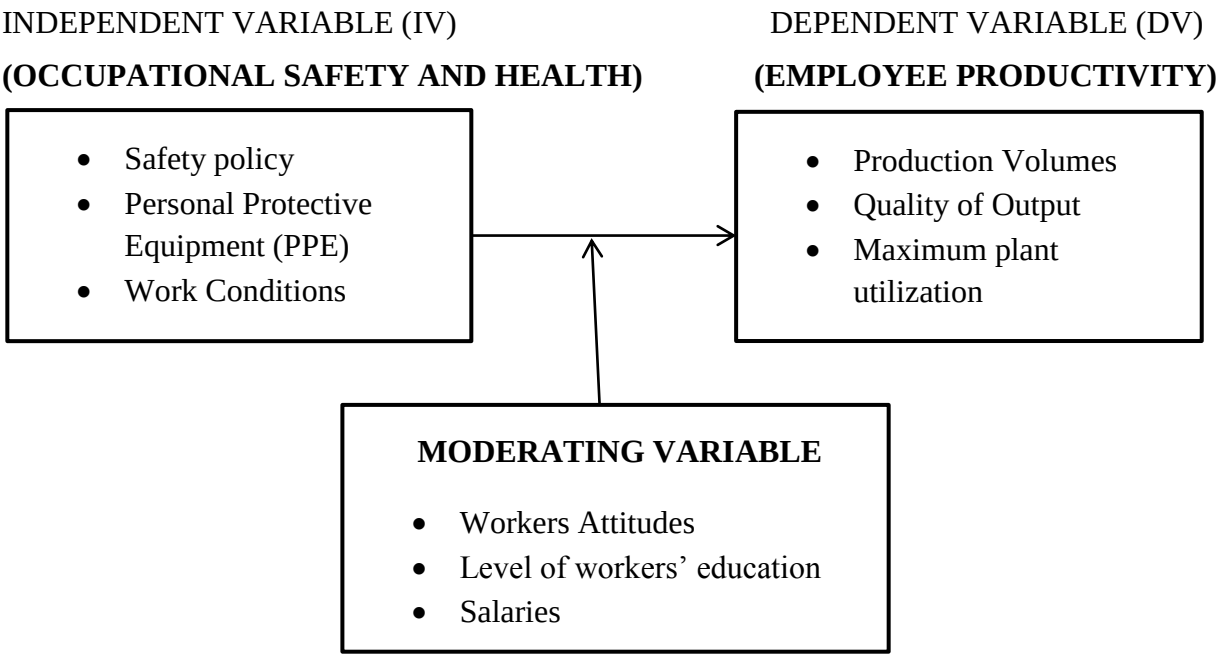
Productivity is a measure of the quantity and quality of output produced per unit of resource input. Productivity implies reaching the highest level of performance with the least expenditure of resources. The foregoing are in consonance with the common approach to productivity which according to Adamu (1991), is a type of relation between output and input. The relations as Adamu states further, compares outputs with one or more inputs, often factors inputs like labour and capital to define some meaningful measures

Policy

It is a set of basic principles and guides formulated and enforced by management of an organization in directing and limiting its actions in pursuit of long-term goals

1.9. Conceptual Framework

Figure 1.1: Conceptual Framework



Source: ARMSTRONG, M., 2011. ***A handbook of Human Resource Management Practices*****.**

The Conceptual Framework above shows the relationship between Occupational Safety and Health (OSH) and Employee Productivity. Occupational safety & health was the independent variable (IV) and Employee productivity was the dependent variable (DV). Employee Productivity was measured by production volumes, quality of output and maximum plant utilization while occupational safety and health was measured by safety policy, personal protective equipment (PPE) and work conditions. According to this study, a change in the independent variable (i.e. OSH) directly causes a change in dependent variable (Employee Productivity). However there are other factors that can affect productivity though they are not the focus of our study; and these are the moderating variables e.g. salary, workers' attitude and educational level.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

For the purpose of making any meaningful and realistic conclusion on the data drawn from the study, it is important that a closer look is taken at similar works done on occupational safety and health with reference to productivity and review some of the literatures pertinent to the study, in order for comparison, confirmation and differences to be laid bare. Therefore, this chapter is meant to contain the review of various literatures considered to be relevant to the study.

Best (1986:39) views Review of Literature as ‘a summary of the writings of recognized authorities and previous research that provides evidence that the researcher is familiar with what is already known and what is still unknown and untested’

2.2. Theoretical Review

2.2.1 Heinrich's Domino Theory

According to 1932 First Scientific Approach to Accidents/Prevention by H. W. Heinrich, an "accident" is one factor in a sequence that may lead to an injury.

The factors can be visualized as a series of dominoes standing on edge; when one falls, the linkage required for a chain reaction is completed. Each of the factors is dependent on the preceding factor.

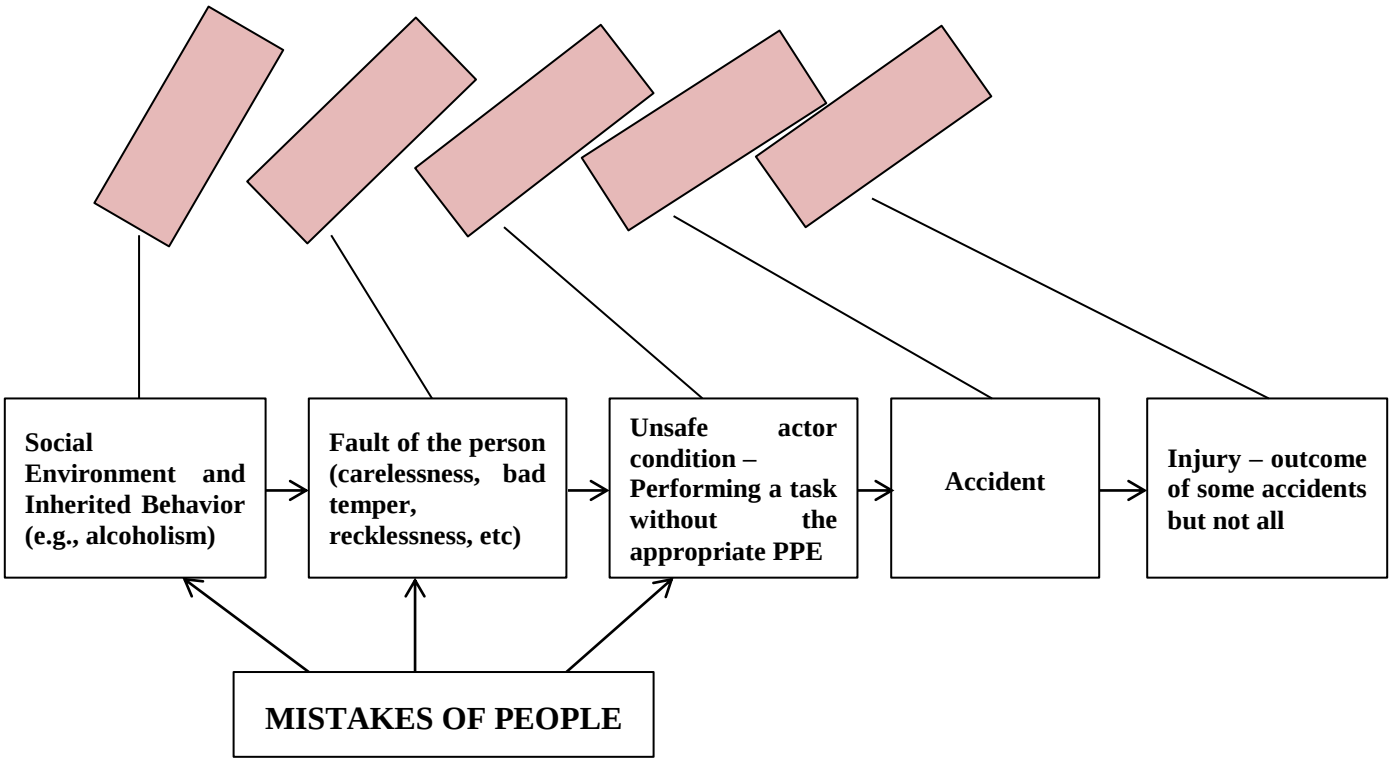


Figure 2.1: 1932 First scientific approach to accident/Prevention - H.W. Heinrich

According to figure 2.1 above, a personal injury (the final domino) occurs only as a result of an accident; an accident occurs only as a result of a personal or mechanical hazard; personal and mechanical hazards exist only through the fault of careless persons or poorly designed or

improperly maintained equipment; faults of persons are inherited or acquired as a result of their social environment or acquired by ancestry; the environment is where and how a person was raised and educated.

Heinrich's Domino Theory – Critical Issues

The factor preceding the accident (the unsafe act or the mechanical or physical hazard) and it should receive the most attention. Heinrich felt that the person responsible at a company for loss control should be interested in all five factors, but be concerned primarily with accidents and the proximate causes of those accidents. Heinrich also emphasized that accidents, not injuries or property damage, should be the point of attack. An accident is any unplanned, uncontrolled event that could result in personal injury or property damage. For example, if a person slips and falls, an injury may or may not result, but an accident has taken place. The best way of handling and ensuring a safe work environment is to follow the Heinrich's Domino Theory – Corrective Action Sequence (The three "E"s) thus**:**

Engineering – Control hazards through product design or process change**;** Education – Train workers regarding all facets of safety**;** Impose on management that attention to safety pays off**;** Enforcement – Insure that internal and external rules, regulations, and standard operating procedures are followed by workers as well as management.

Relevancy of Heinrich Domino theory to the Study

According to Kyko (2005), conducive work conditions give pleasurable experience to employees and enable them to actualize their abilities and behavior. This will in turn impact on the employees' productivity.

Conducive conditions according to Heinrich are achieved when the action sequence of 3Es i.e. engineering, education & enforcement is emphasized.

The three Es will; control hazards through product/process design formation of design teams, concurrent engineering where people from all functional areas are involved or process change**.** Train workers regarding all facets of safety e.g. preventive maintenance; avoid careless activities, knowledge of when machines should be serviced and procedures to be followed in case of accidents. Manuals and standard operating procedures (SOP) should be emphasized. Impose on management that attention to safety pays off and should be from top to bottom**;** and ensure that internal and external rules, regulations, and standard operating procedures are followed by workers as well as management. Safety committee should be in place and operational and procedures in case of an accident. Once these are taken care of the productivity of employees will increase.

2.2.2 Herzberg's Two-Factor Theory of Motivation

Herzberg's Two-Factor theory divides motivation and job satisfaction into two groups of factors known as the motivation factors and hygiene factors. According to Frederick Herzberg, "the motivating factors are the six 'job content' factors that include achievement, recognition, work itself, responsibility, advancement, and possibility of growth which bring about Employee productivity. According to Turner and Lawrence (1965), Hygiene factors are the 'job context' factors, which include company policy, supervision, relationship with supervision, work conditions, relationship with peers, salary, personal life, relationship with subordinates, status, and job security" (Ruthankoon, 2003). Basically the theory differentiates the factors between intrinsic motivators and extrinsic motivators. The intrinsic motivators, known as the job content factors, define things that the people actually do in their work; their responsibility and achievements both as individuals as well as an organization. These factors are the ones that can contribute a great deal to the level of job satisfaction an employee feels at work. The job context factors, on the other hand, are the extrinsic factors that someone as an employee does not have much control over; they relate more to the environment in which people work than to the nature of the work itself (Schermerhorn, 2003). Herzberg identifies these factors as the sources for job dissatisfaction. "Hertzberg reasoned that because the factors causing satisfaction are different from those causing dissatisfaction, the two feelings cannot simply be treated as opposites of one another. While at first glance this distinction between the two opposites may sound like a play on words, Herzberg argued that there are two distinct human needs portrayed" ("Herzberg's Motivation-Hygiene Theory," 2002).

Therefore, the basic premise of the Two-Factor Theory is that if an employer or manager is trying to increase job satisfaction and ultimately job performance for an employee or coworker, they need to address those factors that affect one's job satisfaction. The most direct approach is to work on the intrinsic, job content factors. Giving the employee encouragement and recognition helps them to feel more valued within the company, as well as giving a sense of achievement and responsibility. Herzberg says, that "the only way to motivate the employee is to give him [her] challenging work in which he [she] can assume responsibility" (Leach, 2000). I think that this statement can be applied to any job within any industry. If the employee does not feel some responsibility associated with a certain task or department, he/she will not feel like their work is worthwhile. Also "people must believe that they are capable of attaining a goal before they will commit serious energy [or motivation] to it" (Hunsaker, 2005). Therefore, it is important to include your employees in the decision making and at times the job assignment or delegation. This will help the employee to feel more responsibility and in turn a higher level of motivation which will highly improve the productivity of the organization.

On the other hand, employers need to consider the level of job dissatisfaction among their employees as well because this will determine the level of productivity. To directly approach the issue of dissatisfaction in the work place and to try and revitalize the environment a bit, employers need to focus on the hygiene or job context factors. In the two-factor theory, job satisfaction and job dissatisfaction are totally separate dimensions. Therefore, when trying to improve a factor that effects job dissatisfaction, an extrinsic factor, such as the working conditions, this will not alter the employees perception of whether they are satisfied with their

work; it will only prevent them from being dissatisfied (Schermerhorn, 2003). The following is a brief explanation of the factors and how they might apply to the work environment.

All of the factors, both motivation and hygiene, can have positive and negative attributes; however, both will have an effect on the employee satisfaction or dissatisfaction none the less.

The following is a glance at each of the motivation factors according to Herzberg.

Achievement: An example of positive achievement might be if an employee completes a task or project before the deadline and receives high reviews on the result, the satisfaction the employee feels would increase. However, if that same individual is unable to finish the project in time, or feels rushed and is unable to do the job well, the satisfaction level may decrease. **Recognition**: When the employee receives the acknowledgement they deserve for a job well done, the satisfaction will increase. If the employees work is overlooked or criticized it will have the opposite effect (Hunsaker, 2005).

Work itself: This involves the employees' perception of whether the work is too difficult or challenging, too easy, boring or interesting. **Responsibility**: This involves the degree of freedom an employee has to make their own decisions and implement their own ideas. The more liberty to take on that responsibility the more inclined the employee may be to work harder on the project, and be more satisfied with the result. **Advancement**: This refers to the expected or unexpected possibility of promotion. An example of negative advancement would be if an employee did not receive an expected promotion or demotion. **Possibility of Growth**: This motivation factor includes the chance one might have for advancement within the company. This could also include the opportunity to learn a new skill or trade. When the possibility/opportunity for growth is lacking or if the employee has reached the peak or glass ceiling, as it is sometimes referred to,

this could have a negative effect on the satisfaction the employee feels with their job and position.

The following are the hygiene factors, which work in the same way with positive or negative attributes; however these factors can only have an effect on the dissatisfaction one feels.

Company Policy or Administration: An employee's perception of whether the policies in place are good or bad or fair or not, change the level of dissatisfaction that employee will feel.

Personal or Working Relationships: This is those relationships one engages in with their supervisors, peers, and subordinates. How someone feels about the interaction and discussions that take place within the work environment can also effect dissatisfaction. **Working conditions**: This includes the physical surroundings that one works within, such as the facilities or location.

Salary: This factor is fairly simple, the increase or decrease of wage or salary effects the dissatisfaction within a company a great deal. **Personal Life**: Although people try to separate the two, work and personal life, it is inevitable that one will affect the other. **Feeling a Job Security**: This is a pretty significant factor. The sense of job security within a position or organization as a whole relates to the dissatisfaction as well. (Ruthankoon, 2003).

Relevancy of Herzberg's theory to the Study

The basic principle of the Two-Factor Theory is that if an employer or manager is trying to increase job satisfaction and ultimately job performance for an employee or coworker, they need to address those factors that affect one's job satisfaction. The most direct approach is to work on the intrinsic, job content factors. Giving the employee encouragement and recognition helps them to feel more valued within the company, as well as giving a sense of achievement and responsibility. Herzberg says, that "the only way to motivate the employee is to give him [her]

challenging work in which he [she] can assume responsibility" (Leach, 2000). This statement can be applied to any job within any industry. If the employee does not feel some responsibility associated with a certain task or department, he/she will not feel like their work is worthwhile. Also "people must believe that they are capable of attaining a goal before they will commit serious energy [or motivation] to it" (Hunsaker, 2005). Therefore, it is important to include your employees in the decision making and at times the job assignment or delegation. This will help the employee to feel more responsibility and in turn a higher level of motivation which will highly improve the productivity of the organization.

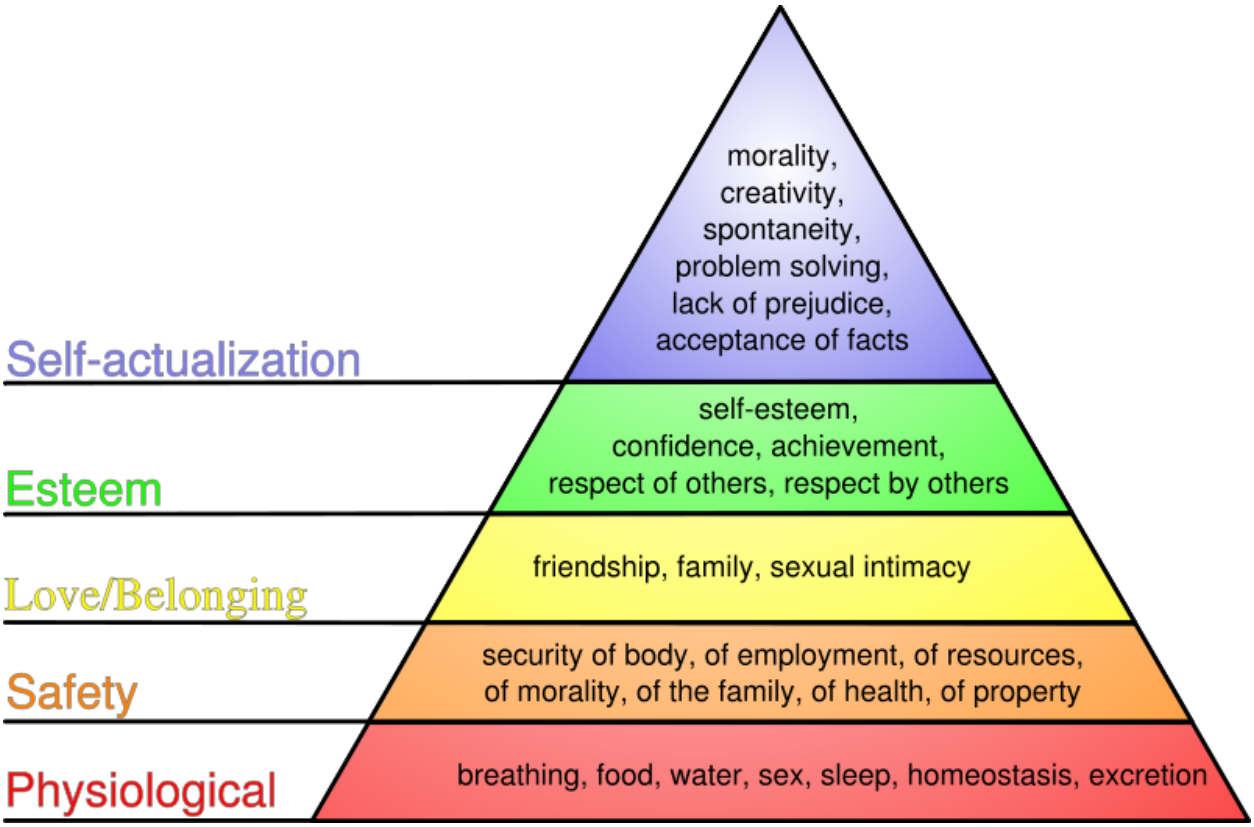
On the other hand, employers need to consider the level of job dissatisfaction among their employees as well because this will determine the level of productivity. To directly approach the issue of dissatisfaction in the work place and to try and revitalize the environment a bit, employers need to focus on the hygiene or job context factors. In the two-factor theory, job satisfaction and job dissatisfaction are totally separate dimensions. Therefore, when trying to improve a factor that effects job dissatisfaction, an extrinsic factor, such as the working conditions, this will not alter the employees perception of whether they are satisfied with their work; it will only prevent them from being dissatisfied (Schermerhorn, 2003). According to Herzberg's theory, motivating factors lead to job satisfaction and hygiene factors lead to job dissatisfaction which impacts employee productivity. Motivating factors will help workers to achieve their individual targets thus in turn achieving the goal of the organization. Therefore the employer should consider both motivating and hygiene factors in order to increase employee productivity.

2.2.3 Maslow's Hierarchy of Needs Theory

All of us are motivated by needs. Maslow's Hierarchy of Needs describes how rudimentary needs must be fulfilled before more complex needs or desires are contemplated. There are 5 levels of needs in the hierarchy; biological and physical needs, Safety needs, Belonging and love needs, Esteem needs and at the top Self-actualization.

The bottom 4 levels of needs are described as deficiency motivators by Maslow because when we fulfill these needs we satisfy a need for something we don't have. The top level need is characterized as a growth motivator because self-actualization means that a person is realizing their personal potential, seeking peak experiences for personal growth. Maslow held that each stage of need must first be fulfilled before progressing to the next. Thus Maslow cites that when deficiencies exist in these five basic requirements for survival, people become incapable of developing any ambition, much less acting on it and achieving their full potential. Maslow's Hierarchy of Needs is best displayed in a diagram of a multi-layered pyramid, with the lowest order needs shown on the bottom and the highest order needs at the apex of the pyramid.

Figures 2.2: Maslow's Hierarchy of Needs Theory



Source: Maslow (1954)

Relevant to this research is the safety needs. Safety needs according to Maslow refers to the need for security and protection. In order to live a life that is unlikely to be taken away prematurely, we must have a sufficient level of protection in place. This explains our desire as humans for a neighborhood that is safe to reside in, health care and insurance, some form of shelter, and a job that is secure and pays enough for us to live properly. Maslow's hierarchy of needs shows that human beings carryout different activities to achieve self-fulfillment which is the highest need.

Relevancy of Maslow's Hierarchy of Needs Theory to the study

The hierarchy of needs theory is relevant to this study as the theory is applicable to Employee productivity and employee motivation (Greenberg & Baron, 2003). They further argue that the theory is able to suggest how managers can lead their employees or subordinates to become self-actualized. The idea implies the dual role of the theory first to organizations and second to employees on the basis that both the organization and the employees must decide on the performance of their organization, and that when employees put in their best in the service of the organization, the culture and human resource practice should also ensure that the employees' level of needs are reflected in the values the organization holds with high esteem (Greenberg & Baron, 2003).

Safety needs today, manifest themselves as job security; that is a job that is secure and pays enough for us to live properly., financial security, health and wellbeing. A safe and secure working environment reduces the threat of physical injury. When workers believe that the level of risk has been minimized and that good health and safety practices are judiciously enforced and monitored by management, they feel more comfortable and are less distracted from performing their tasks and interacting with others (Storey, 1992).

Likewise, when workers health is at risk that is the environment or workplace is not safe, the workers competence at his/her job slow down, leading to low productivity and poor performance. Hence, conscientious safety practices reduce absenteeism as well, which can impact productivity and morale. Security also extends to emotional well-being in the workplace. An employer that provides medical benefits contributes to retirement plans and is financially solvent makes workers feel more secure about their jobs and the future. Maslow's theory is

relevant to the present work because it demonstrates the importance of safety in motivation of an employee. Once the employees are motivated, their productivity level increases.

2.3 Conceptual Review

2.3.1 Occupational Safety

It is the elimination of hazards, or their control to levels of acceptable tolerance as determined by the law, institutional regulations, ethics, personal requirements, scientific & technological capacity, experimental knowledge, economics and interpretations of cultural and popular practice. Safety is the protection of workers from the danger of industrial risks and hazards or accidents (Pollitt 2011).

Safety policy

According to the government of Newfoundland and Labrador Department of Transportation and Works; Occupational Health and Safety Manual on the Subject of Leadership and Administration Section1.0, Page 4, October 12, 2004, everyone employed by an organization has a personal responsibility to become involved in solving health and safety problems. It should be the goal of an organization to have all employees working together to identify and control situations that could cause harm and to integrate health and safety practices into their daily activities. Employees' participation is crucial to effective health and safety. For an organization to effectively implement the necessary safety, it has to do the following; recognizes that each employee has a right to a work environment which will not adversely affect his or her health and safety; is committed to providing safe workplaces for all its employees; is committed to protecting the health and safety of its contracting parties and the public; will diligently carry out the employer duties contained in the Occupational Health and Safety Act and regulations; will

minimize the risk of occupational injury, illness, and property damage through: Implementing a comprehensive health and safety program; Ensuring supervisors identify and control workplace hazards and communicate information about those hazards throughout the workplace; Training, supporting, and working cooperatively with health and safety committees (Kyko, 2005).

General Safety rules

All accidents, incidents, and injuries as well as unsafe acts and conditions observed by an employee are to be reported promptly to their immediate supervisor, and not later than the end of the working day, (Baker et al 1991). Employees are also required to report any concerns about poor workstation / task design and any early signs or symptoms of soft tissue injuries they may experience; First aid treatment is to be obtained promptly for any injury, and must be recorded in the First Aid Logbook; Employees shall comply with the Occupational Health and Safety Act and regulations; All work must be carried out according to appropriate safe work practices and safe work procedures where applicable; Employees must wear proper Personal Protective Equipment (PPE) in accordance with safe work practices, and shall maintain and clean personal protective equipment which is issued to them; Tools are to be used only for the purpose for which they were intended; Only tools which are in good repair shall be used; Tools which are designed for use with guards and safety devices shall not be used if those guards or safety devices have been removed or tampered with; All tools or equipment which have been damaged or become worn are to be promptly tagged and taken out of service for repair or replacement; Good housekeeping practices must be maintained daily in all work areas. This includes personal work areas/offices; Employees are prohibited from arriving at work or remaining at work when their ability to perform the job safely is impaired for any reason; Employees shall actively participate in the department's safety program, including attendance at training sessions;

Horseplay, fighting, harassment of any kind, and otherwise interfering with another worker is strictly prohibited; Where there is a danger of entanglement, employees may not wear rings, watches, or other jewelry or loose fitting clothing, and shall confine long hair.

The above list is illustrative and not intended to be exhaustive. Individual workplaces or work groups may develop additional rules appropriate to their operations.

Personal Protective Equipment (PPE)

According to (Baker et al 1991), in terms of hazard control, personal protective equipment (PPE) is considered a method of last resort and should not be used as a substitute for other reasonable measures which would result in the control of a hazard. Personal protective equipment is the last line of defense a person has against a hazard that may be encountered on the job. The proper use of this equipment may reduce or eliminate the extent of harm or injury and therefore its importance must not be under-estimated. It is critical that the appropriate personal protective equipment for the situation is used, and that: its limitations are fully understood; it is properly fitted for the individual; the person using the personal protective equipment is trained in its use, care and maintenance; and is regarded by the person using it as normal attire for working in that environment or with the particular hazard. The department holds each individual to whom personal protective equipment has been issued fully accountable for maintaining it in good operating condition.

2.3.2. Occupational Health

Occupational health from the literature of Abddllah et al (2009) is described as a sound state of the body and mind of people from illness resulting from the materials, processes or procedures used in the workplace, whiles occupational safety is the protection of people from physical

injury. In the views of Mathis and Jackson (2004), occupational health refers to a general state of physical, mental, and emotional well-being of a worker.

2.3.3. Work Environment.

Longman dictionary of contemporary English (2003) defines work environment as 'all the situation, events, people that influence the way in which people live or work' while " work" is defined as ' a job you are paid to do or an activity that you do regularly to earn money'.

Accordingly, Kohun (1992), defines work environment as "an entirely" which comprises the totality of forces, actions and other influential factors that are currently and, or potentially contending with the employee's activities and performance. Work environment is the sum of the interrelationship that exists within the employees and between the employees and the environment in which the employees work.

Table 1- Consequences of accidents at work and work related ill-health for different groups

	More or Less tangible	**Non Tangible**
Victim	Pain and suffering, Moral and psychological suffering (especially in the case of a permanent disability), Lowered self-esteem, self-confidence, Strain on relationships, Lifestyle changes	Loss of salary and premiums Reduction of professional capacity Medical costs Loss of time (medical treatments)
Family and friends	Moral and psychological suffering Medical and family burden Strain on relationships	Financial loss Extra costs
Colleagues	Psychological and physical distress Panic (in case of serious or frequent accidents/cases of ill-health)	Loss of time and possibly also of premiums, Increase of workload Training of temporary workers

Company	Presenteeism (employees are present at work but limited in their job performance by physical and/or mental problems) Company image Working relations and social climate	Internal audit, Absenteeism Decrease of the production Damages to the equipment, material Quality losses, Training of new staff Technical disturbances Employee difficulties Increase of production costs Increase of the insurance premium or reduction of the discount, Early retirement, Legal sanctions
Society	Reduction of the human labor potential Reduction of the quality of life	Loss of production, Increase of social security costs, Medical treatment and rehabilitation costs, Early retirement Decrease of the standard of living

From the table above, deficiency in occupational safety and health cause un safe work conditions which may lead to accidents that reduce professional capacity, financial loss, loss of time, increase of work load, training of temporary workers and decrease of production among others. All the above will in turn negatively affect the productivity of workers.

Work Conditions are as a result of the work environment that is largely divided into two types of work environment according to Kyko (2005), which are conducive and toxic work environments. Conducive work environment gives pleasurable experience to employees and enable them to actualize their abilities and behavior. This type of environment also reinforces self-actualizing behaviours. For instance, an irresponsible employee can change into a responsible employee in a conducive work environment. Toxic work environment gives unpleasant experiences and at the same time, de-actualize employees' behavior. This environment reinforces low self-actualizing

behaviours and it leads to the development of negative traits of the employees' behavior. In toxic work environment, responsible and sensible employee can change into irrational and irresponsible employee as a survival strategy. Kyko (2005) identified six factors which contribute to a toxic work environment hence contributing to low productivity of workers. The factors are: opaque management, biased boss, and company's policies, working conditions, interpersonal relationship and pay. Mali (1978) sees productivity as "the measure of how resources are brought together in organizations and utilized for accomplishing a set of results. Productivity is reaching the highest level of performance with least expenditure of resources.

2.3.4. Employee Productivity

Employee productivity is a measure of the quantity and quality of output produced per unit of resource input by the workers. On the other hand, productivity has been defined as the utilization of resources in producing a product or services (Gaissey, 1993).

It has further been defined as the ratio of the output (good and services) and input (Labour, capital or management). The definition of productivity is utilized by economists at the industrial level to determine the economy's health, trends and growth rate whiles at the project level, it applies to areas of planning, cost estimating, accounting and cost control (Mojahed, 2005).40

Health hazards and Employee productivity

A hazard may be defined as a condition, practice, or behavior that has the potential to cause injury, illness, or property damage. Occupational hazards are divided into two broad categories: (1) safety hazards, and (2) health hazards. Generally, health hazards bring about occupational illnesses, such as noise induced hearing loss. Safety hazards cause physical harm, such as cuts or broken bones (Elywood, 2009). Hazards exist in all workplaces. It is the duty of employees at the workplace to identify them and control or eliminate them once identified.

Generally, safety hazards are anything in the workplace that could cause an injury. The injury resulting from a safety hazard is usually immediate following contact with the hazard, unlike an occupational illness, where the effect of contacting the hazard may not be evident for an extended period of time after the contact. Injuries caused by safety hazards usually result in trauma to the body and may be explained as the hazard having a greater level of energy or force than the body is able to withstand during contact. Generally the types of safety hazards that may be found in the workplace include machine hazards i.e. moving parts, hot parts, absence of guards, poor maintenance; energy hazards; Electricity - overloaded circuits, Steam - boiling kettle, Heat - hot parts of equipment or tools, Pressure - pressure cooker, valves, boilers, Gravity - falling objects, mechanical - machines with moving parts, chemical - mixing solvents, Kinetic - slip and fall; and, Potential - hydraulic lift; confined space hazards; not intended for human occupancy, with restricted entry or exit; and where hazardous atmospheres exist (e.g. methane, hydrogen sulfide, oxygen deficient or oxygen enriched); materials handling hazards; mechanical materials handling - includes lifting, lowering, carrying, pushing, pulling and shoveling items; and handling hazardous materials - involves handling flammable, reactive, explosive and/or corrosive substances; and work practice hazards; failure to develop or follow safe work practices/procedures (e.g. working from heights without "fall arrest" equipment); and poor housekeeping (e.g. improper storage area, high stacking, grease on the floor).

Health hazards are usually categorized as one of four different types: Biological hazards; Physical health hazards; Physical demands (ergonomic) and stress; and Chemical hazards (Cascio 1986). Often, when hazards are identified, there may be more than a single factor operating. It is recommended that the relative contributions of four different factors be

considered when identifying a hazard. These contributing factors are: people, equipment, materials; and environment

Cost of Accidents

It has been noted that there are two major categories of cost resulting from accidents, usually referred as direct and indirect costs (Guyaguler T., 2000). The direct cost of the accidents consists of: cash expenses payable under the related laws, Medical benefits, Disablement expenses payable under the social insurance scheme, other benefits payable under the company's own scheme. The indirect costs of mine accidents can be outlined as follows: Cost of lost time of injured employee; cost of time lost by other employees who stop work out of curiosity, out of sympathy, to assist injured employee, and for other reasons; cost of time lost by foremen, supervisors, or other executives when assisting the injured person(s), investigating the cause of accident, arranging for the injured employee's production to be continued by some other worker, selecting, training or breaking-in a new worker to replace the injured man, and preparing accident reports required by law, or attending hearings related to compensation claims; cost of time spent by the first-aid attendant and hospital department staff; cost due to damage to machine, tools or other property or to the spoilage of material; Incidental cost due to interference with production, failure to fulfill orders in time, payment forfeits, and other similar causes; cost of employer in continuing the wages of the injured worker who is not yet fully recovered may, for a time, be worth only about half of the normal value; cost due to loss of profit or the injured worker's efficiency and production; cost of the subsequent injuries that occurs in consequence of the excitement or weakened morale due to the original accident; cost of light, rent and other such items, which continue to be incurred while the injured employee continues to be non-productive. It has been noted (Handley W., 1977) that in order to determine the cost of the accidents, it is

necessary to obtain reliable data. If there is not sufficient data, the statistical results will not be true.

In some cases the indirect cost of the accidents may be four times of the direct cost (Heinrich H. W., 1980). Direct costs can be calculated from standard accident report form with the cost models (Guyaguler T., 2000). So, the indirect costs can also be calculated with the compromise measure of 4:1.

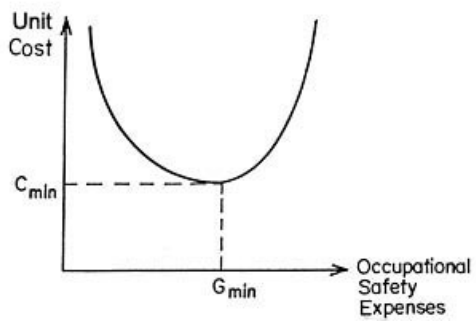


Figure 2.2: Relationship between the safety expenses and cost of the accident

Health and productivity

At the core of the healthy organization perspective is the relationship between healthy work contexts and Employee, rather than individual, outcomes. Productivity, or Employee performance, is one set of outcomes. Baker et al (1991: 93), observing that "there can be little question that an injured worker reduces productivity," caution against using productivity incentives that increase the chance of injury.

Most research linking employee health to productivity takes a conventional health promotion perspective. This reflects the expansion in the U.S. of workplace wellness programs in a drive to reduce employer medical care costs (Baker and Green, 1991). However, several major research initiatives are taking a broader perspective that integrates work environments, employee health and productivity. For example, the Health Enhancement Research Organization (HERO) is a

non-profit organization concerned with health promotion research, health and productivity and disease management (Brandt-Rauf et al, 2001). The goal is to integrate health promotion into all corporate functions, from human resources, benefits, employee assistance programs, occupational health and safety, workers' compensation, Employee development and business operations. These ideas have entered mainstream thinking in workplace health promotion. As the editor-in-chief of the American Journal of Health Promotion recently explained, the basic assumption is that: "human performance is higher when people are physically and emotionally able to work and have the desire to work. Higher levels of human performance lead to higher levels of productivity, which in turn can lead to higher profits" (O'Donnell 2001: 215).

Workplace factors and productivity

It is generally accepted that productivity growth in most Organization for Economic Cooperation and Development (OECD) countries has been far from stellar during the last three decades. One result is slow increases in living standards. This has motivated policy advisors and social scientists to more closely examine the factors driving productivity performance. Traditionally, good health was thought to arise from economic prosperity, but economists now propose that prosperity depends on a healthy population. Healthy citizens lead to healthy economies (Brandt-Rauf et al 2001). This idea should resonate now, given that individuals' knowledge and skills are widely viewed as cornerstones of innovation and growth.

Health promotion researchers are constrained by the complexities of productivity and, as a result, tend to take a very narrow view of productivity outcomes. The most developed area examines the financial impact of workplace health promotion programs. Aldana's (2001) review of 72 peer-reviewed articles on this topic documents that the main productivity-related outcomes studied are employer health care costs and absenteeism. While both absenteeism and employer health care

costs affect operating efficiency, neither capture current human-capital based conceptions of productivity, nor do they address how work environment factors affect these outcomes. But as Aldana (2001: 297) observes, "in an economy that is increasingly information-based, the concept of productivity is somewhat more difficult to quantify." Workplace conditions establish a virtuous circle connecting worker health and well-being with innovation and skill development. Furthermore, the most effective economic incentives would lead employers to adopt healthy workplace practices (Gunderson and Hyatt 2002).

2.3.5 Moderating Variables

Workers' Attitude

An attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor (Eagly and Chaiken, 1998). Attitude describes the way an employee feels inside. These are an employee's feelings toward his employer, his co-workers and his position within the organization. All employees have attitudes toward their working environment.

Attitudes exhibited by employees can directly affect the atmosphere and productivity within organizations. An environment that is professional and conducive for work needs to be created by an employer in order to keep employees motivated. If this environment is created, the employees are likely to work hard and successfully complete each assignment as expected of them. Organizations need to find ways to manage their employees' attitude so that positive attitudes can be exhibited by employees in order to increase productivity.

Level of workers' Education

During recruitment, employees are selected for different designations that require various educational levels, trainings and experience. (Beardwell et al. 2004) add that technological developments and organizational change have gradually led some employers to the realization that success relies on the skills and abilities of their employees, thus a need for considerable and continuous investment in training and development.

Appropriate levels of education help to acquire and improve knowledge, skills and attitudes towards work related tasks. It is one of the most important potential motivators which can lead to both short-term and long-term benefits for individuals and organizations. There are so many benefits associated with education & training. According to Cole (2001), the benefits include high morale, lower cost of production, lower turnover, change management, provide recognition, and help to improve the availability and quality of staff.

Salaries

One of the purposes of someone being the employee or a labor of an organization is to earn an income in the form of salary, wages or compensation. Salaries earned can fulfill basic necessities such as food, clothing and housing. Every company in setting the amount of the salary paid to an employee must be viable, so that the lowest salary/wage given to meet the needs of their life (Kanzunnudin, 2007). The calculation of salary increases not only the necessities of worth living but also inflation, economic growth, and productivity (Iqbal, 2013).

The concept of productivity of work is divided into two parts: Employee productivity and organizational productivity.

Aspects of remuneration becomes important because to be effective if linked to performance for real. An effective salary strategy is expected to contribute on the viability of the unit of work, the realization of the vision and mission, as well as for the achievement of the targets of work (Umar, 2012). Employee productivity measurement using the net value added shows wages and employee performance has a positive correlation, but the rate of growth of net value added per worker is faster than the rate of growth of wages per worker.

2.4. Empirical Review

2.4.1. The Effect of Safety Policy on Employee Productivity

From the words of Kofi Annan (former UN General Secretary) which is cited in Tawiah and Baah (2011) Health and Safety is not only a sound socioeconomic and political policy; rather a basic human right. Looking at the effect on occupational health and safety policy on employees' performance, Lim (2012) in his literature added that when workers understand the health and safety rules and procedures of their job and the tools used for working, it helps them to work effectively and efficiently resulting in better performance of employees. Again the literature provided by the Australian National Commission for Health and Safety (2002) on the benefit of promoting health and safety in organizations indicated that when employees are provided with safe working environment through the use of effective occupational health and safety management systems, it reduces employees absenteeism and this has direct effect on increase in productivity which the end result will be increase in profitability for the organization.

Workers Safety and Health is very necessary in every business undertaking according to Gennard and Judge (2005) “because of a clear link between Safety and Health and employee commitment and productivity. Therefore when a positive health and safety culture on the workplace is created, the results will be enormous.

According to the ILO, (2003) safety in an organization goes beyond wearing safety helmets or safety clothing. It is a philosophy that identifies and eliminates hazards associated with work. It discourages work habits that place individuals at risk of injury. A successful safety policy should firstly change the perception of both employees and employers that safety refers to the elimination of injury, instead of the prevention of illness, property damages and the promotion of healthy life styles (Annan, 2011).

According to Bandura’s model which is a psychological model that reflects a wide range of safety related evidence. It reveals a dynamic reciprocal relationship between psychological, behavioral and situational factors in the organization culture. The model is a derivation from the Social Cognitive Theory and it incorporates the ideas of cognitive based antecedents, self-evaluation rewards and the use of observable variables for assessment purposes. Figure 2.3 is the Bandura’s model of reciprocal determination illustrating how an organization safety culture looks like.

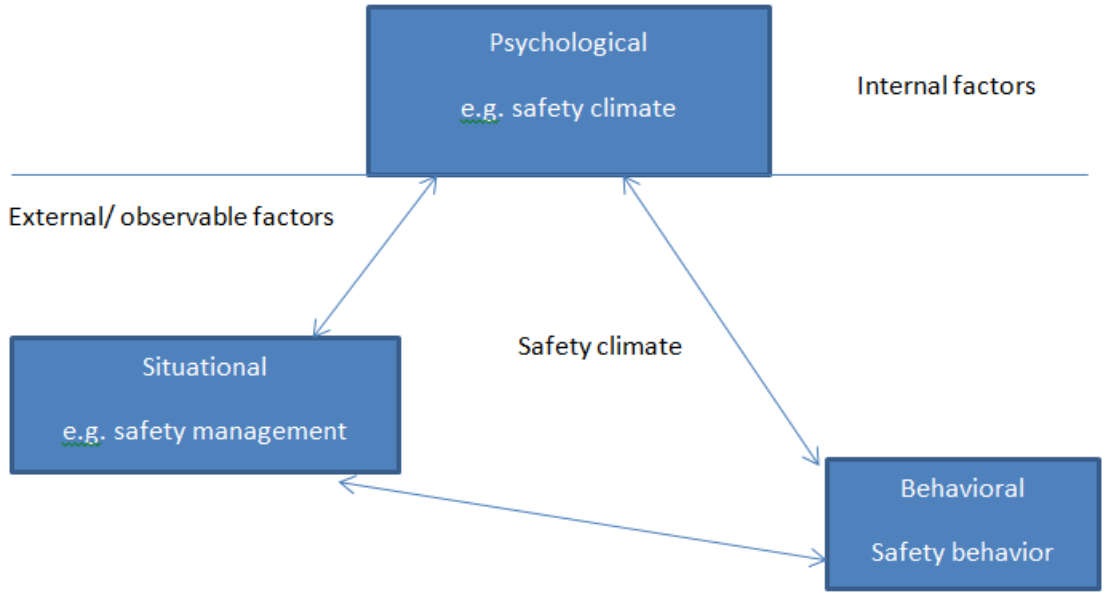


Figure 2.3: The Bandura's model of reciprocal determination Source: Cooper (2002)

Health of employees is therefore becoming a top priority in the labour market. This is possibly due to the link between health and productivity of employees. Health is now considered by both labour and health economists as a business factor "both in terms of cost and from an assets perspective" (Kirsten, 2010, pp.1). Workforce productivity is very crucial in the sustainability of all organizations and firms; health of employees should be incorporated into goals and mission set by managers in organizations since it is a business factor (Koopman, 2002).

The health and safety of an employee should not be overlooked in the determination of how productive workers are, since human capital is key in firms' productivity. Therefore it must be noted that safety and health legislation, change in attitude (both employer and employee) towards safety and health issues in an organization when set as a priority will improve productivity, since "safe work means safe business" (ILO, 2003).

2.4.2. The Effect of PPE on Employee Productivity

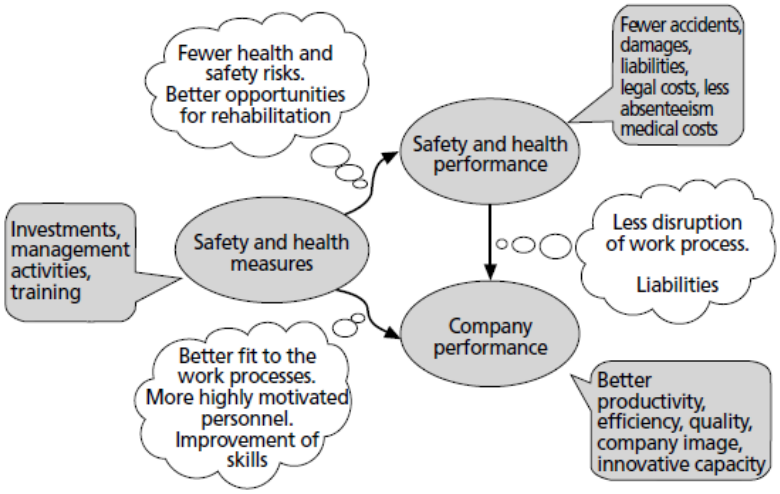
PPE is gear that will protect the user against health or safety risks at work. It can include items such as safety helmets, gloves, eye protection, high-visibility clothing, safety footwear and safety harnesses. It also includes respiratory protective equipment (RPE). Making the workplace safe includes providing instructions, procedures, training and supervision to encourage people to work safely and responsibly**.** Even where engineering controls and safe systems of work have been applied, some hazards might remain. These include injuries to: the lungs, e.g. from breathing in contaminated air; the head and feet, e.g. from falling materials; the eyes, e.g. from flying particles or splashes of corrosive liquids; the skin, e.g. from contact with corrosive materials; the body, e.g. from extremes of heat or cold. PPE is needed in these cases to reduce the risk.

When occupational risks are reduced, it brings about improvement in health. Improvement in the health capital increases one's level of productivity in both market and non-market activities. This according to Currie and Madrian (1999); Tompa (2002) and Grossman (1997) is an important input in the productivity of an organization. Bloom and Canning (2002) outlined four means by which the impact of health on productivity can be observed. A healthy labour force will record low levels of absenteeism at work and this will translate into higher volumes of productivity. Longevity among workers will motivate them to invest more in education and hence receive higher returns on their investment. Also with longevity, individuals will be motivated to save in order to accumulate more physical capital for retirement. Improved survival rate will increase labour force participation. This would result in an increased per capita income if these individuals are accommodated in the labour market.

2.4.3. The effect of Work Conditions on Employee Productivity

According to Akinyele Samuel Taiwo (2009), many enterprises limit their productivity enhancement of employees to the acquisition of skills. However, about 86% of productivity problems reside in the work environment of organizations. The work environment has effect on the performance of employees; this is because poor working environment leads to countless incidences of injury, death, frequent absenteeism and huge compensation costs that characterized most manufacturing and processing companies. This draws from the fact that these negative implications of unhealthy and unsafe working environment continue to plague labor productivity in the country and have the tendency of retarding economic growth. Huge sums of money are spent on solving problems related to the improper management of health and safety. To effectively address this menace, the effects of the health and safety of an organization on one's productivity need to be well known and understood. It is unmistakable that health and safety positively affect one's attendance, quality, quantity, effort and concentration levels at work. However, the health of the individual and safety of the organization greatly affect one's quality of work and attendance respectively among the performance indicators. The linkage from occupational safety, health & environment measures gives a qualitative overview on how a company's performance can be improved through the fewer liabilities, accidents, and the enhancement of employees' morale towards work. In 2002, Mossink and De-Greef developed a diagrammatic model to illustrate the economic effect of safety and health on Employee performance and the model is shown below:

Figure 2.4: Model on the effect of safety and health on company performance



Source: European Agency for safety and health at work (2004)

In the model, investments in health and safety measures are not isolated from other forms of organization investments, but rather go hand in hand with other human resource management. This investment in safety and health measures goes beyond the implementation of measures to control health and safety challenges. It involves the proper management of it by training staff to adhere to these measures. The investment in safety and health does not only result in higher levels of productivity, but also increases the efficiency in the production systems in the organization. Invisible company performance measures like the image conceived by the people outside the organization is also improved, this then leads to higher levels of acceptance and the purchase of goods and services offered by the organization. This in turn leads to higher volumes in profitability.

2.5. Summary of the Literature Review

From the secondary data reviewed, it is seen that a properly implemented occupational safety, health and environment will most likely bring the positive results below; i.e. fewer injuries that stop people from working, increased innovation, improved quality, enhanced corporate reputation, lower costs to compensate workers, improved staff recruitment, retention and increase in quantity output. This can be achieved when both the employers and employees know that safety and health is everyone's responsibility and that it is not just simply for legal satisfaction but for the good of workers and also improved productivity of the organization.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The purpose of this chapter is to describe the methodology employed in the study. This chapter covers the research design, area of study, study population, sample size, sampling procedures, the data collection methods, the data collection instruments, data analysis technique, ethical considerations, and limitations of the study.

3.1. Research Design

The researcher used a case study research design which is advantageous because it enables the researcher to focus attention to a particular group of people and get a deeper knowledge of the study (Yin, 1994) in this case Gumutindo Coffee Cooperative Enterprise. A case study allows a lot of detail to be collected that would not normally be easily obtained by other research designs. In order to avoid any bias, the researcher included respondents from the whole employee cross section from the top to the bottom. The research was mainly quantitative with a qualitative question on each objective in order to capture any information that may not be included in the preset questions. Secondly the respondents were subjected to the same questions and the information was collected on pre-determined variables at a single point in time from a fairly uniform population thus saving time and resources. This is in regard to (Sharon B, 1998) who defined a research study design as a road map which helps the researcher move from “here to

there"... the "here" being the initial set of core questions to be answered and "there" being the conclusions and answers about the questions.

3.2 Area of Study

The study was conducted in Gumutindo Coffee Cooperative Enterprise (GCCE) located on Plot 8-12, Mwanyi Road, Mbale Industrial Area in Mbale District. Mbale District is found in the Eastern Region of Uganda on the slopes of Mount. Elgon and it's about 250 km from Kampala the capital city of Uganda.

3.3 Study Population

The study population is a total number of objects, or individuals having one or more characteristics in common that are of interest to the researcher and where inferences are to be made (Kothari, 2004). The target Population for this study included 94 employees of Gumutindo coffee cooperative enterprise ltd classified in three levels of Senior Management, Junior Management and Operations Team.

Table 3.1: Study Population

Number	**Management Level**	**Population**
1	Senior	14
2	Junior	12
3	Operations	68
	Total	**94**

Source: GCCE Human Resource Department (2016)

3.4 Sampling

3.4.1 Sample Size

From the study population of 94 (see Table 3.1), a sample size of 76 was determined using Krejcie and Morgan (1970) Table for size determination.

3.4.2 Sampling Procedures

In this study, simple random probability sampling, purposive sampling and census were used to select respondents from a sampling frame of 76 respondents from Gumutindo Coffee Cooperative Enterprise (GCCE). The researcher employed purposive sampling to select respondents from the operations team because these people are the ones who interface with potential hazardous places and thus can give us very important and accurate information concerning working conditions and their attitude towards work. Simple random sampling was used to select respondents from senior staff management such that each person of the target population gets an equal chance of being included in the sample, while a census was used on the junior staff since they are few.

Table 3.2: Distribution of Sample size

Number	Level	Population Size	Sample Size	Sampling Technique	Reason for the Technique
1	Senior Management	14	12	Simple random	Are all informed about the study subject
2	Junior Management	12	12	Census	A small number
3	Operations Team	68	52	Purposive Sampling	Not to miss workers in production
	Total	**94**	**76**		

According to Krejcie and Morgan table of size determination the population of 94 has a sample size of 76.

Purposive sampling

According to Mugenda (1999), purposive sampling is also known as judgmental, selective or subjective sampling, is a type of non-probability sampling technique. Non probability sampling focuses on sampling techniques were the units that are investigated are based on the judgment of the researcher. The researcher used purposive technique to sample a good number in the operations staff that belongs to production. This technique was useful to the researcher because it helped in leading the researcher to respondents with reliable information in the shortest time that is available for research. It is also where the researcher zeroes on the respondents who can give the formation that is needed (Oso, 2005).

Census

Census is a form of sampling, although cost considerations make this impossible for large populations, a census is attractive for small populations (e.g., 200 or less). A census eliminates sampling error and provides data on all the individuals in the population (Glenn 1992). This technique focuses on units investigated that are based on the judgment of the researcher. In this research, census sampling was used to select the junior management staff because of their small number and they had relevant knowledge and information which is needed for the study (Sherri, 2009).

3.5. Data Collection methods and instruments

3.5.1 Collection Methods

During this study, the researcher used both qualitative and quantitative methods to get the relevant Data. The qualitative data was mainly got from the open ended questions whereas the closed ended statements helped the researcher get quantitative data. Un-structured questions

were included in the questionnaires in order to cross check responses provided in the structured questions thus increasing the validity and reliability of data.

Since most respondents involved were literate, questionnaires were used since they are not time consuming and are easy to administer. The researcher sent out 76 self-administered questionnaires and collected back all of them because he worked closely with the respondents which built a good rapport. Those who seemed to be busy, the researcher made special appointments with them. Observations on OSH infrastructures were carried out with the help of the supervisors and technicians because they are knowledgeable in the field of production operations.

3.5.2 Instruments

Since this study was a case study, the main study tool used was a questionnaire and observation.

Questionnaire

One set of questionnaire was designed and administered to 76 respondents who were the sample out of the population of 94 employees. All the questionnaires were retrieved because they were served on appointment to save costs of transport due to movements of taking and collecting them back. The researcher gave out printed copies since most workers cannot easily access internet services leave alone having computers. This method was also chosen because it's easy to use with a large number of subjects and a lot of information can also be collected in a relatively short period of time. The items on the questionnaire were measured using a five (5) point Likert scale of: strongly disagree = 1; disagree = 2; neutral = 3; agree = 4; and, strongly agree = 5. This scale applied to all sections except that of the demographic characteristics.

Observation

This was done by the researcher moving around the Employee premises to ascertain the tangible parameters like workers wearing safety wears, looking at coffee beans quality, seeing or smelling the fumes in production areas, checking to see whether there are safety precautions hanged in different stations in the factory.

Types of Data

Research data is the recorded/oral factual material commonly accepted in the scientific community as necessary to validate research findings. Research data is data that is collected, observed, or created, for purposes of analysis to produce original research results. Two sources of data were utilized in soliciting information for the study

Primary data

. These are primary and secondary data. Primary data is made up of new materials collected by the researcher for the purpose of the study. The primary data which served as the source of data for this study was obtained by use of questionnaires which had closed ended questions for quantitative data and also had open ended questions for qualitative data.

Secondary data

This type of data typically comes from other studies done by other institutions or organizations. It has the advantage of being inexpensive and easily accessible but sometimes flawed in terms of appropriate data. Secondary data which serve as the source of data for this study included information obtained from documents of Gumutindo coffee cooperative enterprise ltd, libraries and internet.

3.6 Data Quality Control Methods

In order to determine whether the questions were clearly understood, and that were relevant to the study, a pilot study was carried out with 20 respondents within and outside Gumutindo coffee cooperative enterprise. This involved testing (pre-testing) the tools of data collection in order to determine the reliability and validity of data. Reliability refers to the consistency of the instruments in tapping information from more than one respondent. Reliability ought to bring out precision and how dependable the instrument is at bringing out the data that is required for the study. Validity refers to the extent to which information can be accurately interpreted and thus generalized to other populations

3.6.1 Validity

Validity refers to the degree to which an instrument measures what it is intended to measure (Amin 2005). Mbabazi (2006) argues that the instrument applied should be practical, valid and free from bias. For an instrument to be regarded as valid the content selected must be relevant to the need established. The researcher discussed the validity with the supervisors and the feedback helped in modifying the instruments to ensure that critical information required for the study was captured. The researcher consulted with the supervisors and gave questionnaires to colleagues to establish face validity. Questions found not relevant were deleted and replaced with more relevant questions. Thereafter pre-testing the questionnaire was done by conducting a pilot study. This helped to clarify the questions especially the wording and the interpretation of questions and whether all respondents understood each of the questions in the same way, the questionnaires were further subjected to rating and content validity index (CVI). This was computed using the following formula:

Average of CVI = No of items rated valid
All items in the questionnaires

By using the formula above the content validity index was calculated as shown in table 3.3 using the scoring of three management consultants who showed the number of valid inquiries out of the total of 25 inquires.

Table 3.3: Content Validity Index Calculation

Particulars	First Score	Second Score	Third Score	Average Score
Number of Total items	25	25	25	25
Number of Valid Items	21	23	22	22
Content Validity Index	0.84	0.92	0.88	0.88

Source: Field data (2017)

The CVI for the questionnaires was guided by that recommended on case studies by Amin, (2005). According to Amin (2005), if the construct validity index is 0.7 and above, it means the instrument used is valid.

The CVI obtained was 0.88 and as indicated above it was greater than 0.7, hence the items in the tool were greatly valid and were deemed useful for the researcher to appropriately in the tool were greatly valid and were deemed useful for the researcher to appropriately examine the respondents' perceptions.

3.6.2 Reliability

Reliability refers to the degree to which the measure of a construct is consistent or dependable (Bhattacherjee, 2012). In other words, reliability refers to the measure of degree to which the research instrument yields consistent results or data after repeated trials (Mugenda 1999). To

ensure reliability of the instruments under this study, a pilot test was conducted based on the internal consistency method to pretest the instruments through application of Cronbach's alpha formula. In this study, the research instrument was pre-tested using fellow students and workers in Mbale industrial area to ensure their reliability to establish reliability, questionnaire pretesting was done. A pilot run up was carried out on 20 respondents.

Table 4.0: Showing: The Reliability Test from the Cronbach's Alpha.

		Cronbach's Alpha	N of Items
1	**Safety Policy**	0.744	**6**
2	**Personal Protective Equipment (PPE)**	0.771	**6**
3	**Work Conditions**	0.795	6
4	**Employee Productivity**	0.832	7
	Total Average Reliability	**0.786**	**25**

Source: Primary Data (2017).

According to the results in table 3.4 above, the alpha value obtained was 0.786 and therefore, according to Amin (2005) this alpha value is greater than 0.7. In this regard, the tool was deemed reliable and was effectively used to draw relevant responses to the key questions in this study.

3.7 Data analysis

The quantitative data collected from the field was categorized, entered into the Statistical Package for Social Sciences (SPSS) software program, and analyzed. The analysis was in form of frequencies, the correlations and regressions, all done with the aim of answering the three research objectives and the general purpose of the study. The information from the secondary literature was mainly used in the literature review section.

3.7.1 Data Analysis Technique

Data analysis was done mainly using quantitative methods especially in respect of the data generated from questionnaires got from the respondents. This was mainly done by using a statistical package, Statistical Package for Social Sciences (SPSS) for quantitative data to edit code and transform data obtained from questionnaires into tables.

3.8 Ethical Considerations

The following ethical considerations were ensured in order to protect and maintain a good name of the present and future researchers;

Clarity: The researcher ensured clarity of the research and its purpose and informed consent was obtained from the respondents before their participation. **Confidentiality:** The respondents were also assured confidentiality of their information to protect them. **Scope of study:** The research questions were framed objectively so as to widen the scope of the study and maintain confidence in the research process.

Protection of the respondents: The researcher ensured sensitivity of social and cultural differences and put into consideration the conflicting interests. For example sensitive and more personal questions were avoided during the design of data collection instruments as well as actual data collection.

Acknowledging data sources: Secondary data sources and citations made were acknowledged by the researcher in the reference section. **Respect for the respondents:** The researcher as much as possible maintained a high level of professionalism while conducting the study by maintaining respect and value for the respondents. **Validity and Reliability:** Validity and Reliability of the research instruments was given utmost attention.

3.9 Limitations of the Study

The researcher faced the following limitations:

Key respondents were reluctant to reveal some information because they felt that they were accusing their superiors. The researcher had to prove to them that the information gathered will be strictly confidential and for academic use only.

It was also difficult to make and, or keep appointments with some respondents as they were busy or unwilling to honor appointments. The researcher overcame this by keeping constant contact with the respondents until the questionnaires were issued and even collected after answering them. The researcher ensured that respondents answered the questionnaire the day it was issued to avoid misplacing it. That's why all issued questionnaires were collected back.

Resources such as finance, time and ICT gargets was another limitation faced as they were not enough so the researcher had to work within a very limited budget.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND DISCUSSION OF THE FINDINGS

4.0 Introduction

This chapter is on presentation, analysis, interpretation and discussion of the findings based on the objectives and research questions presented in chapter one. The findings involve both descriptive and inferential statistics. The chapter is organized into eight sections. This first section (Section 4.1) presents the response rate while section 4.2 presents the demographic characteristics of the respondents. Section 4.3, 4.4 and 4.5 presents, interprets and discusses results on descriptive and inferential statistics on safety policy, personal protective equipment (PPE), work conditions and their effects on Employee productivity. Section 4.6 will close with a presentation and discussion of inferential statistics on the effect of occupational safety and health on Employee productivity of Gumutindo Coffee Cooperative Enterprises Ltd (GCCE).

4.1 Response Rate

Out of the 76 issued questionnaires, 76 questionnaires representing 100% of the total questionnaires distributed were returned fully completed. Based on this the researchers inferred that the response rate was excellent. Since all the respondents the researcher gave the questionnaires filled them and were picked, it gives an implication that the findings and recommendation are validated (Shaughnessy et al, 2006). The results on the response rates are shown in Table 4.1.

Table 4.1: Response Rate

Response	Frequency	Percentage (%)
Duly Filled and Returned Questionnaires	76	100
Unreturned Questionnaires	0	0
Total	76	100.0

Source: Primary data (2017)

4.2 Demographic Characteristics of the Respondents

The first preliminary procedure in the study involved the presentation and interpretations of descriptive statistics on the demographic characteristics. These characteristics included the following: gender, age, marital status, maximum level of education and working period with GCCE. The results on each of these characteristics are presented in Tables 4.2, 4.3, 4.4, 4.5, and 4.6.

Table 4.2: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	39	51.3	51.3	51.3
	Female	37	48.7	48.7	100.0
	Total	76	100.0	100.0	

Source: Primary data (2017)

The results from Table 4.2 indicate that 39 (51.3%) of the respondents were male and 37 (48.7%) of the respondents were female. This implies that both sexes were represented, with males being slightly more represented in the study than females. This perhaps shows the traditional perception that male employees perform better than their female counterparts in production related areas. The results show no discriminatory tendencies which may affect employee

attitudes and behaviour in the workplace (Cianni & Romberger 1995), breeding toxic environment at work reducing productivity and morale.

Table 4.3: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 25 years	13	17.1	17.1	17.1
	Between 25 - 35 years	36	47.4	47.4	64.5
	Between 36 - 45 years	13	17.1	17.1	81.6
	Between 46 -55 years	10	13.2	13.2	94.7
	Above 55 years	4	5.3	5.3	100.0
	Total	76	100.0	100.0	

Source: primary data

From Table 4.3 above, 13 (17.1%) of the respondents are aged less than 25 years of age, 36 (47.4%) are aged between 25 to 35 years of age, 13 (17.1%) of the respondents are aged between 36 to 45 years, 10 (13.2%) are aged between 46 to 55 years and 4 (5.3%) are aged above 55 years. This shows that most of the employees are young and energetic since (81.6%) are 45 years and below; which can be exploited in long term planning that leads to improved Employee productivity.

Table 4.4: Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	20	26.3	26.3	26.3
	Married	48	63.2	63.2	89.5
	Divorced	2	2.6	2.6	92.1
	Separated	6	7.9	7.9	100.0
	Total	76	100.0	100.0	

Source: primary data

From Table 4.4 above, 20 (26.3%) of the respondents are single, 48 (63.2%) are married, 2 (2.6%) are divorced, 6 (7.9%) are separated. Since in most cases, married people are less mobile and a little stable in building their career, this means that the Employee productivity may easily be improved.

Table 4.5: Maximum Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Certificate	9	11.8	11.8	11.8
	Diploma	28	36.8	36.8	48.7
	Degree	27	35.5	35.5	84.2
	Masters	7	9.2	9.2	93.4
	Others	5	6.6	6.6	100.0
	Total	76	100.0	100.0	

Source: primary data

From Table 4.5 above, 9 (11.8%) of the respondents were certificate holders, 28 (36.8%) were diploma holders, 27 (35.5%) degree holders, 7 (9.2%) Masters holders and 5 (6.6%) of the

respondents held other qualifications. These findings suggest that majority of the employees hold Bachelors' degree and diplomas. This means that GCCE employs qualified professionals with skills and mature knowledge that can be used to increase the productivity of the organization. This agrees with (Maicibi, 2007) who contends that there is a close relationship between academic qualification and performance as knowledge and skills are vital components while deciding on the type of human resource to get for the organization.

Table 4.6: Working Period with GCCE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 2 years	10	13.2	13.2	13.2
	2-4 years	30	39.5	39.5	52.6
	5-7 years	22	28.9	28.9	81.6
	8-10 years	5	6.6	6.6	88.2
	Over 10 years	9	11.8	11.8	100.0
	Total	76	100.0	100.0	

Source: primary data

From Table 4.6 above, 10 (13.2%) of the respondents had worked less than 2 years, 30 (39.5%) of the respondents had worked for a period of 2 to 4 years at Gumutindo, 22 (28.9%) of the respondents had worked for a period of 5 to 7 years at Gumutindo, 5 (6.6%) of the respondents had worked for a period of 8 to 10 years and 9 (11.8%) had worked more than 10 years at GCCE. This implies that the majority of the respondents had spent between 2 years and 7 years at Gumutindo. The acquired experience aids the employees in making expert decisions which leads to productivity and can enable management to identify gaps that need training. Since a majority

of the employees have not overstayed at Gumutindo, it implies that they are trainable in order to improve on the Employee productivity.

4.3 Descriptive Statistics

For the researcher to establish the effect of Occupational Safety, Health and Environment (Safety policy, PPE & Work Conditions) on Employee Productivity (production volumes, quality of output, maximum plant utilization), descriptive statistics were computed and presented in sub-sections 4.3.1, 4.3.2 and 4.3.3.

4.3.1 Effect of Safety Policy on Employee productivity

This was the first concept under Occupational Safety and Health (OSH). The results of the descriptive statistics on safety policy are presented in Table 4.7.

Table 4.7 Showing responses on Safety Policy at GCCE

	No	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
There is a written safety policy at Gumutindo	76	5 (6.6%)	6 (7.9%)	35 (46.1%)	4 (5.3%)	26 (34.2%)	3.53	1.227
Gumutindo Safety policy is always accessible to the Employees	76	2 (2.6%)	14 (18.4%)	16 (21.1%)	23 (30.3%)	21 (27.6%)	3.62	1.154
There are reporting procedures as far as safety is concerned	76	10 (13.2%)	8 (10.5%)	25 (32.9%)	15 (19.7%)	18 (23.7%)	3.30	1.307
Safety signs are clearly displayed at my work place	76	2 (2.6%)	14 (18.4%)	6 (7.9%)	44 (57.9%)	10 (13.2%)	3.61	1.021
Only trained and authorized people are allowed to operate machinery	76	2 (2.6%)	7 (9.2%)	29 (38.2%)	26 (34.2%)	12 (15.8%)	3.51	.959
Visitors are always guided by an authorized person	76	1 (1.3%)	13 (17.1%)	19 (25.0%)	33 (43.4%)	10 (13.2%)	3.50	.973
Overall Mean & Standard Deviation							**3.512**	**1.107**

Source: Primary Data 2017

As to whether there is a written safety policy at Gumutindo, the findings in Table 4.7 show that 6.6% strongly disagreed, 7.9 % disagreed, 35 respondents representing 46.1% were neutral and that 39.5% (5.3% plus 34.2%) of the respondents agreed and strongly agreed to the statement. Indeed one of the respondents said that there are written safety procedures on walls of various areas, which is good since section 14 of Uganda's occupational safety act 2006 requires such. These findings fairly suggest that Gumutindo has put in place a written safety policy. Using observation method, the researcher moved around the factory and confirmed what one of the respondents indicated about safety precautions being displayed.

As to whether Gumutindo safety policy is always accessible to employees, the frequency distribution in Table 4.7 show that 44 respondents representing 57.9%, (30.3% plus 27.6%) of the respondents agreed and strongly agreed that Gumutindo safety policy is always accessible to the employees. With a mean of 3.62 and a standard deviation of 1.154, this means that most of the respondents agreed to the statement which means that Gumutindo employees can access a safety policy. This has a positive implication on the Employee productivity. These findings are consistent with (Lim, 2012) who said that when workers understand the health and safety rules and procedures of their job and the tools used for working, it helps them to work effectively and efficiently resulting in better performance of employees

On whether there are reporting procedures as far as safety is concerned, the findings in Table 4.7 show that 23.7% (13.2%+10.5%) disagree, 25 respondents representing 32.9%, are neutral and that 43.4% (19.7% plus 23.7%) of the respondents agreed and strongly agreed that there are reporting procedures as far as safety is concerned. Looking at a mean of 3.30 and a standard

deviation of 1.307, this means that the bigger percentage agreed to the statement. This shows that there is effort to address safety issues that may arise during the course of production.

As to whether safety signs are clearly displayed at my workplace, the findings from the Table 4.7 above, 21.2% (2.6%+18.6%) disagreed, 7.9% were neutral and it is clearly seen that 71.1% (57.9% plus 13.2%) of the respondents agreed and strongly agreed that safety signs are clearly displayed at Gumutindo work place. From a mean of 3.61 and a standard deviation of 1.021, it means that there is alertness as far as safety is concerned since visual information sticks in memory very much. It is well aligned with Occupational safety act 2006, section 25 of displaying safety precautions.

As to whether only trained and authorized people are allowed to operate machinery, the findings shown in Table 4.7 indicate that 11.8% (2.6%+9.2%) disagreed, 29 (38.2%) were neutral whereas 50% (34.2%+15.8%) of the respondents agreed and strongly agreed that only trained and authorized people are allowed to operate machinery. With a mean of 3.51 and a standard deviation of 0.959, this means that most of the respondents agreed to the statement and their responses never deviated so much from each other. This implies that safety hazards that are a result of unskilled operators are greatly minimized at Gumutindo coffee cooperative enterprises. Indeed one of the respondents said that ‘there are some workers who were penalized for attempting to operate machines when they were not authorized’.

On whether visitors are always guided by an authorized person, it is seen from the Table 4.7 above that 18.4% (1.3%+17.1%) disagreed, 25.0% were neutral while 56.6 % i.e. (43.4% + 13.2%) agree and strongly agree that visitors are always guided by an authorized person at GCCE. With a mean of 3.50 and a standard deviation of 0.973, it means that the view range of the respondents was not wide and most of them were in agreement with the statement. Such

adherence is very important in minimizing production interference and accidents caused by ignorant people walking around the production areas.

The overall Mean and Standard Deviation of the effect of Safety Policy on Employee productivity is 3.512 and 1.107 respectively which indicates that most employees agree that there is Safety policy in Gumutindo Coffee Cooperative Enterprise Ltd.

4.3.2 Effect of personal protective equipment (PPE) on Employee productivity

The effect of PPE in this study was ascertained by getting responses from Gumutindo employees. Below are the descriptive findings that were obtained.

Table 4.8 Showing responses on Personal Protective Equipment at GCCE

	No	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
The Organization gives its employees Personal Protective Equipment	76	5 (6.6%)	14 (18.4%)	19 (25.0%)	27 (35.5%)	11 (14.5%)	3.33	1.136
Workers are trained on how to use Safety wears	76	3 (3.9%)	14 (18.4%)	17 (22.4%)	21 (27.6%)	21 (27.6%)	3.57	1.193
Visitors are provided with PPE during factory tours	76	9 (11.8%)	3 (3.9%)	32 (42.1%)	7 (9.2%)	25 (32.9%)	3.47	1.311
Gumutindo has appropriate Protective wear in good condition	76	2 (2.6%)	11 (14.5%)	19 (25.0%)	32 (42.1%)	12 (15.8%)	3.54	1.012
There is annual stock taking to ascertain the PPE availability	76	2 (2.6%)	8 (10.5%)	27 (35.5%)	27 (35.5%)	12 (15.8%)	3.51	.973
There is sharing of some protective wears	76	4 (5.3%)	13 (17.1%)	11 (14.5%)	32 (42.1%)	16 (21.1%)	3.57	1.159
Overall Mean & Standard Deviation							**3.498**	**1.131**

As to whether the organization gives its employees personal protective equipment (PPE) it is illustrated in Table 4.8 above, (25%) = 5 (6.6%) plus 14(18.4%) strongly disagreed and

disagreed respectively; 19 respondents representing 25.0% had neutral views, 27 respondents representing 35.5% agreed while 11 respondents representing 14.5% strongly agreed with the statement. With a mean of 3.33 and a standard deviation of 1.136, this shows that respondents were agreeing with the statement much as specific deviation seems to be much. This is consistent with section 19 of the occupational safety act 2006 which stipulates that an employer should provide protective gear to its workers. The conclusion drawn basing on this statement was that the organization gives its employees Personal Protective Equipment (PPE) since half of the respondents (50.0%) agreed.

On whether workers are trained on how to use safety wear, As illustrated in Table 4.8 above, 22.3% i.e. 3(3.9%) strongly disagreed, 14(18.4%) disagreed, 17 respondents representing 22.4% had neutral views on the statement as whether workers are trained on how to use Safety wears, 55.2% i.e. 21 respondents representing 27.6% agreed while 21 respondents representing 27.6% strongly agreed. From the mean 3.57 and standard deviation of 1.193 a conclusion drawn basing on the responses is that workers are trained on how to use safety wear. This will bring about increase in Employee productivity because it is consistent with Gennard and Judge (2005) who indicated a clear link between Safety and Health and employee commitment and productivity

About whether visitors are provided with PPE during factory tour, from the Table 4.8 above, the findings show that 15.7% (11.8%+3.9%) disagreed, 32 respondents representing 42.1% had neutral views, 42.1% i.e. 7 respondents representing 9.2% agreed while 25 respondents representing 32.9% strongly agreed with the statement as whether visitors are provided with PPE during factory tours. Basing on the above responses, it can be concluded that the organization provides its visitors with PPE during factory tours, however there was a wide range of the views

looking at a mean of 3.47 and a standard deviation of 1.311. The response shows an area that needs improvement.

About whether Gumutindo has appropriate protective wear in good condition, the findings shown in Table 4.8 above, indicate that 17.1% (2.6%+14.5%) disagreed, 25.0% were neutral while 44 respondents representing 57.9% (42.1%+15.8%) agreed and strongly agreed with the statement that Gumutindo has appropriate Protective wear in good condition. From this, it can be concluded that the protective wear given is appropriate to meet the desired need. However this is in contrast to one of the respondents who said that they get new wear when the old ones have indeed worn out properly; no wonder the mean is 3.54 but a standard deviation of 1.012 was got on this statement.

As to whether there is annual stock taking to ascertain the PPE availability, results in Table 4.8 above show that, 13.1% (2.6%+10.5%) disagreed, 27 respondents representing 35.5% had neutral views, 51.3% i.e. 27 respondents representing 35.5% agreed and 12 respondents representing 15.8% strongly agreed with the statement as whether there is annual stock taking to ascertain the PPE availability. With a mean of 3.51 and a standard deviation of 0.973, this means that most of the respondents agreed with the above statement; however their responses show that there was no significant deviation. The implication drawn basing on this statement was that there is annual stock taking to ascertain the PPE availability.

Finally, on whether there is sharing of some protective wears, Table 4.8 above shows that, 22.4% i.e. 4 respondents representing 5.3% strongly disagreed, 13(17.1%) disagreed, 11 respondents representing 14.5% had neutral views, and 63.2% i.e. 32 respondents representing 42.1% agreed and 16 respondents representing 21.1%. strongly agreed with the statement. The implication drawn basing on this statement was that the organization needs to improve in this area since it is

neither healthy nor safe for such conditions in a production environment much as the mean is 3.57 and standard deviation is 1.159.

The overall Mean & Standard Deviation of 3.498 & 1.131 respectively was got which implies that generally the respondents agreed that there was provision and training on the use of Personal Protective Equipment in Gumutindo Coffee Cooperative Enterprise Ltd.

4.3.3 Effect of work conditions on Employee productivity

Below are the descriptive findings obtained from the respondents on the effect of work conditions on Employee productivity.

Table 4.9 Showing responses on Work Conditions at GCCE

	No	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
I feel safe in my working environment	76	4 (5.3%)	9 (11.8%)	18 (23.7%)	25 (32.9%)	20 (26.3%)	3.63	1.153
The Management is keen at keeping my work place conducive	76	10 (13.2%)	2 (2.6%)	33 (43.4%)	6 (7.9%)	25 (32.9%)	3.45	1.331
Management trains us on how to maintain a safe environment	76	11 (14.5%)	4 (5.3%)	29 (38.2%)	16 (21.1%)	16 (21.1%)	3.29	1.273
There is periodic rotation of casual workers to avoid overstaying in the same workstation for long	76	1 (1.3%)	7 (9.2%)	33 (43.4%)	24 (31.6%)	11 (14.5%)	3.49	.902
Employees care about each other's safety	76	1 (1.3%)	16 (21.1%)	5 (6.6%)	44 (57.9%)	10 (13.2%)	3.61	1.008
There is no dust nor fumes that is directly released during production	76	2 (2.6%)	12 (15.8%)	19 (25.0%)	33 (43.4%)	10 (13.2%)	3.49	1.000
Overall Mean & Standard Deviation							**3.493**	**1.111**

About the statement on whether ‘I feel safe in my working environment’, results from Table 4.9 above show that, 17.1% i.e. 4(5.3%) strongly disagreed, 9 (11.8%) disagreed, 18 respondents representing 23.7% had neutral views while 59.2% i.e. 25 respondents representing 32.9% agreed while 20 respondents representing 26.3% strongly agreed on the statement as whether workers feel safe in their working environment. With a mean of 3.63 and a standard deviation of 1.153, this means that most of the respondents were agreeing to the statement. The implication drawn basing on the responses was that workers feel safe in their working environment since more than half of the respondents (59.2%) agreed.

As to whether management is keen at keeping the workplace conducive, it is seen from Table 4.9 above that, 15.8% (13.2%+2.6%) of the respondents agreed, 33 respondents representing 43.4% had neutral views whereas 40.8% i.e. 6 respondents representing 7.9% agreed while 25 respondents representing 32.9% strongly agreed with the above statement. According to the responses on this statement, it can be believed that management is fairly keen at keeping the work place conducive since only 40.8% (7.9% + 32.9%) agreed and strongly agreed. There is thus need for seriously improvement in this area reflecting from a mean of 3.45 and standard deviation of 1.331 which is a wide range. One of the respondents however said that it was due to the legal requirements from the certification bodies of the organization that the organization tries to keep the work place conducive. This is in agreement with (Annan, 2011) who acknowledged that a successful safety policy should firstly change the perception of both employees and employers that safety refers to the elimination of injury, instead of the prevention of illness, property damages and the promotion of healthy life styles.

As to whether ‘management trains us on how to maintain a safe environment’, results from table 4.9 above show that, 19.8% i.e. 11(14.5%), 4 (5.3%) strongly disagree and disagree respectively,

29 (38.2%) were neutral while an equal number of 42.2% i.e. (21.1%+21.1%) agreed and strongly agreed to the statement that 'management trains us on how to maintain a safe environment'. This gave a mean of 3.29 and standard deviation of 1.273 which showed a divergent view from the respondents most of which are in agreement.

About whether there is a periodic rotation of casual workers to avoid over staying in the same workstation for long, the findings from Table 4.9 above show, 10.5% i.e. (1.3%+9.2%) disagree, 33 respondents representing 43.4% had neutral views, 46.1% i.e. 24 respondents representing 31.6% agreed while 11 respondents representing 14.5% strongly agreed on the statement as to whether there is periodic rotation of casual workers to avoid overstaying in the same workstation for long. With a mean of 3.49 and a standard deviation of 0.902, this shows that their views were not very divergent. This therefore is another area that needs more attention since even section 20 of Uganda's occupational safety act 2006 requires it.

About whether employees care about each other's safety, Table 4.9 above shows, 22.4% (1.3%+21.1%) disagreed, 6.6% were neutral, and 71.1% i.e. 57.9% and 13.2% of the respondents agreed and strongly agreed respectively on the above statement. Since the mean is 3.61 and standard deviation is 1.008 which indicates a narrow range of views, this may be attributed to a strong safety culture which is very key in the productivity of the organization.

As to whether there is neither dust nor fumes that is directly released during production, it is observed from the table that 18.4% i.e. 2 (2.6%) strongly disagreed, 12 (15.8%) disagreed, 19 (25.0%) were neutral, 56.6% i.e. 33 (43.4%) and 10 (13.2%) of the respondents agreed and strongly agreed respectively on the statement that there is no dust or fumes that is directly released during production. With a mean of 3.49 and a standard deviation of 1.000, this means that averagely the respondents were in agreement with the statement above and their views were

not divergent. This is very good because it is even consistent with section 18 of the 2006 safety act of the republic of Uganda. Thus the quality of output will be high once this is maintained.

The general response on work conditions was in agreement since the overall mean and standard deviation was 3.493 & 1.111 respectively.

4.3.4 Employee Productivity

The very last descriptive performed was on Employee productivity (the dependent variable).

Table 4.10 Showing responses on Employee Productivity at GCCE

	No	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Use of trained employees has increased production volumes	76	4 (5.3%)	8 (10.5%)	27 (35.5%)	28 (36.8%)	9 (11.8%)	3.39	1.008
Guiding visitors has helped in redeeming production time	76	9 (11.8%)	4 (5.3%)	32 (42.1%)	4 (5.3%)	27 (35.5%)	3.47	1.341
The plant machinery is always available for use whenever needed	76	8 (10.5%)	5 (6.6%)	29 (38.2%)	19 (25.0%)	15 (19.7%)	3.37	1.187
The use of appropriate safety wear has reduced plant down time	76	4 (5.3%)	9 (11.8%)	24 (31.6%)	20 (26.3%)	19 (25.0%)	3.54	1.148
Indvidual ownership of PPE has increased the quantity produced	76	2 (2.6%)	15 (19.7%)	7 (9.2%)	43 (56.6%)	9 (11.8%)	3.55	1.025
Clean working environment has improved the quality of coffee produced	76	1 (1.3%)	13 (17.1%)	19 (25.0%)	34 (44.7%)	9 (11.8%)	3.49	.959
Rotation of workers has led to increased plant utilization		0 (0.0%)	8 (10.5%)	32 (42.1%)	26 (34.2%)	10 (13.2%)	3.50	.856
Overall Mean & Standard Deviation							**3.473**	**1.075**

On whether the use of trained employees has increased production volumes, the findings from Table 4.10 above show, 15.8% i.e. 4 & 8 respondents representing 5.3% & 10.5% strongly disagreed and disagreed respectively, 27 respondents representing 35.5% had neutral views, and 48.6% i.e. 28 respondents representing 36.8% agreed while 9 respondents representing 11.8% strongly agreed on the statement as to whether use of trained employees has increased production volumes. With a mean of 3.39 and a standard deviation of 1.008, this indicates that averagely the respondents were in agreement with the above statement. Basing on this, a conclusion can be drawn that the use of trained employees has increased production volumes because findings are consistent with literature provided by the Australian National Commission for Health and Safety (2002) on the benefit of promoting health and safety in organizations indicated that when employees are provided with safe working environment through the use of effective occupational health and safety management systems, it reduces employees absenteeism and this has direct effect on increase in productivity which the end result will be increase in profitability for the organization.

As to whether guiding visitors has helped in redeeming production time, the findings from Table 4.10 above show that, 17.1% i.e. 9 (11.8%) strongly disagreed, 4 (5.3%) disagreed, 32 respondents representing 42.1% had neutral views, and 40.8% i.e. 4 respondents representing 5.3% agreed while 27 respondents representing 35.5% strongly agreed on the statement as to whether guiding visitors has helped in redeeming production time. Basing on the mean of 3.47 and standard deviation of 1.342, this implies that guiding visitors has helped in redeeming production time. Indeed one of the respondents said if visitors were not properly guided, there would be a lot of time spent in answering questions and thus loss of production time.

On whether the plant machinery is always available for use whenever needed, it can be seen from Table 4.10 above that, 17.1% i.e. (10.5%+6.6%) disagreed, 29 respondents representing 38.2% had neutral views, 44.7% i.e. 19 respondents representing 25.0% agreed while 15 respondents representing 19.7% strongly agreed on the above statement. With a mean of 3.47 and standard deviation of 1.187 it shows that the plant machinery is always available for use whenever needed.

About whether the use of appropriate safety wear has reduced plant down time, it is seen from Table 4.10 above that, 17.1% i.e. 4(5.3%) and 9 (11.8%) disagreed, 24 respondents representing 31.6% had neutral views, and 51.3% i.e. 20 respondents representing 26.3% agreed while 19 respondents representing 25.0% strongly agreed on the above statement. From the table it is indicated that a mean of 3.54 and a standard deviation of 1.148 was got. Basing on this, it is implied that the use of appropriate safety wear has reduced plant down time.

On whether individual ownership of PPE has increased the quantity produced, findings in the Table 4.10 above show that, 22.3% i.e. 2 (2.6%) strongly disagreed, 15 (19.7%) disagreed, 7 respondents representing 9.2% had neutral views and 68.4% i.e. 43 respondents representing 56.6% agreed while 9 respondents representing 11.8% strongly agreed on the above statement. This produced a mean of 3.55 and a standard deviation of 1.025. Basing on the responses it is implied that individual ownership of PPE has increased the quantity produced. Indeed one of the respondents said the fact that safety wear is for an individual employee, it saves time from running around borrowing what to use thus increased volumes.

As to whether clean working environment has improved the quality of coffee produced, it is shown from Table 4.10 above that, 18.4% i.e. 1(1.3%) & 13 (17.1%) disagreed, 19 respondents

representing 25.0% had neutral views and 56.5% i.e. 34 respondents representing 44.7% agreed while 9 respondents representing 11.8% strongly agreed on the statement as to whether clean working environment has improved the quality of coffee produced. The range of views from the respondents was narrow since a standard deviation of 0.959 was got on this statement. Basing on these results it is implied that clean working environment has improved the quality of coffee produced because there is consistence with literature from Akinyele Samuel Taiwo (2009), who said that about 86% of productivity problems reside in the work environment of organizations. The work environment has effect on the performance of employees.

Lastly on whether rotation of workers has led to increased plant utilization, results from Table 4.10 above show that, there was no respondent who strongly disagreed with this statement while on 8 (10.5%) disagreed, 32 respondents representing 42.1% had neutral views and 47.4% i.e. 26 respondents representing 34.2% agreed while 10 respondents representing 13.2% strongly agreed on the statement. Having realized a mean of 3.50 and a standard deviation of 0.856, this means that most of the respondents were positive to this statement. Basing on the responses to this statement the implication drawn was that rotation of workers has led to increased plant utilization.

4.4 Correlations

Correlations were run to establish the degree of relatedness between the variables under study, results are shown in Table 4.11 below. A Person product moment correlation coefficients were used to assess association between the dependent variable and each of the independent variable parameters i.e. safety policy, personal protective equipment, work conditions, and Employee productivity. The Independent variable was considered significant if its P-Value was less than 0.01. Results of the Pearson correlation tests are reported in Tables 4.11, 4.12 and 4.13 below.

4.4.1 Safety Policy and Employee productivity

Table 4.11 Correlation between safety policy and Employee productivity

Correlations			
		SAFETY POLICY	**EMPLOYEE PRODUCTIVITY**
SAFETY POLICY	**Pearson Correlation**	**1**	**.966****
	Sig. (2-tailed)		**.000**
	N	**76**	**76**
EMPLOYEE PRODUCTIVITY	Pearson Correlation	.966**	1
	Sig. (2-tailed)	.000	
	N	76	76
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary data (SPSS v. 23.0, 2018)

The results in Table 4.11 above indicate that there is a significant strong positive relationship between safety policy and Employee productivity in Gumutindo Coffee cooperative Enterprises ltd at r= 0.966 (96.6%) with a level of significance P=0.000 (2-tailed) given by Pearson Correlation. This implies that if safety policy is emphasized, there will be a positive change in Employee productivity. Therefore the management of GCCE should improve on its safety policy

if Employee productivity is to be greatly improved. This is because the above findings are in agreement with literature of Lim (2012) that indicated that when workers understand the health and safety rules and procedures of their job and the tools used for working, it helps them to work effectively and efficiently resulting in better productivity of employees. This is also consistent with literature that safety measures promote safe and healthy work environment and also makes employees enjoy good health in order to be socially and economically productive (Ezzedine, 2008).

4.4.2 Personal Protective Equipment (PPE) and Employee Productivity

Table 4.12 Correlation between PPE and Employee productivity

Correlations			
		PERSONAL PROTECTIVE EQUIPMENT	**EMPLOYEE PRODUCTIVITY**
PERSONAL PROTECTIVE EQUIPMENT	**Pearson Correlation**	**1**	**.969****
	Sig. (2-tailed)		**.000**
	N	**76**	**76**
EMPLOYEE PRODUCTIVITY	Pearson Correlation	.969**	1
	Sig. (2-tailed)	.000	
	N	76	76
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary data (SPSS v. 23.0, 2018)

Findings in Table 4.12 above indicated that there is a significant strong positive relationship between personal protective equipment and Employee productivity at GCCE at r = 0.969 with a level of significance P=0.000 (2-tailed) given by the Pearson correlation. This implies that any improvement in personal protective equipment leads to 96.9% improvement in Employee productivity at Gumutindo Coffee Cooperative Enterprise Ltd.

4.4.3 Work Conditions and Employee Productivity

Table 4.13 Correlation between Work Conditions and Employee productivity

Correlations			
		WORK CONDITIONS	**EMPLOYEE PRODUCTIVITY**
WORK CONDITIONS	**Pearson Correlation**	**1**	**.965****
	Sig. (2-tailed)		**.000**
	N	**76**	**76**
EMPLOYEE PRODUCTIVITY	Pearson Correlation	.965**	1
	Sig. (2-tailed)	.000	
	N	76	76
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary data (SPSS v. 23.0, 2018)

Findings in Table 4.13 above indicated that there is a significant positive relationship between work conditions and Employee productivity at GCCE at r = 0.965 at a level of significance P=0.000 (2-tailed) given by the Pearson correlation. This means that work conditions is highly related to Employee productivity. This implies that if work conditions are improved, there will be a huge positive change in Employee productivity. This was consistent with the findings from Cooper (2002) that safety in an organization is also known as safety culture. Safety culture is loosely used to describe an atmosphere in which safety is understood to be, and accepted as, the top priority in an organization. Good safety culture brings about improvement in the productivity of an organization.

4.5 Regression

4.5.1 The effect of Safety Policy on the Employee Productivity of GCCE

The main aim of this first objective was to find out the effect of safety policy on Employee productivity of GCCE. In order to achieve this objective, a simple linear regression analysis was performed. The responses on the correlation coefficient and the coefficient of determination regarding this first objective are shown in Table 4.14.

Table 4.14: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.966[a]	.934	.933	1.37095

a. Predictors: (Constant), SAFETY POLICY

Table 4.14 shows a correlation coefficient (R) of 0.966 implying a strong relationship between safety policy and Employee productivity. The R square of 0.934 was obtained meaning that safety policy accounts for 93.4 % (0.934*100) variation in Employee productivity at Gumutindo. The adjusted R square value of 0.933 was obtained after adjusting for the degrees of freedom which meant that 93.3% of the changes in Employee productivity at Gumutindo coffee cooperative enterprise ltd can be attributed to safety policy, and that the remaining 6.7% of the variations in Employee productivity is explained by other factors.

Table 4.15 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.530	.723		2.116	.038
	SAFETY POLICY	1.082	.034	.966	32.287	.000

a. Dependent Variable: EMPLOYEE PRODUCTIVITY

As observed in the coefficients table (Table 4:15) a standardized Beta coefficient of 0.966, with a P less than 0.01 (P = 0.000) was obtained implying that safety policy is significantly associated with Employee productivity. The meaning of this is that a 1% increase in safety policy leads to an increase in Employee productivity by 0.966% and that a 100% increase in safety policy is likely to increase Employee productivity by 96.6%.

4.5.2 The Effect of PPE on Employee productivity in GCCE

The second objective of the study was on the effect of personal protective equipment (PPE) on Employee productivity of Gumutindo Coffee cooperative Enterprise Ltd (GCCE). This was achieved by performing a simple linear regression and the results of this analysis are as follows;

Table 4.16: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.969[a]	.939	.938	1.31814

a. Predictors: (Constant), PERSONAL PROTECTIVE EQUIPMENT

The model summary of regression revealed a correlation coefficient (R) of 0.969, which implied that Personal protective equipment (PPE) had a high positive relationship with Employee productivity at GCCE. Secondly, an Adjusted R Square of 0.938 was also obtained which meant that PPE alone contributed about 93.8% to Employee productivity in GCCE and that the remaining 6.2% of the variations in Employee productivity is explained by other factors.

Table 4.17: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.081	.677		3.072	.003
	PERSONAL PROTECTIVE EQUIPMENT	1.059	.031	.969	33.671	.000

a. Dependent Variable: EMPLOYEE PRODUCTIVITY

Results from the coefficients table (Table 4:17) a standardized Beta coefficient of 0.969, with a P less than 0.01 (P = 0.000) was obtained showing that personal protective equipment is significantly associated with Employee productivity. The meaning of this is that a 1% increase in PPE leads to an increase in Employee productivity by 0.969% and that a 100% increase in PPE management is likely to increase Employee productivity by 96.9%. 3.1% On this basis therefore the researcher believes that the management of GCCE should strengthen their PPE management if they want to see an improvement in their Employee productivity because workers safety and health is very necessary in every business undertaking according to Gennard and Judge (2005)

because of a clear link between safety and health and employee commitment and productivity. Therefore providing personal protective equipment brings about a positive health and safety culture on the workplace whose positive results are enormous.

4.5.3 The Effect of Work Conditions on Employee Productivity of GCCE

This objective dedicated on establishing the effect of work conditions on the Employee productivity of GCCE. In order to establish the effect of work conditions on Employee productivity of Gumutindo a simple linear regression test was carried out. The following sections will therefore focus on generating answers related to this third objective by interpreting the results of the model summary of regression and the coefficients table.

Table 4.18: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.965[a]	.931	.930	1.40109

a. Predictors: (Constant), WORK CONDITIONS

To begin with, the results from Table 4.18 yielded a correlation coefficient of 0.965, which meant that a very strong positive relationship existed between work conditions and Employee productivity. The results from the model summary for regression also exhibited an adjusted R square of 0.930, which ordinarily meant that work conditions contribute about 93.0% to Employee productivity in GCCE. The remaining 7.0% was contributed by other factors beyond the scope of this study.

Table 4.19: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.322	.716		3.246	.002
	WORKING CONDITIONS	1.050	.033	.965	31.543	.000

a. Dependent Variable: EMPLOYEE PRODUCTIVITY

As illustrated in the coefficients table (Table 4.19) a standardized Beta coefficient of 0.965, with a P value less than 0.01 (P = 0.000) was obtained which means that work conditions are significantly associated with Employee productivity. The meaning of this is that a 1% increase in work conditions leads to an increase in Employee productivity by 0.965%.

4.5.4 Occupational safety and health and Employee Productivity

This was the major objective of the study and focused on finding out the effect of occupational safety and health (OSH) on Employee productivity. The analysis was carried out using multivariate linear regression analysis (MLRA) and the findings are presented in Table 4.20, and 4.21.

Table 4.20: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.974[a]	.948	.946	1.22805

a. Predictors: (Constant), SAFETY POLICY, PERSONAL PROTECTIVE EQUIPMENT, WORK CONDITIONS

From the model summary of regression (Table 4.20) a correlation coefficient of 0.974 was obtained. The meaning of this is that there was a strong positive relationship between occupational safety and health-OSH (safety policy, personal protective equipment and work conditions) and Employee productivity in Gumutindo coffee cooperative enterprise ltd.

The results from the model summary for regression further revealed an adjusted R square of 0.946, implying that OSH contributes 94.6% to Employee productivity in GCCE. The remaining 5.4% was contributed by other factors beyond the scope of this study.

Table 4.21: Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.590	.651		2.444	.017
SAFETY POLICY,	.437	.168	.391	2.607	.011
PERSONAL PROTECTIVE EQUIPMENT,	.540	.165	.494	3.268	.002
WORKING CONDITIONS	.104	.195	.095	.533	.596

a. Dependent Variable: EMPLOYEE PRODUCTIVITY

From the coefficients table (Table 4.21) it can be observed that safety policy has no statistical significance in explaining Employee productivity since the P-value=0.011 was got which is greater than 0.01.

Secondly, Personal protective equipment yielded a standardized Beta coefficient of 0.494, with a P value less than 0.01 (P = 0.002) implying that PPE is statistically significant in explaining

Employee productivity. From the above table, it can be seen that a unit increase in personal protective equipment (PPE) will increase Employee productivity by 0.494 times.

Thirdly, work conditions yielded a standardized Beta coefficient of 0.095; but with a P value greater than 0.01 (P = 0.596) it means that work conditions have no significance in explaining Employee productivity in the presence of the other above factors.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents a summary of major findings of this study, sets out the relevant conclusions arrived at, makes policy recommendations for practice, and proposes suggestions for future research based on the findings. The study sought to find out the effect of Occupational Safety and Health (OSH) on Employee Productivity focusing on Gumutindo Coffee Cooperative Enterprise Ltd (GCCE) as a case study.

5.1 Summary

The study sought to examine the effect of occupational safety and health (OSH) on Employee productivity focusing on Gumutindo coffee cooperative enterprises as a case study. Specifically the study was guided by the following three objectives: to examine the effect of safety policy on Employee productivity of Gumutindo Coffee Cooperative Enterprise Ltd (GCCE), to examine effect of PPE on Employee productivity of GCCE, and to examine the effect work conditions on Employee productivity of GCCE. The following sub-section is a concise discussion of the findings of the study with special attention paid to answering the above three research questions and the primary objective of the study.

5.1.1 The Effect of Safety Policy on Employee Productivity of GCCE

The results from the model summary of regression produced a correlation coefficient of 0.966 and an adjusted R square of 0.933, which meant that there is a strong positive relationship between safety policy and Employee productivity, and that the safety policy contributed 93.3% to Employee productivity in GGCE. Furthermore, the t-test results from the coefficients table

yielded a beta (β) of 0.966 with a P-value less than 0.01 indicating that there is a significant relationship between safety policy and Employee productivity in Gumutindo coffee cooperative enterprise (GCCE).

This is in agreement to (Kyko, 2005) that, appropriate work conditions give pleasurable experience to employees and enable them to actualize their abilities and behavior which in turn impact on the employees' productivity. According to Heinrich's theory, favorable-work conditions are achieved by the involvement of both employees and management.

5.1.2 The Effect of PPE on Employee Productivity of GCCE

The results from the model summary of regression produced a correlation coefficient of 0.969 and an adjusted R square of 0.938, which meant that there is a strong positive relationship between personal protective equipment (PPE) and Employee productivity; and that PPE contributed 93.8% to Employee productivity in GGCE. When the t-test results from the coefficients table yielded a beta (β) of 0.969 with a P-value less than 0.01 indicating that there is a significant relationship between PPE and Employee productivity in Gumutindo coffee cooperative enterprise (GCCE).

5.1.3 The Effect of Work Conditions on Employee Productivity of GCCE

The results from the model summary of regression produced a correlation coefficient of 0.965 and an adjusted R square of 0.930, which meant that there is a strong positive relationship between work conditions and Employee productivity, and that work conditions contributed 93.0% to Employee productivity in GGCE. When the t-test results from the coefficients table yielded a beta (β) of 0.965 with a P-value less than 0.01 indicating that there is a significant relationship between work conditions and Employee productivity in Gumutindo coffee cooperative enterprise (GCCE).

5.1.4 OSH on Employee Productivity of GCCE

In order to provide answers to the main objective of this study, a multivariate linear regression analysis was executed. The results from the model summary of regression firstly and foremost revealed a correlation coefficient of 0.974 implying that a positive relationship existed between Occupational Safety and Health (OSH) and Employee Productivity in Gumutindo Coffee Cooperative Enterprise Ltd (GCCE). Secondly, the model summary of regression also produced an adjusted R square of 0.946, which translated into 94.6%. The model therefore proved that Occupational Safety and Health (OSH) contributed 94.6% to Employee productivity in GCCE.

This is in agreement with Maslow's theory (Maslow, 1954). It also shows that when workers believe that the level of risk has been minimized and that good health and safety practices are judiciously enforced and monitored by management, they feel more comfortable and are less distracted from performing their tasks and interacting with others (Storey, 1992).

5.2 Conclusion

The main objective of this study was to examine the effect of occupational safety and health on Employee productivity in Gumutindo Coffee Cooperative Enterprise Ltd (GCCE).

5.2.1 Safety Policy

It was found out that, there was a very strong positive relationship between safety policy and Employee productivity, since the model summary of regression produced a correlation coefficient of 0.966 and an adjusted R square of 0.933, meaning that safety policy contributed 96.6% to Employee productivity in GCCE.

5.2.2 Personal Protective Equipment

Secondly, it was also noted that a very strong positive relationship existed between PPE and Employee productivity, since the model summary of regression produced a correlation coefficient of 0.969 and an adjusted R square of 0.938, thus PPE contributed 96.9% to Employee productivity in GCCE.

5.2.3 Work Conditions

Lastly, there was a strong positive relationship noted between work conditions and Employee productivity, because the model summary of regression produced a correlation coefficient of 0.965 and an adjusted R square of 0.930, and this shows that work conditions contributed 96.5% to Employee productivity in GCCE.

5.2.4 Occupational Safety and Health

Basing on the above, it can be generally concluded that Occupational Safety and Health (OSH) strongly affect Employee productivity in Gumutindo Coffee Cooperative Enterprises ltd. This is evident from the model summary of regression which produced a correlation coefficient of 0.974 and an adjusted R square of 0.946.

5.3 Recommendations

The following recommendations were derived from the results, findings and conclusions of the study.

First, the management of Gumutindo Coffee Cooperative Enterprises ltd (GCCE) should continuously avail the written organization's safety policy to all employees in order to increase the Employee productivity.

Secondly, PPE should continuously be availed to all workers and then sensitized on how to adequately use them while on the Organization's premises.

Thirdly, the researcher recommends that the management of Gumutindo should continuously improve the work conditions if they are to register a great improvement in the Employee productivity.

Lastly, the management of Gumutindo Coffee Cooperative Enterprises ltd (GCCE) should explore and implement sustainable policies inclined towards improving work conditions, PPE usage and adhering to safety policy as a means of enhancing its Employee productivity.

5.4 Suggestions for Future Research

The following are a few aspects to be considered by future researchers as far as the effect of Occupational Safety and Health (OSH) on Employee productivity is concerned.

Firstly, the propositions put forward in this study emphasize the importance of having a well-organized Occupational Safety and Health (OSH). Future studies should therefore focus on carrying on the same study using a number of production organizations in order to ascertain if the same picture exists in other organizations.

Secondly, there are many safety and health factors that have been left out by the current study. Future studies should focus on the role of these factors in Employee productivity.

Thirdly, future research should consider replicating this study in the public sector in Uganda in order to establish the effect of Occupational Safety and Health (OSH) in the public sector.

REFERENCES

Books

AKINYELE. S. T., 2007. *A Critical Assessment of Environmental Impact on Workers Productivity in Nigeria*. Res. J. Bus. Manage. 1(1): 50-61.

AMIN, M. E., 2005. *Social Science research: conception, methodology and analysis*. Kampala: Makerere University Press.

ARMSTRONG, M., 2001. *A handbook of Management Technique:* The Best-selling Guide to Modern Management Methods, 3rd ed, London: Kogan Page Limited.

ARMSTRONG, M., 2012. A Handbook of Strategic Human Resource Management Practices, 12th ed. London: Kogan Page

BAKER, S. P, MYERS, A. H, AND SMITH, G. S., 1991. *Injury Prevention in the Workplace.* New York: Oxford University Press.

BEER, M., SPECTOR. B, LAWRENCE.P, QUINN.M., & WALTON,R.E., 1984, *Managing Human Assets*. NewYork; the Free Press.

BEST, J. W, JAMES, V. K. 1986. *Research in Education*. 7th ed. Singapore: Allya and Bacon.

BLOOM, D. E. & CANNING, D., 2000. "The health and wealth of nations" science compass vol. 287:1207-1209

BLUMBERG, B. COOPER, D.R. AND SCHINDLER, P.S., 2005. *Business Research Methods, Maidenhead*. McGraw-Hill.

CASCIO, W.F., 1986. *Managing Human Resources Productivity,Quality of Life,Profit*. New York: MC Graw-Hill

CIANNI, M., & ROMBERGER, B. 1995. Perceived racial, ethnic, and gender differences in access to developmental experiences. *Group and Organisation Management*, 20(4), 440-459.

COOPER, C. L. AND CARTWRIGHT, S., 2002. *Healthy mind, healthy organization: a proactive approach to occupational stress*, *Human Relations*, Vol. 47, 455-471.

COOPER, D.R., SCHINDLER, P.S. 2005. *Business Research Methods*, McGraw-Hill

CURRIE, J., AND MADRIAN, B.C., 1999. *Health, health insurance and the labour market*, New york: Elsevier science

ELYWOOD, J. 1999. *Models for production and operation design*. California.

GENNARD J AND JUDGE G., 2002. *Employee Relations*, London

GUYAGULER, T., 2000. *Occupational Health and Safety, Middle East Technical University*.

Grossman, M. & Kaestner, R., 1997. *Effects of education on health in the social benefits of education*, university of Michigan press

H.W. HEINRICH 1932, *First Scientific Approach to Accident/Prevention*.

Handley, W., 1997. Industrial Safety Handbook, London: McGrawHill

HUNSAKER, P.L., 2005. *Management: A Skills Approach*. 2nd ed. Upper Saddle River, NJ: Pearson Prentice Hall.

KOHUN, S. 1992. *Business environment*. Ibadan: University Press

KOTHARI, C., R., 2004. Research Methodology: Methods & Techniques, 2nd Revised Edition, New Delhi: New Age International (P) Ltd.

LIM, A., 2012. *OHS management system: Three benefits for construction enterprise*.

LIPSEY, R. G., 1996. *Economic Growth, Technological Change, and Canadian Economic Policy. Ottawa: C.D. Howe Institute, Benefactors Lecture*.

LIPOLD, A. G., 2001. *"Six Ideas to Boost Employee Productivity." Business & Health*

LYDEN, J. A. AND W. E. KLENGELE 2000. *Supervising Employee Health.*

Mali. P., 1978. *Improving Total Productivity*. New York: John Wiley and Sons.

MASLOW, A. H. 1954. Motivation and Personality: NY: Harper.

MATHIS, L. R. AND JACKSON, H. J., 2004. *Human resource management*. 10th ed. Singapore: Seng Lee Press.

MUGENDA, O. M. AND MUGENDA, A. G., 1999. *Research Methods: Quantitative and Qualitative Approaches.* Nairobi: Acts Press.

MUTO T. AND YAMAUCHI. K., 2001. *Evaluation of a Multi-Component Workplace Health Promotion Program Conducted in Japan for Improving Employee's Cardiovascular Disease Risk Factors.*

POLLITT, D. 2011. Corus forges new approach to safety and health. Human resource management international digest. Vol.19 No.l pp.7-9.

R.V KREJCIE AND D. W. MORGAN (1970), *Determining Sample size for research activities*. Sage publications.

SAUNDERS, M., LEWIS, P., & THORNHILL, A. 2007. *Research Methods for Business Students*. 4th ed. Harlow, England: FT Prentice Hall

SCHERMERHORN, J.R., HUNT, J.G., & OSBORN, R.N., 2003. *Employee Behavior: Instructor's Resource Guide*. 8th ed. Hoboken, NJ: John Wiley &Sons, Inc

TURNER,A.N. AND LAWRENCE,P.R.(1965).*Industrial Jobs and Worker,An Investigation Of Response to task attributes*, Boston: Harvard University Graduate School Of Business Administration

JOYCE M. H., 1989, *The Oxford Reference Dictionary*, USA: Oxford University Press

YIN, R. K., 1994. 2nd ed. Case Study Research. Design and Methods. Thousand Oaks: Sage Publications

Journals

ABDDLLAH, N. A. C., SPICKETT, J. T., RUMCHEV, K. B. & DHALIWAL, S. 2009. *Assessing employees' perception on health and safety management in public hospitals*. International Review of Business Research Papers, 5(4)

ADAMU S.O., 1991. *Productivity data and nation building*. J. Ind. Relat.5: 21-26.
African Journal of *Business Management* Vol. 4(13), pp. 2644-2651, 4 October, 2010

ALDANA, S. G. 2001. *Financial Impact of Health Promotion Programs: a Comprehensive Review of the Literature*. American Journal of Health Promotion 15(5):296-320.

ANNAN. J.S., 2010. *Occupational safety and health in Ghana*. Research paper

BEARDWELL, I., HOLDEN, L. & CLAYDON, T. 2004. *Human Resource Management a Contemporary Approach*. 4th Ed. Harlow. Prentice Hall

BRANDT-RAUF, P., BURTON W. N., AND MCCUNNEY, R. J., 2001. *Health, Productivity, and Occupational Medicine.* Journal of Occupational and Environmental Medicine 43(1):1-2.

CAKIR, A., HART, D.J., AND STEWART, T.F.M., 1980. Visual Display Terminals: *A Manual Covering Ergonomics, Workplace Design, Health and Safety,Task Organization*, Chichester, United Kingdom: John Wiley and Sons.

CAPLAN, R.D., COBB, S., FRENCH, J.R., JR.; HARRISON, R.V.; AND PINNEAU, S.R., JR., 1975. Job *Demands and Worker Health, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, Washington,* D.C.

COLE, G.A. 2002. *Personnel and human resource management*, 5th Ed. Continuum London: York Publishers.

EAGLY, ALICE H., AND SHELLY CHAIKEN. 1998. *Attitude Structure and Function.* In Handbook of Social Psychology, ed. D.T. Gilbert, Susan T. Fisk, and G. Lindsey, 269–322. New York: McGowan-Hill

EDINGTON, D. W. 2001. *Emerging Research: a View From One Research Center*. American Journal of Health Promotion 15(5):341-49.

EZZEDINE, E.H., 2008. *Occupational health and safety management systems (OHSMS)* quality, environment and safety consultant

GOETZEL, R. Z. AND R. J. OZMINKOWSKI. 2000. *Health and Productivity Management: Emerging Opportunities for Health Promotion Professionals for the 21st Century*. American Journal of Health Promotion 14(4):211-4.

GOLASZEWSKI, T. 2001. *Shining Lights: Studies That Have Most Influenced the Understanding of Health Promotion's Financial Impact*. American Journal of Health Promotion 15(5):332-40.

GUNDERSON, M AND HYATT. D., 2002. *Economic Incentives: Strategies for Engendering Heatlhy Workplaces. Ottawa, ON: Draft Report submitted to Health Canada*.

Ho, J. T. S. 1997. *Corporate Wellness Programs in Singapore: Effect on Stress, Satisfaction and Absenteeism*. Journal of Managerial Psychology 12(3):177.

ILO, 2001. The Construction Industry in the Twenty-First Century: Its Image, Employment Prospects and Skill Requirements, International Labour Office, Geneva.

ILO 2003. *Safety in numbers.* International Labour Organization, Geneva

International Labour Conference, 2003. *ILO standards related activities in the area of occupational safety and health: an in-depth study for discussion with a view to the elaboration of a plan of action for such activities*. ILO-Geneva

IQBAL, S. 2013. *Labour Fate: Diluting Inequality*. Jakarta: Kompas.

KANZUNNUDIN, M. 2007. *Effect of wages and supervision of employee productivity*. Fokus Ekonomi, 2(1), 11-20.

KIRSTEN, W., 2010. *Making the link between health and productivity at the workplace-A global perspective*. Industrial health Vol.48: 251-255

KOOPMAN, C., PETTETIER, K., MURRAY, J., SHARDA, C., BERGER, M., 2002. *Stanford presenteeism scale: health status and employee productivity*. Journal on occupation environment and medicine vol. 44:14-20

KUSNENDI, K. 2003. *Economics of Human and Nature Resources.* Jakarta: Universitas Terbuka.

LEACH, F.J., WESTBROOK, J.D. 2000. *Motivation and Job Satisfaction in One Government research and Development Environment*. Engineering Management Journal. Vol.12, Iss. 4; pg. 3-9.

LEONARD, B. 2001. *Health Care Costs Increase Interest in Wellness Programs*. HRMagazine 46(9):35-6.

LIPSEY, R. G., 1996. *Economic Growth, Technological Change, and Canadian Economic Policy. Ottawa: C.D. Howe Institute, Benefactors Lecture*.

MANJUNATHA, R., KIRAN, D. AND THANKAPPAN, K.P. 2011. *Sickness absenteeism, morbidity and workplace injuries among iron and steel workers* Australasian Medical Journal 4(3), 144-147.

NAYAK, S.R., PATRA, S. 2013. *Wage-labour productivity relationship in manufacturing sector of Odisha*: International Journal of Engineering Science Invention, 2(3), 8-11.

O'Donnell, M. P. 2000. *Health and Productivity Management: the Concept, Impact, and Opportunity*: Commentary to Goetzel and Ozminkowski. American Journal of Health Promotion 14(4):215-7.

POWELL, D. R. 1999. *Characteristics of Successful Wellness Programs*. Employee Benefits Journal 24(3):15-21.

R.V Krejcie and Morgan, D. W.,1970. *Determining Sample size for research activities*. Educational and psychological measurement, 30, 608. Sage publications.

RIEDEL, J. E., C. BAASE, P. HYMEL, W. LYNCH, M. MCCABE, W. R. MERCER, AND K. PETERSON. 2001. *The Effect of Disease Prevention and Health Promotion on Workplace Productivity*: A Literature Review. American Journal of Health Promotion 15(3):167-90

Riley, Shannon, "Herzberg's Two-Factor Theory of Motivation Applied to the Motivational Techniques within Financial Institutions" 2005. Senior Honors Theses. Paper 119.

Ruthankoon, R. & Ogunlana S. O., 2003. *Testing Herzberg's two-factor theory in the Thai construction industry*. *Engineering, Construction and Architectural Management*, Vol. 10 (5), pp. 333 – 341.

STOREY, J. 1992. Developments in the Management of Human Resources. Oxford: Blackwell.

TAWIAH, A. T. & BAAH, K.D., 2011. *Occupational health and safety: Key issues and concern in Ghana*. International Journal of Business and Social Science, 2(14).

TOMPA, E., 2002. *The impact of health on productivity: empirical evidence and policy implications.* The review of economic performance and social progress

UMAR, A. 2012. *Effect of wages, motivation, and job satisfaction on the performance of workers in the manufacturing industry in the city of Makassar*.

VREDENBURGH, A.G., 2002. *Employee safety: which management practices are most effective in reducing employee injury rates?* Journal of Safety Research 33(2), 259-276.

Electronic Documents

Australian Commission for Health and Safety 2002. www.safetyandquality.gov.au. Accessed on 5th July, 2017

http://www.hesapro.org/

INTERNATIONAL LABOUR ORGANIZATION 2012. Safety and health at work. Online:http://www.ilo.org/global/topics/afety_and_health_at_work//ang…en/index.htm.

www.artipot.com/article-tags/ohs-management-system.

www.whscc.nl.ca

APPENDICES

Appendix I-Questionnaire

UGANDA MARTRYS UNIVERSITY

FACULTY OF BUSINESS ADMINISTRATION AND MANAGEMENT

QUESTIONNAIRE

Dear Respondent,

I am a student of Uganda Martyrs University undertaking a research on the topic: Occupational Safety and Health (OSH) on Employee Productivity a case study of Gumutindo Coffee Cooperative Enterprise (GCCE). This is entirely an academic research in partial fulfillment of the requirements for the award of a Master's degree in Business Administration.

I therefore request you to provide information which is entirely for academic purposes only and shall be treated with utmost confidentiality.

I will be grateful for your co-operation in this regard.

Thank you

Yours Truly

……
Agaba Myres Muganga
Student/Researcher

Section A: Background Information

Please tick (√) the box that represents or clearly write your response in the provided space on the following statements.

Kindly provide the following information about yourself

1. Gender

Male ☐

Female ☐

2. Age

Less than 25 years ☐

Between 25-35 years ☐

Between 36-45 years ☐

Between 46-55 years ☐

Above 55 years ☐

3. Marital Status

Single ☐ Married ☐ Divorced ☐ Separated ☐

4. What is your maximum level of education?

Certificate ☐ Diploma ☐ Degree ☐ Masters ☐ Others (specify)……. ☐

5. Working Period with Gumutindo Coffee Cooperative Enterprise (GCCE).

Below 2yrs. ☐ 2-4 yrs. ☐ 5-7 yrs. ☐ 8-10 yrs. ☐ Over 10 yrs. ☐

Section B: To assess OSH and Employee Productivity

Strongly Disagree S/D	Disagree D	Neutral N	Agree A	Strongly Agree S/A
1	2	3	4	5

Please use the above scale to tick your appropriate view /opinion in sections C-F below.

Section C: Safety Policy

		1 S/D	2 D	3 N	4 A	5 S/A
1	There is a written Safety policy at Gumutindo					
2	Gumutindo Safety policy is always accessible to the employees					
3	There are Reporting procedures as far as safety is concerned.					
4	Safety signs are clearly displayed at my workplace					
5	Only trained and authorized people are allowed to operate machinery					
6	Visitors are always guided by an authorized person					

Do you have any other comment (s) you would like to advance on the effect of Safety Policy on Employee Productivity of Gumutindo Coffee Cooperative Enterprise? Please specify.

……
……
……

Section D: Personal protective Equipment (PPE)

		1 S/D	2 D	3 N	4 A	5 S/A
1	The organization gives its employees Personal Protective Equipment					
2	Workers are trained on how to use safety wears					
3	Visitors are provided with PPE during factory tour					
4	Gumutindo has appropriate Protective wear in good condition					
5	There is annual stock taking to ascertain the PPE availability					
6	There is sharing of some protective wears					

Do you have any other comment (s) you would like to advance on the effect of Personal protective Equipment on Employee Productivity of Gumutindo Coffee Cooperative Enterprise? Please specify.

……
……
……

Section E: Work Conditions

		1 S/D	2 D	3 N	4 A	5 S/A
1	I feel safe in my working environment					
2	The management is keen at keeping my work place conducive					
3	Management trains us on how to maintain a safe environment					
4	There is periodic rotation of casual workers to avoid overstaying in the same workstation for long.					
5	Employees care about each other's safety					
6	There is no dust nor fumes that is directly released during production					

Do you have any other comment (s) you would like to advance on the effect of Work Conditions on Employee Productivity of Gumutindo Coffee Cooperative Enterprise? Please specify.

……
……
……

Section F: Employee Productivity

		1 S/D	2 D	3 N	4 A	5 S/A
1	Use of trained employees has increased production volumes					
2	Guiding visitors has helped in redeeming production time					
3	The plant machinery is always available for use whenever needed					
4	The use of appropriate safety wear has reduced plant down time					
5	Individual ownership of PPE has increased the quantity produced					
6	Clean working environment has improved the quality of Coffee produced					
7	Rotation of workers has led to increased plant utilization					

Do you have any other comment (s) you would like to advance on the level or state of Employee Productivity of Gumutindo Coffee Cooperative Enterprise? Please specify.

……
……
……

Appendix II

Krejcie & Morgan (1970) Table of Sample size (S) determination for the given Population sizes (N)

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	256	300	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	100000	384

Appendix III- Proposed Work Plan

Item	Activity	Oct 16-Nov16	Dec 16-Jan 17	Feb 17-Mar 17	April 17-May 17	June 17-July 17
1	**Finding out a Research Topic**					
2	**Confirming my supervisor**					
3	**Writing a Proposal**					
4	**Consulting my supervisor**					
5	**Gathering primary and secondary data**					
6	**Analyzing the data**					
7	**Writing a dissertation**					
8	**Defending my dissertation**					
9	**Submitting the dissertation**					
10	**Editing and Printing**					

Appendix IV- Proposed Budget

Item	Activity	Cost (UGX)
1	**Finding out a Research Topic**	Nil
2	**Confirming my supervisor**	**Nil**
3	**Writing a Proposal**	**200,000**
4	**Consulting my supervisor**	**Nil**
5	**Gathering primary and secondary data**	**150,000**
6	**Analyzing the data**	**400,000**
7	**Writing a dissertation**	**150,000**
8	**Defending my dissertation**	**Nil**
9	**Submitting the dissertation**	**Nil**
10	**Editing and Printing**	**100,000**
11	**Transport**	**250,000**
12	**Internet**	**100,000**
13	**Lunch**	**190,000**
14	**Airtime**	**120,000**
	Total	**1,660,000**

Appendix V- SPSS OUTPUT FOR RELIABILITY TEST (PILOT STUDY)

Reliability

Scale: SAFETY POLICY

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.744	6

Reliability

Scale: PERSONAL PROTECTIVE EQUIPMENT

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.771	6

Reliability

Scale: WORK CONDITIONS

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.795	6

Reliability

Scale: EMPLOYEE PRODUCTIVITY

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.832	7

Appendix VI- University authorization Letter

Uganda Martyrs University

making a difference

Office of the Dean
Faculty of Business Administration and Management

Nkozi, 30th March 2017

To whom it may Concern

Dear Sir/Madam,

Re: Assistance for Research:

Greetings and best wishes from Uganda Martyrs University.

This is to introduce to you ACABA MYRET MUGANGA who is a student at Uganda Martyrs University. As part of the requirements for the award of A Masters Degree of Business Administration, the student is required to submit a dissertation which involves a field research on a selected case study such as a firm, governmental or nongovernmental organization, financial or other institutions.

The purpose of this letter is to request you permit and facilitate the student in this survey. Your support will be greatly appreciated.

Thank you in advance.

Yours Sincerely,

Kiizah Pastor
For. Dean

Uganda Martyrs University P. O. Box 5498 - Kampala - Uganda
Tel: (+256)038-410611 Fax: (+256)038-410100 E-mail: umu@umu.ac.ug

Appendix VII- Gumutindo authorization Letter

Gumutindo Coffee Co-operative Enterprise Ltd

Registered as a co-operative in Uganda, No. 6875
PO Box 283, Mbale, Uganda
info@gumutindocoffee.co.ug
+256-45-34415 (Tel)
+256-45-35103 (Fax)

15th May 2017

Mr. Agaba Myres Muganga

Dear Sir,

Re: Permission to carry out Academic Research.

Following your request dated 10th May 2017, I'm pleased to inform you that you have been allowed to carry out your research on **Occupational Safety, Health and Environment on Organizational Productivity** in this organisation.

You will be placed in the Production department and you will work under the supervision of our Production Manager Ms. Rachel Namarome, here on copy.

The Gumutindo team will give you all the support you will need during your time with us and I promise you to find this interaction very informative.

Yours faithfully

Phiona Florence Nakusi
General Manager
GCCE Ltd

CC: Production Manager