

**THE EFFECTS OF OCCUPATIONAL HEALTH AND SAFETY
MANAGEMENT ON ORGANIZATIONAL PRODUCTIVITY – THE
CASE STUDY OF TANZANIA PORTLAND CEMENT COMPANY
LIMITED, DAR ES SALAAM - TANZANIA**

A Dissertation

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In Partial Fulfilment of Requirements for award of a Degree of
Masters of Business Administration in Human Resource

BY

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February, 2019

DECLARATION A

This research report is my original work and has not been presented for any other academic award in any University or Institution of learning.

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DECLARATION B

This Dissertation titled “**The effects of health and safety management on organizational productivity: the case study of Tanzania Portland Cement company limited, Dar Es Salaam - Tanzania**” was prepared and submitted by **ANNA ASSEY**, under guidance of the supervisor.

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DEDICATION

I dedicate this work to my God; He has given me knowledge and understanding towards accomplishment of this research report.

ACKNOWLEDGEMENT

I have all reasons to thank God for his mercy and grace for enabling me throughout my studies. I praise and admit that I have seen the hand of our almighty God upon my life forever, honoured and adored. To the highest God, glory be to his name.

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LIST OF ABBREVIATIONS

RD	-	Resource Dependence Theory
WHO	-	World Health Organization
DSE	-	Dar es Salaam Stock Exchange
TPCC	-	Tanzania Portland Cement Company Limited
TBS	-	Tanzania Bureau of Standards
CEO	-	Chief Executive Officer

ABSTRACT

The study investigated the effects of occupational health and safety management on organizational productivity: the case study of Tanzania Portland Cement company limited, Dar Es Salaam – Tanzania, The specific objective of this study were; To determine the factors affecting employees' health and safety on organizational productivity; To assess the level of accident on organization productivity; To identify the relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited. The study was guided by four theories: the theory of compensating wage differentials (CWDs), resource based view theory, the resource dependency theory and McKinsey's 7S Model. The descriptive survey research design and mixed methods approach were used on the sample size of 171 obtained using the Solvener's formula, data was collected using interview guide and open and closed ended questionnaire. The results of data analysis indicates that the factors affecting employees' health and safety management and organizational productivity at Tanzania Portland cement Company Limited include: Working environment, Health and safety at work, lack of Health and safety policy such as hazard reporting system, employee exposure form and medical reports, Accidents at work among others. The findings also revealed that the level of accident affecting organization productivity at Tanzania Portland Cement Company Limited is very high and this was attributed to lack of adequate protective clothing among others. It was also found that there is significant positive relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited. The research concluded that health and safety measures have a positive impact not only on safety and health performance but also on company productivity. Research recommended that Employees should have regular and seasoned training courses on safety management, The safety policies of business must be effectively implemented to the later and adherence monitored at every instance among others.

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CHAPTER ONE

1.0 Introduction

This chapter gave the introduction to this study by describing the background of the study, statement of the problem, objectives of the study with both general and specific objectives as well as research questions concerning occupation health and safety. It further described the scope and limitations of the study.

1.1 Background of the Study

Occupational Health and Safety (OHS) is a multidisciplinary practice dealing with all aspects of health and safety in the workplace, with a strong focus on preventing workplace hazards (Institute of health and safety journal, 2018). The enjoyment of these standards is a basic human right that should be afforded to each and every worker, regardless of the nature of their work. With OHS standards in place, workers are able to carry out their responsibilities in a safe and secure working environment, free from hazards (Tungu, 2013).

The primary goal of the Occupational Safety and Health Act is to foster and nourish a healthy and safe work environment for all individuals in the work field. Besides the employers and employees, the OSH could also help protect co-workers, the members of the family, customers and other individuals who might possibly be affected in the workplace environment. The term “occupational health and safety” in the United States refers to occupational health, occupational and non-occupational safety which includes the activities outside of the workplace. However, for the purpose of this study, occupational health and safety as “The promotion and maintenance of the highest degree of physical, mental and social well- being of workers in all occupation, general health and personal development”.

According to Tadesse & Admassu (2006), if employees are safe and healthy, the companies could decrease their workers' compensation medical expenses and insurance costs, reduce the payout for return-to-work program, lower the costs for the job accommodations for injured employees and reduce faulty products. Since the creation of the Occupational Safety and Health Act, there has been a 60% decrease of workplace deaths and a 40% decline of workplace injuries and illnesses. Another benefit of OSHA is that they have conducted around 39,000 workplace inspections and have also issued at least 85,000 citations regarding safety violations.

Occupational health and safety hazards are common in many economic sectors and affect large numbers of workers. Approximately 30-50% of workers report hazardous physical, chemical or biological exposures or overload of unreasonably heavy physical work or ergonomic factors that may be hazardous to health and to working capacity; an equal number of working people report psychological overload at work resulting in stress symptoms (WHO, 2005). Many individuals spend one-third of their adult life in such hazardous work environments (Kortum, Leka & Cox, 2010). About 120 million occupational accidents with 200,000 fatalities are estimated to occur annually worldwide and some 68-157 million new cases of occupational disease are caused by various exposures at work. In addition to unnecessary human suffering, the costs involved in these health hazards have been estimated to amount to high percentages of some countries' GNP -Gross National Product (WHO, 2005).

Reducing costs and production time as well as increasing quality and improving quantity or a combination of them are considered as the manifestations of increased productivity (Fernandez-Mu-iz, Montes-Peon., & Vazquez-Ordas, 2009). However, the implementation of the safety management system (SMS) is taken into account as one of the most effective factors in increasing productivity in some studies (Dembe, 2001). It seems that many managers still consider health and safety investment as a part of the costs imposed on an organization (Omidvari, Davudi, & Javaheri, 2012). As a result, considering health and safety in terms of productivity can highlight the significance of investment in health and safety for everyone, especially managers (Omidvari, et l, 2012).

Occupational health and safety of working people are crucial prerequisites for productivity and are of utmost importance for overall socio-economic and sustainable development (WHO, 2005). There is ample evidence in literature that shows that throughout the world, people die from work related accidents (see for example Akpan, 2011; Beriha, Patnaik and Mahapatra, 2011; Heaney and Irlincht, 2010; Iqbal, Iqbal, Taufiq and Ahmed, 2010; Jin and Courtney, 2009; Lauver, Trank and Le, 2011; Nag and Nag, 2010). Although it is difficult to quantify the number of fatalities globally, due to inconsistency and inadequacies of data across countries, Findley and Gorski (2005) pointed out that the annual level of occupational injuries arising from the workplace accidents and illnesses is estimated at 100 million. In the Geneva conference held in April of 2000, the Chief of the International Labour Organization (ILO), Dr. Jukka Takala, highlighted that world-wide 1.1 million deaths were experienced at the workplace (ILO, 2019).

Globally, according to ILO (2019) report estimates that, some 2.3 million workers lose their lives every year around the world as a result of workplace accidents and diseases contracted on the job and that hundreds of millions of workers suffer from workplace accidents and occupational exposure to hazardous substances worldwide. In a speech to the introductory session of the Congress, Dr. Jukka Takala, Chief of the ILO's Health and Safety programme, pointed out that the workplace hecatomb of 1.1 million deaths exceeds the average annual deaths from road accidents [999,000], war [502,000], violence [563,000] and HIV/AIDS [312,000] (ILO, 2019).

Approximately one-quarter of those deaths result from exposure to hazardous substances which cause such disabling illnesses as cancer and cardiovascular, respiratory and nervous-system disorders. Takala warned that work-related diseases are expected to double by the year 2020 and that if improvements are not implemented now, exposures today will kill people by the year 2020 (ILO, 2019).

In addition, Takala said that by conservative estimates workers suffer approximately 250 million occupational accidents and 160 million occupational diseases each year. Deaths and injuries, he said, continue to take a particularly heavy toll in developing

countries where large numbers of workers are concentrated in primary and extraction activities such as agriculture, logging, fishing and mining - some of the world's most hazardous industries (ILO, 2019).

Worldwide, there are around 340 million occupational accidents and 160 million victims of work-related illnesses annually (ILO, 2019). The ILO updates these estimates at intervals, and the updates indicate an increase of accidents and ill health. The estimated fatal occupational accidents in the Commonwealth of Independent States (CIS) countries is over 11,000 cases, compared to the 5,850 reported cases (information lacking from 2 countries). The gross underreporting of occupational accidents and diseases, including fatal accidents, is giving a false picture of the scope of the problem. This suggest the for syudies in these res to generate base-line data for policy implementation (ILO, 2019).

In Asia, China has an appalling national record of workplace accidents and illnesses: according to official Chinese government statistics, there were 380,000 incidents in the workplace during 2009, in which 83,196 people lost their lives - a total of 228 worker deaths per day. China's OHS system is characterized by an overall lack of coordination between the various departments, regional bureaus and national ministries responsible for OHS issues. There is a dramatic lack of resources, monitoring is lax, corruption is endemic and abuses of power by local authorities remain high. Corruption occurs where local authorities and factory owners (including hospital officials) are complicit in a variety of illegal activities. The lack of effective legislation and punitive measures to confront the factories that violate OHS regulations, and the low levels of authority and manpower from factory inspection teams and the labor departments, mean that appallingly low levels of health and safety compliance can go unnoticed and unpunished (Dominique Muller, (2013).

Furthermore, in China, 20% of the working population was found to suffer from mental health problem. Job stress, as the main psychological work-related disease in China, might lead to poor health and even injury, including cardiovascular disease, MSDs, and

mental illness. A study in Chinese working women by Zhang, Wang, & Li (2010) revealed that the combined exposure to job and family stress was associated with an adjusted mean 6.4 mmHg increase in systolic blood pressure. High job demands and low job control or high efforts and low rewards were found to increase the risks of job dissatisfaction, psychosomatic complaints, and depressive symptoms in a cross-sectional study at a thermal power plant in China (Zhang, Wang, & Li, 2010).

However, Hosier (2010) asserts that China's State Administration of Work Safety report indicate that 83,196 people lost their lives in work-related incidents in 2009 caused by 380,000 incidents in the workplace. While, The U.S. reported 5,071 worker deaths in 2008. So the number of workplace fatalities in China is 16 times that of those in the U.S. Also, approximately 14 workers die per day in the U.S. compared to 228 in China (Hosier, 2010).

In India, cement manufacture has caused environmental impacts at all stages of the process in the area. These include emissions of airborne pollution in the form of dust, gases, noise and vibration when operating machinery and during blasting in quarries, and damage to countryside from quarrying (Schuhmacher et al., 2004; Aydin et al., 2010; Zeleke et al., 2010; Vestbo et al., 1900). Generally cement plants are known to be associated with exposure to quartz, cement, and dust, which can potentially contribute to Chronic Bronchitis, Silicosis and Interstitial lung diseases.

In Malaysia, Krishnan, Hizam, Saffian, Baharun, & Azman, (2017) conducted a study on Safety at Workplace Enhance Productivity. The study was conducted to identify the relationship between human behaviour and the safety at workplace in the case of workers, moreover, the researcher already described the 3 main factor of human behaviour that been focused on, that are workers awareness and productivity, workers attitude and manner and workplace culture and safety. The study found that awareness of the workplace safety and the technology supporting become significant developmental growth. Furthermore, quantitative research found that strong principles of

human behaviour will lead effective workplace and improve productivity which benefit the organisation in the future.

In sub-saharan Africa, a study by Kane-Berman (2017) in South Africa, reveals that the mining operations of a Platinum Manufacturer were shut down by the Inspectorate for two weeks, due to the fact that the company experienced fatalities, resulting in production losses of about 2000 ounces of platinum. Furthermore a Cement Manufacturer in the Lichtenburg area in 2008 and Gold and Uranium Mining operations near Westonaria were stopped as the mines experienced three fatalities each in 2011. These hce serious consequences for productivity of both the individual worker and the organizations (Kane-Berman, 2017).

In Kenya according to DOHS (2003) in 19 district 11,540 ohms accidents were reported of which 145 were fatal and 9 occupational illnesses. In east African Portland Cement Company in Kenya, more than five employees go on sick leave every month due to occupational health and safety concerns e.g. the year 2014, a total of 32 occupational accidents and illnesses were reported from different departments, they included cuts, burns, body injury, and motor vehicle accident as a result of occupational health and safety concerns left unaddressed in the company.

In Kenya, occupational health and safety is both a voluntary mechanism through occupational health and safety assessment series and an enforced mechanism through occupational Safety and Health Act No.15 of 2007 (Labor laws, 2007). In this regard, companies in all sectors are seeking to achieve their best in implementing the occupational Safety and Health to conform to these demands.

Contextual perspective: The first law in Tanzania that related to workers health and safety was the Factories Ordinances Cap. 297 of 1950, that provided for occupational health and safety standards for workers in factories (NAO, 2018). As most of Tanzania's workforce was employed in the agricultural sector, this ordinance left most workers in the country unprotected. This law was replaced in 2003 with the new Occupational

Health and Safety Act No. 5 of 2003, which covers workers in all sectors, including within the public sector and in local government authorities (NAO, 2018).

In 2008 another important step was made; The establishment of Workers' Compensation Fund through Workers Compensation Act No. 20 of 2008 with objectives of providing for compensation to employees for disablement or death caused by or result from injuries or diseases sustained or contracted in the course of employment; to establish Fund for administration and regulation of workers compensation and to provide for related matter. Status of occupational accidents and injuries varies considerably between different sources (NAO, 2018). It is estimated that in mining and quarry sector, the injury rate is 17 per 1000 workers whereas the manufacturing sector is responsible for 10.1% of total occupational accidents, 9.6% of fatalities, 12.2% of partial disabilities and about 7.4% of temporary disability and the injury rate is 9.9 per 1,000 workers, Report from National Audit office (NAO, 2018).

Report from National Audit office (NAO, 2018) showed that construction/building industry had highest Fatality rate of 23.7% followed by Transport and mining/quarrying that had 20.6% and 20.5 respectively. Injuries in transport sector is another life-threatening risk that continues to claim lives of people especially motorcyclist and public transport (buses). However, the major challenge in these information is validity and reliability as the reporting and data keeping system in Tanzania is not well coordinated.

In the present, Tanzanian Portland cement factory, reported dust exposure levels were high, and measures to reduce dust exposure levels were subsequently taken (Tungu, 2013). To our knowledge, there are no follow-up studies in factories that have improved dust control measures. Documentation of the present dust exposure and the possible associated chronic adverse respiratory health effects in this factory is important. The underlying mechanisms of adverse respiratory health effects associated with dust exposure among cement workers are unknown (Tungu, 2013).

1.2 Statement of the Problem

The effects of work place hazards are not confined to organizational premises alone; they can often do cause injuries and deaths to members of the general public as well. The importance of healthy and safe policies and practices is, sadly, often underestimated by those concerned with managing businesses and by individual managers within those businesses. (Tungu, 2013). Although safety management has developed considerably during the last decades, occupational accidents still contribute to work-related health problems by 12% of the employees at Tanzania Portland Cement Company (Tungu, 2013). Therefore any company that seeks to implement such a strategy in the organization must ensure its success (Schaap, 2006). Tanzania Portland Cement Company has been committed to Occupational Health and Safety among its workers and many steps have been formulated to ensure its success. However, a statutory occupational safety and health audit report conducted in 2012 shows that there are challenges with the implementation of this strategy (Tungu, 2013).

Some of the problems impacting OHS in the company were that safety awareness was average at the factory and the depot staffs however are not aware; there were no disposal procedures for expired chemicals; fire extinguishers were obstructed by pallets, height of cement stacks was higher than the standard requirement, among other many issues. There is need to overcome the challenges of the implementation of occupational health and safety strategies in order to achieve its objectives. Hence there is need to conduct a study to establish the effects of occupational health and safety management on organizational productivity of Tanzania Portland cement company.

1.3 Purpose of the study

The main objective of this study is to determine the effects of health and safety management on organizational productivity at Tanzania Portland Cement Company Limited. The specific objectives of the study are:

1. To determine the factors affecting employees' health and safety management on organizational productivity at Tanzania Portland cement Company Limited.
2. To assess the level of accident affecting organization productivity at Tanzania Portland Cement Company Limited.
3. To identify the relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited.

1.4 Research questions

1. What are the factors that affect employees' health and safety management on organizational productivity at Tanzania Portland Cement Company Limited?
2. What is the level of accident affecting organization productivity at Tanzania Portland cement Company Limited?
3. What is the relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited?

1.5 Hypothesis of the study

Null hypothesis (H_0); there is no positive relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited.

Alternative hypothesis (H_a); there is a relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited.

1.6 Scope of the study

1.6.1 Geographical scope

The study was conducted at Tanzania Portland cement Company Limited. Tanzania Portland Cement Company Ltd. operates an integrated cement plant at Wazo Hill

outside the capital Dar es Salaam. Tanzania Portland Cement Company Limited (TPCC) is the largest cement producing company in Tanzania. It is part of Heidelberg Cement Group. It was established in 1966 with the principal activity of manufacturing and selling of cement. The Twiga cement factory is located at Wazo Hill on Bagamoyo Road about 30 km northwest of Dar es Salaam. The offices are located in Dar es Salaam (Tanzania Portland Cement Company Limited Annual Report, 2013).

The first bag of cement rolled out at Wazo Hill in mid-1966. But due to development of events TPCC was nationalized in 1978 and later privatized in 1998. Heidelberg Cement currently holds 69.25 per cent of shares via Scancem International DA with the general public of the United Republic of Tanzania holding the remaining 30.75 per cent. The shares of TPCC are actively traded on the Dar es Salaam Stock Exchange (DSE) (Tanzania Portland Cement Company Limited Annual Report, 2013).

Since its inception, TPCC has produced high quality cement conforming to the standards issued by Tanzania Bureau of Standards (TBS). The company currently produces five main brands of cement, and Twiga ordinary (42.5N), Twiga Plus (42.5N), Twiga extra (32.5R), Twiga Super (32.5N) and Twiga Jenga (MC 22.5X) (Tanzania Portland Cement Company Limited Annual Report, 2013).

An expansion program to increase the production capacity to 1.4 million metric tons per year was completed at the beginning of 2009. TPCC increased its capacity under the project named CM5 to a capacity of 2.0 million metric tons per year by August 2014 (Tanzania Portland Cement Company Limited Annual Report, 2016).

1.6.2 Content scope.

The study concentrated on two variable, occupational health and safety management as the independent variable and organization productivity as the dependent variable. Under occupation health and safety management, the study looked at hazard environment, risk management, compliant equipment, correction installation, explosion protection, international standards and regulation. Under organization Productivity, the study focused on level of output, product quality and profit margin.

1.6.3 Theoretical scope

The study was guided by four theories to help explain the facets of health and safety management and organizational productivity. They include; the theory of compensating wage differentials (CWDs), resource based view theory, the resource dependency theory and McKinsey's 7S Model.

1.6.4 Time scope.

The study was carried out using literature review of 10 years back i.e. from 2003 to 2018 so as to get the updated literature that suits the study.

1.7 Significance of the Study

One of the primary goals of organizations is to optimize human resource to achieve set targets. Issues of health and safety within organizations are critical in the accomplishment of tasks (Gbadago, Amedome, & Honyenuga, 2017). Industrial accidents and illness make up one of the largest part of loss of production time in the industry and these injuries have posed a major challenge to most manufacturing industries. Companies have suffered long spells of production shortfalls, compensation payment, insurance premiums and legal battles due to injury, reduction to the quality of life, family problems and decrease of life-span and other effects which is impossible to evaluate its qualitative cost on the employee, organization, society and the nation in general (Gbadago, et al, 2017). It is of the hope that the findings of the study would enable companies develop better health and safety conditions of work.

Government; Health and safety of workers is a moral responsibility within our society that cannot only depend on productivity criteria within a particular company but can also have a serious consequence for individual workers, society and the nation as a whole. It is of the hope that the findings of the study would enable policy makers boost the morale of employees and ensure job security at all times by getting a better understanding of health and safety practices in the organization.

To employees; The study would also help the employers and employees to comply with organizational health and safety standards which in the long run would reduce accidents and injuries at the workplace thereby increasing their performance and productivity.

To the organization; This study would serve as the bases for increasing the awareness of health safety as well as identifying the weaknesses of the various strategies that employers adopt to enhance health and safety standards and recommend the possible ways of improving them. Employers would appreciate the cost of equipping employees with the right protective clothing and standards to ensure accident free environment.

To researchers/scholars; Findings and recommendation offered should not only add to existing literature for academic purposes, but also provide useful insights and guidelines for enhancing the quality of health and safety among employees in organizations.

1.8 Operational definitions of key terms

Employees safety and health: According to WHO as cited in Tadesse and Admassu (2006), occupational safety and health can be defined as a multidisciplinary activity aiming at: Protection and promotion of the health of workers by eliminating occupational factors and conditions hazardous to health and safety at work; Enhancement of physical, mental and social well-being of workers and support for the development and maintenance of their working capacity, as well as professional and social development at work; and Development and promotion of sustainable work environments and work organizations.

Occupational Health and Safety here refers to “The promotion and maintenance of the highest degree of physical, mental and social well- being of workers in all occupation, general health and personal development

Productivity: According to Gerhard (2002), productivity is an overall measure of the ability to produce a good or service. More specifically, productivity is the measure of how specified resources are managed to accomplish timely objectives as stated in terms

of quantity and quality. Productivity here refers to the capacity of an organisation, institution, or business to produce desired results with a minimum expenditure of energy, time, money, personnel, materiel, etc.

An **organization** or **organization**: According to Sytse, & Hein (2013) organization is a social unit of people that is structured and managed to meet a need or to pursue collective goals. Organization here refers to an entity comprising multiple people, such as an institution or an association that has a collective goal and is linked to an external environment.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter is concerned with the review of pertinent literature. It covers both theoretical and empirical literature. The chapter covers opinions, facts and literature from different authors, theoretical review, conceptual framework, review of related literature and research gap concerning the Occupational health and safety management and organizational productivity.

2.1 Theoretical Framework

The study was guided by four theories to help explain the facets of health and safety management and organizational productivity. They include; the theory of compensating wage differentials (CWDs), resource based view theory, the resource dependency theory and McKinsey's 7S Model.

2.1.1 The theory of compensating wage differentials (CWDs)

The theory of compensating wage differentials (CWDs), rooted in the work of Adam Smith's (1776) *Wealth of Nations*, has been argued to constitute "the fundamental long-run market equilibrium construct" of labour economics (Rosen, 1986). The theory of compensating wage differentials (CWDs) assumes that firms supply and workers demand workplace safety, predicting a positive relationship between accident risk and wages (Guardado, & Ziebarth, 2014). This allows for safety provision by workers, which predicts a countervailing negative relationship between individual risk and wages: firms pay higher wages for higher safety-related productivity. Using National Longitudinal Survey of Youth panel data and data on fatal and nonfatal accidents, our precise CWDs imply a value of a statistical injury of \$45.4 thousand and a value of a statistical life of \$6.3 million. In line with our model, individual risk and wages are negatively correlated. It holds that high accident companies like Portland cement must

pay high wages if it want to attract high quality work force (Guardado, & Ziebarth, 2014).

Therefore, risk-averse workers will take up jobs in firms which provide a safer working environment, whereas less risk-averse workers will be more willing to be employed in jobs in which the marginal cost of safety provision is dearer. Such an assortative matching procedure predicts that jobs characterized by a higher risk of injuries/illnesses should, in equilibrium, offer compensating rents, offered over and above the market equilibrium rate of pay (Rosen, 1986).

Market forces will therefore ensure that CWDs will raise the cost of non-OSH provision to firms, providing them with an inherent incentive to provide an adequate level of safety to their employees. A number of empirical studies (discussed below) confirm the existence of CWDs, thus raising the question about whether government intervention in the form of OSH policies and regulations is likely to distort the efficiency of the incentives provided by competitive markets (Guardado, & Ziebarth, 2014). An extensive literature provides estimates for the presence and extent of CWDs in a large number of countries via estimation of the so-called hedonic wage equations. Predominant attention has been paid to the “value of life” approach (Thaler and Rosen, 1976), which attempts to detect the monetary value that employees themselves place on their lives, on the basis that they are willing to accept jobs of a higher likelihood of a fatal job accident occurring.

2.1. 2 Resource-Based Theory or View (RBV)

This theory was developed by Birge Wenefeldt in 1984. It is a method of analyzing and identifying a firm’s strategic advantages based on examining its distinct combination of assets, skills, capabilities and intangibles as an organization. The RBV’s underlying premise is that a firms differ in fundamental ways because each firm posses a “unique” bundle of resources-tangible and intangible assets and organizational capabilities to make use of those assets. Each firm develops competencies from these resources, and

when developed especially well, these become the source of the firm's competitive advantage (Pearce & Robinson, 2007).

In the context of this theory, it is evident that the resources that a firm has will play a big role in the health and safety management process. This is because no matter how good the company facilities are, without the necessary resources to enable the health and safety management, they remain in the planning phase (Pearce & Robinson, 2007). Therefore, based on the above literature, the successful implementation of the occupational health and safety strategy by the EAPCC is highly dependent on the resources available. Resources may include both the physical and the human capital. Adequate resources would give the company the capability to successfully implement its health and safety management strategies to enhance its productivity.

2.1.3 Resource Dependency Theory

Resource dependence theory (RDT) is the study of how the external resources of organizations affect the behavior of the organization. Pfeffer and Salancik (1978) in his book "*The External Control of Organizations: A Resource Dependence Perspective*" the resource dependence theory (RDT) states that, "to understand the behavior of an organization you must understand the context of that behavior—that is, the ecology of the organization." RDT recognizes the influence of external factors on organizational behavior and, although constrained by their context, managers can act to reduce environmental uncertainty and dependence (Hillman, Withers, & Collins, 2009). Central to these actions is the concept of power, which is the control over vital resources (Ulrich & Barney, 1984).

Organizations attempt to reduce others' power over them, often attempting to increase their own power over others. Pfeffer (1987) provides the basic argument of the resource dependence perspective and interorganizational relations as: 1) the fundamental units for understanding intercorporate relations and society are organizations; 2) these organizations are not autonomous, but rather are constrained by a network of interdependencies with other organizations; 3) interdependence, when coupled with

uncertainty about what the actions will be of those with which the organizations interdependent, leads to a situation in which survival and continued success are uncertain; therefore 4) organizations take actions to manage external interdependencies, although such actions are inevitably never completely successful and produce new patterns of dependence and interdependence; and 5) these patterns of dependence produce interorganizational as well as intraorganizational power, where such power has some effect on organizational behavior (Hillman, Withers, & Collins, 2009).

RDT offers an externally focused perspective of why firms acquire other firms (Haleblian, Devers, McNamara, Carpenter, & Davison, 2009). More specifically, Pfeffer (1976) suggests three reasons why organizations may engage in mergers and acquisitions (M&As): “First, to reduce competition by absorbing an important competitor [*sic*] organization; second, to manage interdependence with either sources of input or purchasers of output by absorbing them; and third, to diversify operations and thereby lessen dependence on the present organizations with which it exchanges (Hillman, et al, 2009).

RDT rest on some assumptions: Organizations are assumed to be comprised of internal and external coalitions which emerge from social exchanges that are formed to influence and control behavior; the environment is assumed to contain scarce and valued resources essential to organizational survival (Haleblian, et al, 2009). As such, the environment poses the problem of organizations facing uncertainty in resource acquisition; organizations are assumed to work toward two related objectives: acquiring control over resources that minimize their dependence on other organizations and control over resources that maximize the dependence of other organizations on themselves (Hillman, et al, 2009). Attaining either objective is thought to affect the exchange between organizations, thereby affecting an organization’s power.

Acquiring the external resources needed by an organization comes by decreasing the organization’s dependence on others and/or by increasing other’s dependency on it, that is, modifying an organization’s power with other organizations (Hillman, et al, 2009).

The successful implementation of the occupational health and safety strategy is also dependent on how the companies acquires and maximizes the external resources. The company should acquire those resources that are going to guarantee the success of the occupational health and safety management strategy that can increase its productivity.

2.1.4 McKinsey 7S Model

The McKinsey 7-S framework or model was developed in the early 1980s by Tom Peters and Robert Waterman, in 1982 two consultants working at the McKinsey & Company consulting firm, the basic premise of the model is that there are seven internal aspects of an organization that need to be aligned if it is to be successful (John, 2014).

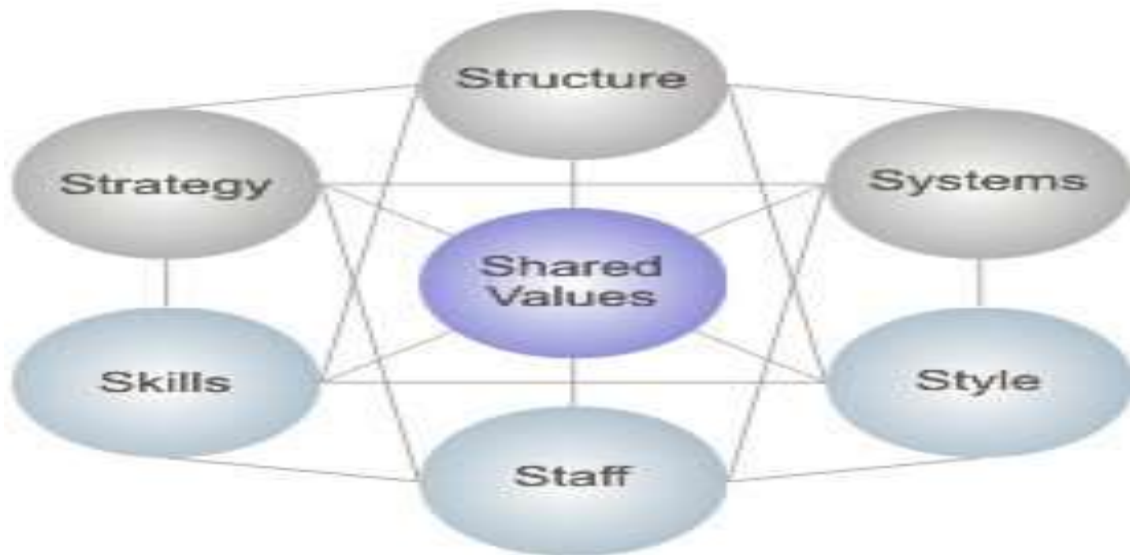
The 7-S model can be used in a wide variety of situations where an alignment perspective is useful, for example, to help you: Improve the performance of a company; Examine the likely effects of future changes within a company; Align departments and processes during a merger or acquisition; and Determine how best to implement a proposed strategy (Luke, 2017).

The McKinsey 7-S model can be applied to elements of a team or a project as well. The alignment issues apply, regardless of how you decide to define the scope of the areas you study (McDonald, 2014). According to Luke (2017), the McKinsey 7-S model involves seven interdependent factors which are categorized as either "hard" or "soft" elements:

"Hard" elements are easier to define or identify and management can directly influence them: these are strategy statements; organization charts and reporting lines; and formal processes and IT systems. While, the "Soft" elements, on the other hand, can be more difficult to describe, are less tangible, and more influenced by culture. However, these soft elements are as important as the hard elements if the organization is going to be successful (Luke, 2017).

The way the model is presented in figure 1 below depicts the interdependency of the elements and indicates how a change in one affects all the others.

Figure 1: The McKinsey 7S Model



Source: Luke (2017).

The McKinsey 7-S factors model can be outlined as follows:

1. **Strategy:** the plan devised to maintain and build competitive advantage over the competition.
2. **Structure:** the way the organization is structured and who reports to whom.
3. **Systems:** the daily activities and procedures that staff members engage in to get the job done.
4. **Shared Values:** called "superordinate goals" when the model was first developed, these are the core values of the company that are evidenced in the corporate culture and the general work ethic.
5. **Style:** the style of leadership adopted.
6. **Staff:** the employees and their general capabilities.
7. **Skills:** the actual skills and competencies of the employees working for the company.

Placing Shared Values in the middle of the model emphasizes that these values are central to the development of all the other critical elements. The company's structure, strategy, systems, style, staff and skills all stem from why the organization was

originally created, and what it stands for. The original vision of the company was formed from the values of the creators. As the values change, so do all the other elements (Luke, 2017).

Also, the first version of this model, published in 1982, classified “systems” as “soft”. Since 1982, many processes in many organizations have been meticulously documented or automated, making them relatively easy to analyze and change. They are therefore shown above as “hard” (Luke, 2017).

The model is based on the theory that, for an organization to perform well, these seven elements need to be aligned and mutually reinforcing. So, the model can be used to help identify what needs to be realigned to improve performance, or to maintain alignment (and performance) during other types of change (Luke, 2017).

Whatever the type of change – restructuring, new processes, organizational merger, new systems, change of leadership, and so on – the model can be used to understand how the organizational elements are interrelated, and so ensure that the wider impact of changes made in one area is taken into consideration. For instance it help explain occupational health and safety management changes and needs how they relate to organizational productivity.

2.2 Conceptual framework

A conceptual framework is a model of presentation where a researcher represents relationships between variables in the study and shows the relationship graphically or diagrammatically (Orodho, 2004). Basing on theoretical and empirical literature review the following diagram was designed to illustrate the interactions of the independent and the dependent variables:

Figure 2: showing the conceptual framework

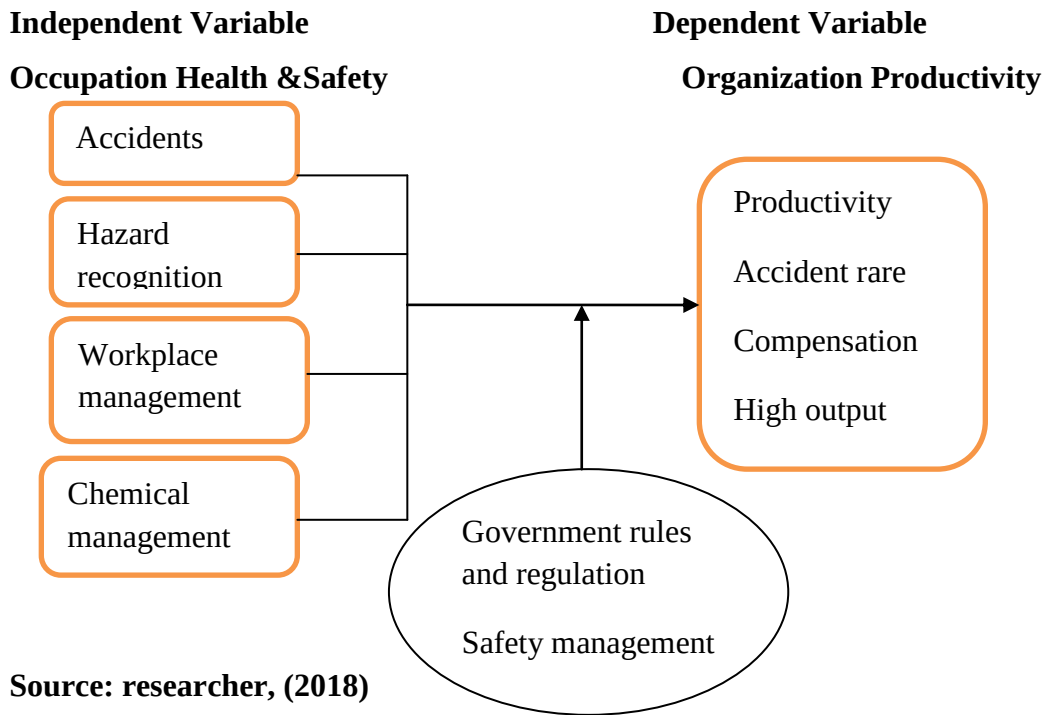


Figure 2: showing the conceptual framework illustrates how the component of the independent variables and the dependent variables addressed through the conceptual framework. These are done through analysis of the relationships between factors of occupational health and safety management and organizational productivity. They are discussed under the following headings:

2.2.1 Independent variable: Occupational safety and health

According to the International Labour Organization (ILO, 2003), Occupational Health and Safety (OHS) refers to the outcome of adequate protection of a worker from sickness, injury and disease arising from work. It is the health and safety status of the workforce in an organization which fosters efficiency and productivity. It aims at reducing occupational accident-an occurrence arising from or in the course of work which results in either fatal or non-fatal occupational injury. According to the International Conference of Labour Statistics s cited in (Adjotor, 2013), occupational accident could also be defined as an unexpected and unplanned occurrence, including acts of violence, arising out of or in connection with work which results in one or more

workers incurring a personal injury, disease or death. Occupational injury according to the ILO, (2003), is defined as “death, any personal injury or disease resulting from an occupational accident” while Occupational disease is defined as “a disease contracted as a result of an exposure to risk factors arising from work activity” (Adjotor, 2013).

A fatal occupational injury occurs when an accident at work leads to the death of the victim whether immediately or not, and this varies among countries. A non-fatal occupational injury refers to an accident that does not result in the death of the person, thus this refers to any injury that the victim sustains (Adjotor, 2013). The constructs measured on the independent variables are discussed as follows:

Accidents: Muchemedzi and Charamba, (2006) explain that accidents do not arise from a single cause but from a combination of factors which act simultaneously. A potentially unsafe situation does not cause an accident until someone is exposed to it. Accidents are caused by the result of unsafe acts or practices (the human element that results from poor attitudes, physical conditions and lack of knowledge or skills to enable one to work safely). They are also caused by the result of unsafe conditions of equipment or materials.

Hazard: According to McCunney, (2001) the primary beneficial impact of occupational health and safety on productivity is reduced absenteeism. McCunney, (2001), demonstrates that the health risks and failure of employees to participate in fitness and health promotion programmes are associated with higher rates of employee absenteeism. There is need for much emphasis on the employer’s participation in ensuring that health and safety programmes and policies are existent. If these health and safety practices are set, it is more likely that the worker participates in order to preserve his/her life. However, absenteeism may be encountered but may be completely neither unjustified on medical grounds nor attributable to unsafe conditions or hazardous events in the workplace. It is difficult to demonstrate conclusively the extent to which business prosperity benefits from good health and safety or on the contrary, to say that prosperous businesses have good health and safety because they are able to afford it (Health and Safety Executive, 2006).

However, absenteeism may be encountered but may be completely neither unjustified on medical grounds nor attributable to unsafe conditions or hazardous events in the workplace. It is difficult to demonstrate conclusively the extent to which business prosperity benefits from good health and safety or on the contrary, to say that prosperous businesses have good health and safety because they are able to afford it (Health and Safety Executive, 2006). The Health and Safety Executive,(2006) argue that there is clearly a vicious circle in that,a healthy and happy workforce is more productive, leading to increased investment in health and safety to reduce accidents, which in turn leads to further productivity gains. The Health and Safety Executive,(2006) further explains that genuine productivity gains can be realized by those businesses that invest in high performance health and safety practices. However, the Health and Safety Executive,(2006) also recognizes the need to have a positive attitude by many organizations if they are to move on from simply attaining minimum legal compliance toward implementing the best practice of health and safety. For those organizations that make the transition, the rewards are well worth the effort. In other words, when an organization is committed to health and safety best practice and implements it in a properly managed manner.

In most accidents, managers and supervisors almost instantaneously point fingers at human efforts and unsafe actions as the ultimate cause without probing deeper into the root cause of the accident. Such incidents occur due to multifaceted factors. Human errors and unsafe actions caused by illiteracy, lack of training, poor supervision, technical flaws relating to design, layout, machine guarding and arrangement of work (Krishnan, 2009). Very often it is found out that accidents occur in activities ancillary to the main purpose of the organization, and these activities are given less safety focus by the management. Safety standards is a orderly arrangementof interdependent activities and related procedures that drives on Organization health and safety performance. According to Bryan,(2009), it can be defined as the plan to reduce and eliminate hazards and risk at workplace.

From the view point of Wayne,(2002), each employer has a general duty to provide a place of employment free from recognized hazards, they also have the special duty to

comply with all health and safety standards. The Occupational Health and Safety Act to date, has issued a large number of detailed standards covering numerical environmental hazards. The occupational health and safety standard governs potentially unsafe work condition that employees may be exposed to, for example, the Act states that the employer must provide suitable protective clothing's such as safety shoes, cap, aprons and appropriate tools and equipment for their employees to carry out task. The Act also states that suitable first aid facilities must be provided or be available at the workplace as well as safety signs placed at specific risk and hazardous points to warn employees as well as to ensure that the employer provides the maximum level of comfort at the workplace.

Workplace management: McCunney (2001), views productivity as a conceptual phenomenon and widening the concept weakens its characteristics as a tool for research and development. At the core of the healthy organization perspective is the relationship between healthy work contexts and organizational, rather than individual, outcomes. Productivity or organizational performance is one set of outcomes. Most research linking employee health to productivity takes a conventional health promotion perspective. This reflects the expansion in the United States of workplace wellness programs in a drive to reduce employer medical care costs (Baker and Green, 2001).

According to Fleming & Lardner (2000), employees' physical well-being such as the mind and body needsto be in a state of good health and well- being to concentrate on a jobassigned. This is a prime prerequisite for productivity. High productivity brings a sense of achievement for the individual as well as marginal increase in profits for the organization. A positive working environment for employees is the common goal of all employers and managers in organizations. Such an environment encompasses favorable working conditions, timely management feedback and an understanding of job goals and prorates. According to Professor Jorma Saari(2010), of Centre of Expertise for Human Factors at Work, Finnish Institute of Occupational Health, a healthy workplace is an environment where health risks are recognized and controlled if they cannot be removed.

Koopman, (2001) states that accidents bring pain and suffering to the worker and his family. When it results in permanent disability, the consequences are disastrous for both the victim and the company. The victim loses his earning capacity and ability to enjoy a normal active life, and the society and company are deprived of his/her skill and contribution to production. The 1969 Frank Bird Accident Ratio study on causes of accidents found out that 88% of accidents are caused by unsafe acts of persons, 10% are caused by unsafe mechanical or physical conditions and the remaining 2% are unpreventable. According to McCunney, (2001) the primary beneficial impact of occupational health and safety on productivity is reduced absenteeism. McCunney, (2001), demonstrates that the health risks and failure of employees to participate in fitness and health promotion programmes are associated with higher rates of employee absenteeism. There is need for much emphasis on the employer's participation in ensuring that health and safety programmes and policies are existent. If these health and safety practices are set, it is more likely that the worker participates in order to preserve his/her life.

According to occupational Health and Safety Act 651, health and safety means the conditions or factors that affect the well being of employees, temporary workers, contractors, personnel, visitors and any other person at the workplaces. It is a part of the overall management system that facilitates the management of the occupational health and safety risk that are associated with the business of the organization. This includes planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and managing the organization's health and safety policy.

Chemicals: Occupational health and safety hazards are common in many economic sectors and affect large numbers of workers. Approximately 30-50% of workers report hazardous physical, chemical or biological exposures or overload of unreasonably heavy physical work or ergonomic factors that may be hazardous to health and to working capacity; an equal number of working people report psychological overload at work resulting in stress symptoms. Many individuals spend one-third of their adult life in such hazardous work environments (Kortum, Leka& Cox, 2010). About 120 million occupational accidents with 200,000 fatalities are estimated to occur annually worldwide and some 68-157 million new cases of occupational disease are caused by various exposures at work. In addition to unnecessary human suffering, the costs involved in these health hazards have been estimated to amount to high percentages of some countries' GNP -Gross National Product (WHO, 2005).

2.2.2 Organizational productivity

Productivity is generally seen as a measure of the amount of output generated per unit of input. In many countries, public sector productivity has been assumed to be zero in the national accounts. According to Boyle (2006), output of the government sector has been measured as equal in value to the total value of inputs. This output one- forth input convention has increasingly come under scrutiny in recent years. The challenge is to devise alternative estimates based on output measurement in a public sector context where collective services are provided and where there is, in most instances, no market transaction in services provided to individuals (Boyle, 2006).

Putnam, (2003) rejects the idea of including outcomes in productivity measurement. He opined that productivity should focus on outcomes (changes in health rather than patients treated; changes in educational status rather than numbers of lessons taught) includes changes over which the government has no control. Holzer and Seok-Hwan, (2004) argue that although the concept of productivity has been utilised for many years, it is often simplified, misinterpreted and misapplied.

According to Mostafa, (2003) organizational productivity is the value of production added that each worker generates. Thus organizational productivity equals the value of production divided by organizational input. Organizational productivity is usually used as a measure of efficiency in every kind of firm since it is much easier to find its numerical estimates as compared to other determinants of organizational productivity (Mostafa, 2003).

Productivity is a major concern for any kind of organization. Productivity represents the effectiveness and efficient way an organization is able to convert its resources into marketable products. The word productivity has been coined by several groups of scholars' right from the 18th century. For instance, Davis cited in Adjotor (2013), defined productivity as "a change in product obtained for the resources used". The International Labour Organization (ILO, 2003) on the other hand defined productivity as "a comparison between how much one puts into projects in terms of manpower, material, machinery or tools and the result one gets out of the project" (Adjotor, 2013).

The Japanese National Productivity Centre described productivity as "an attitude of the mind, it is a mentality of progress, of constant improvement of that which exists (Kuykendall, 2007). It is the certainty of being able to do better today than yesterday and less well than tomorrow (Adjotor, 2013). It is the will to improve the present situation, no matter how good it may seem, no matter how good it may really be (Mostafa, 2003). It is a constant adaptation of economic and social life to changing conditions; it is the continual effort to apply new techniques to new methods; it is faith in human progress." Despite the countless definitions of productivity, one thing stands out "a comparison of outputs to inputs" (Kuykendall, 2007). Therefore, as shown by the conceptual framework, organizational productivity was measured by low accident rate, better compensation, and high organizational output.

2.3 Factors affecting employees' health and safety management

According to Moos, (2004) work environment preferences can be measured using three dimensions of work environment settings: system maintenance, goal orientation, and

relationship dimensions. System maintenance refers to how orderly and organized the work setting is, how clear it is in its expectations, and how much control it maintains. Goal orientation assesses the degree to which an environment encourages or stifles growth through providing for participation in decision making and autonomy, maintaining a task orientation, and providing job challenges and expectations for success and accomplishment. The relationship dimension measures the degree of interpersonal interaction at the work environment, such as the social communication exchanges and cohesion among workers, and the friendship and support provided by co-workers and management. These work environment preferences have been shown to affect individuals' personal functioning at work (Billings and Moos, 1982). Examination of work environment preferences can help identify organizational factors that may be problematic, and can guide interventions aimed at reducing employee stress and increasing the health and safety in a variety of work settings.

According to Cole,(2002), the highest numbers of accidents occurring in organizations' (manufacturing) premises was due to persons falling, slipping or tripping. Therefore, floor surfaces must be of a suitable construction to reduce this risk. A major reason for the high incidence of this kind of accident is that water and grease are likely to be spilt, and the combination of these substances is treacherous and makes the floor surface slippery. For this reason any spillage must be cleaned immediately and warning notices put in place, where appropriate, highlighting the danger of the slippery surface. Workplace design and processes may promote organizational success by creating environments that support work quantity, quality, and style, while improving turnover and absentee rates (Mohr, 2002).

Over the years, many organizations have been trying new designs and techniques to construct office buildings, which can increase productivity, and attract more employees. Many authors have noted that, the physical layout of the workspace, along with efficient management processes, is playing a major role in boosting employees' productivity and improving organizational performance (Vancevich,2005).

According to Cole (2002), the key factors that affect employees' productivity and performance fall into two categories: Management driven factors which include the development of organizational plans such as the allocation of responsibilities at all levels of the Organization, definition of job descriptions and the degree of access to the management and administrative support needed to complete their tasks, working patterns, shift-working, break times, absence or holiday cover and health and safety policies, including the provision of training, development of safe working practices and the adequate supply of protective clothing and equipment. The other factors that affect performance and productivity arise from the work premises, office or factory design, machinery and workshop tools, workspace availability, light intensity, weather, temperature ventilation, humidity, noise, vibration, hygiene and welfare facilities. A factory, workshop, production floor design, function often follows from when an office is configured to maximize employee interaction, then collaboration becomes an integral part of every workday. Office designs based on setting up work areas wherever they are needed in the production floor can raise satisfaction while boosting density. In recent times the organizations design is a critical ingredient to the success of any business operation. However, most companies have a remote or mobile workforce, diverse employee demographics, specific corporate and branding objectives, an international workforce and global clients.

According to Neal, (2000) an employee's workplace is responsible for 24 per cent of their job satisfaction level and this can affect staff performance by five per cent for individuals and 11 per cent for teams. The workforce is the most valuable asset of any business and as such serious attention should be given to the physical environment of the office which is more likely to increase staff productivity.

Poor workplace design, by contrast, is linked to lower business performance and higher level of stress experienced by employees physical, psychological, and social well-being and consequently work performance. Clark (2005) observed that the costs of unhealthy and unsafe workplaces have been well documented and are calculated in terms of absenteeism. According to the World Health Organization Report, (2002), one person in

four suffers from a mental health problem at some point in their life. A 2006 report commissioned by five leading mental health charities states that at least one million adults in the UK are out of work with mental health problems.

Work-related stress is the root cause of a significant degree of mental ill health. Stress can manifest itself in absenteeism, reduced productivity, and increased staff turnover. Excessive stress can lead to fatigue, impaired judgment and decision-making and the onset of both mental and physical health problems. The impact of health on performance is demonstrated by a study of employees at the US banking giant Wachovia, which found that employees who are put through an energy renewal program outperformed a control group by 15% to 20% in achieving bottom line targets for sales and business growth (Phillips, 2005).

2.4 Level of accident affecting organization productivity

According to Weeks et al,(2001), the area of safety seeks to make workplaces safe for workers within organizations. The concept of safety is that of occupational health, where the goal is to prevent the occurrence of illnesses among workers because of exposures at their place of work.

The greatest numbers of injuries seen at work, most of which are preventable involve hearing loss, musculoskeletal disorders, and cumulative trauma problems such as carpal tunnel syndrome. He stated that equipment and motor vehicle injuries specifically, make up the largest number of fatalities related to the workplace. In addition, there are always thousands of cases of broken bones, machine cutting –off parts of the body, materials getting into the eyes, burns, and similar injuries that occur each year. The nature of these problems varies by work environment, age, gender, and other factors, but hundreds of thousands of individuals suffer from workplace -related injuries each year. Many of those who get injured go on to have a permanent disability that may threaten their livelihoods.

A variety of professionals specialize in issues of occupational safety. For example, certified industrial hygienists are the most experienced at assessing workplaces and monitoring workers to see what kinds of exposures are actually taking place. With regard to safety issues, certified safety professionals constitute a group well qualified to assess safety at workplaces and to put in place safety programs for workers. Other occupational safety professionals include engineers who can make assessments in the workplace. Along with industrial hygienists, they can address such issues as ventilation or other protective measures (Weeks, et al 2001). The Trade Union's position on occupational health and safety is to ensure that work is made safer by modifying the workplace and any unsafe work processes. This means that the solution is to remove the hazards, not to try to get workers to adapt to unsafe conditions. Requiring workers to wear protective clothing which may not be suited or designed for the climate of the organization is an example of forcing workers to try to adapt themselves to unsafe conditions which is also shifting the responsibility from management to the worker. This implies that work can be made safer if workers change their behavior or if employers only hire workers who never make mistakes, (Weeks,et al 2001).

The role of organizations in the promotion of safety can be termed as safety management and is often reflected on the attitudes, beliefs, perceptions and values that employee share in relation to safety. According to Stranks, (2000), health and safety is a major concerns for management. Management's attitudes and approach towards accident prevention are always reflected in the supervisory force of the organization. Thus if the employer is not genuinely interested in preventing accidents no one else is likely to be since the basic fact applies to every level of management and supervision.

Beach,(2000) stated that, accident control programme results from top management's efforts and is demonstrated if employee's co-operation and participation are to be obtained. This means that management should setup information and control systems so that the health and safety performances are monitored and corrective actions initiated when required. According to Pantry,(2005) management should ensure that procedures

are implemented by making supervisor accountable for health and safety performance in their areas and by providing them with help, guidance and training they may need to carry out their responsibilities effectively. The membership of such committee must be drawn across the organization to review practices and conditions and make suggestion to improve health and safety performance.

2.5 Relationship between health, safety and organization productivity

Health and Safety is encompassed among other disciplines of industrial hygiene that affect employees and other related persons at workplace. Although, working environment has improved considerably during recent times, but occupational accidents still occur. The prevention of work related injuries still remains as a major problem faced by all employers. Every organization has some common internal characteristics that identified as its culture. These characteristics have often become invisible to those inside, but may be startling to outsiders coming from a different culture. Health and safety culture within a company is closely linked to the workforce's attitudes in respect to safety as they share the company's risk, accidents and incidents.

According to Glendon and McKenna (2005), effective safety management is both functional (involving management control, monitoring, executive and communication sub-systems) and humanistic (involving leadership, political and safety culture sub-systems paramount to safety culture) which enjoys direct relationship with productivity of both the individual and the organization. The role of management and the involvement of all employees as important key players in health and safety culture are important in order to cultivate the positive beliefs, practices, norms and attitudes among all in the company. Building a safety culture on so many diversities is not an easy task. But it had been proven that companies with good health and safety cultures have employees with positive patterns of attitude towards safety and health practices. Companies need to gather safety related information, measure safety performance and bring people together to learn how to work more safely.

According to Jorma,(2004) management is responsible for most of the safety issues within organizations because they control the assignment of resources, establish and implement the methods of work as well as develop the policies. From the view point of Beach (2000), Safety improvement of an organization is the responsibility of top management, though an important role is played by workers and team members in order to achieve the overall objectives of the company.

Beach (2000) also revealed that management's commitment to safety is a major factor affecting the success of safety programmes in industries and this parameter is capable of discriminating between high and low accident rate organizations. Management commitment remains a key component of contemporary safety climate research (Lees, 2002). According to Less (2002), this commitment can manifest itself through management participation in safety committees, consideration of safety in job design, review of pace of work, accident and near-miss incident investigation and follow-up actions, priority assigned for safety, occupational health programmes etc. Investment by organizations in these areas fosters perceptions of the company's commitment and builds worker loyalty in areas such as safety behavior (Mearns,et al, 2003). Employees'perceptions will reflect how employees believe that safety is valued in the Organization (Neal, 2000).

The motivation to perform a job in a safe manner is a function of both the individual's Own commitment concern for safety as well as management's expressed concern for safety. Safety commitment of the management must result in an observable activity on the part of the management and must be demonstrated in their behaviour as well as their words (Mearns, et al, 2003). In order to develop a successful health and safety programme, it is essential that there be strong management commitment and strong worker participation in the effort to cease and maintain a safe and healthy workplace. Management commitment determines the phase and the direction of safety and health activities and it portrays the values that are placed on health and safety management as preserved by the employees. Without employees "involvement health and safety performance would never be achieved. There would be high result of achievement of

health and safety when both management commitment and employees' involvement are in joint hands in pursuit for a safe and healthy working environment.

2.6 Employee Involvement in Health and Safety

Workers' involvement may be termed as the willingness of employees to accept the responsibility for their behavior in creating an accident free workplace. From a management perspective, workers involvement refers to the ability of workers to directly influence or form the management and work process in an enterprise (Cohen and Michael, 2009). The term employee refers to every employee in the organization at every level and in every department. Workers involvement is a process involving behavior that is dynamic, action oriented and problem solving that continuously seeks for improvement in a safety conscious environment.

According to Schein, (2002) there is the need to increase safety for individuals if they are to feel secure and capable of changing behaviors and adapting to new policies and procedures. Thus, employees' involvement means that employees have a substantial voice in health and safety decisions and also have the leverage to initiate and achieve health and safety improvement as well as hold themselves and others accountable for their actions as well as taking pride in the health and safety performance record of the organization. Contrary to workers' involvement, employee pessimism could paralyze problem solving activities of individuals and workgroups because employee pessimism behavior carries enormous negative consequences for individual and for the organization where they work.

From the view of Oyan (2000), employee pessimism was found to correlate with poor safety performance. He also viewed workers' involvement as a means of improving both the overall health and safety conditions at the workplace. When employees are aware of managements sincere interest in them, they will respond in kind. In this type of an environment on the one hand, employee innovation, thinking, suggestion and decision making evolve to the benefit of the employee and the organization alike. High employee

morale and commitment decreases absenteeism and turnover. High employee morale and commitment are associated with high safety performance.

2.7 Review of related empirical literature

There is evidence that providing a healthy and safe working environment has the potential to increase labor productivity and in turn increase business profits. It is also evident that there are certain requirements needed to ensure the success of health and safety intervention and subsequent increase in productivity. Such requirements include a good level of cooperation between the management and employees and the working environment in which employees are engaged to work.

A number of researches have been conducted in the sub-sectors of the manufacturing industry, construction industry, service industry, petroleum and plastics, and electronics. One of such studies is by Makori, (2008) on the influence of occupational health and safety of manufacturing firms in Kenya. The researcher used a convenient sample by selecting all the manufacturing firms in Western Kenya. Validity and reliability of the research instruments were done by using the retest method using one of the manufacturing firms.

Data collected from all the manufacturing firms were collected and analyzed using descriptive statistics and inferential statistical tools like Pearson correlation, simple regression and one way ANOVA. The study findings showed a moderate positive relationship between occupational health and safety program and organizational performance of manufacturing firms. This was an indication that health and safety programs were not efficient in the studied firms, thus, affecting organizational performance of these firms in terms of sales, profitability, production, order delivery, reputation, target achievement, product quality and production costs. However, the review of the literature has revealed a number of key gaps in the research. This include the personnel understanding of health and safety management and Act as well as Management commitment in relation to organizational productivity was overlooked in

the research. This study will assess the level of understanding of the health and safety management and organizational productivity.

Mittal, Mittal, & Rengappa (2008), conducted a study on possible consequences of occupational exposure to tobacco dust in bidi industry worker. The Study was conducted at a tertiary eye care center located in a rural area of south India from March through October 2006. The subjects enrolled ($n = 310$) were females actively involved in bidi-rolling and presented at outpatient department with ocular complaints.. Statistical methods the demographic details and systemic features of 310 study patients are provided .The patients were estimated to have rolled on an average three million bidis/person in their life at the time of presentation. All patients belonged to the poor socioeconomic strata. Their mean hemoglobin was 10.2 ± 1.5 gm% (range, 6.1-2.9). There was no significant correlation between hemoglobin levels and amount of work ($P = 0.079$), patient age ($P = 0.055$) or BCDVA ($P = 0.098$).

Chief Ocular complaints were defective vision ($n = 195$, 62.9%), constant dull-aching headache ($n = 166$, 53.6%) and irritation/foreign body sensation ($n = 118$, 38.1%). Main clinical features observed were papillary conjunctival hyperplasia ($n = 304$, 49.0%), increased pigmentation of conjunctival and/ or corneal surface ($n = 89$, 14.4%), punctate epithelial erosions (PEE) or superficial punctate keratitis (SPK; $n = 40$, 6.5%), cataract or pseudophakia ($n = 68$, 10.9%) and optic neuropathy ($n = 121$, 19.5%). Best corrected visual acuity (BCVA) of 145 eyes (23.4%) was $< 20/20$. Optic neuropathy ($n = 58$, 40.0%), cataract ($n = 46$, 31.7%) and corneal disease ($n = 19$, 13.1%) were the main causes of visual function loss. Decimal best corrected visual acuity had a significant negative correlation with the amount of work (correlation ' r' ' = -0.267, $P < 0.001$) and the patient age ($r = -0.304$, $P < 0.001$) suggesting that increasing work and age were related with poor visual function.

Their findings raise concerns about the potential occurrence of ocular disease and systemic co-morbidities in bidi-rollers. Considering that the Indian bidi-industry is an unorganized manufacturing sector, and that >15 to 25% of employed workers are

children below 15 years, the impact of tobacco on physical and ocular health in future may be alarmingly high. Interventions are required to minimize tobacco exposure, create awareness of disease and provide medical help to minimize the deleterious effect of tobacco in bidi-rollers. The study exposed the consequences of occupational exposure to tobacco dust among bidi industry workers but it failed to relate it to productivity of the individual or that of the organization living a gap.

Mustajbegovic, Zuskin, Schachter, Kern, Luburic-Milas, & Pucarín (2003), *Conducted a study* to screen for respiratory symptoms and lung function impairment in workers occupationally exposed to tobacco dust in a tobacco-processing plant. One hundred twenty-one tobacco workers (97 women and 24 men) were included in the study. In addition, a group of 98 control workers (73 women and 25 men) were studied. *Methods:* Acute and chronic respiratory symptoms were recorded in all tobacco workers. Lung function was measured by recording the maximum expiratory flow-volume curves on which FVC, FEV₁, and flow rates at 50% of FVC (FEF₅₀) and the last 25% of FVC (FEF₂₅) were read. *Results:* There was a high prevalence of chronic respiratory symptoms among these workers, and this prevalence was significantly higher in exposed female workers than in male control workers ($p < 0.01$ and $p < 0.05$, respectively). Occupational asthma was recorded in 6 female tobacco workers (6.2%) and in none of the control subjects ($p < 0.05$).

None of the male workers were found to have occupational asthma. There was also a high prevalence of acute symptoms that were noted during the work shift (particularly for nose and throat dryness, as well as eye irritation). Among these tobacco workers, the odds ratios for respiratory symptoms were frequently significant for employment and smoking among male tobacco workers but were not significant in general for female tobacco workers. The data indicate that tobacco workers may develop respiratory disorders related to tobacco dust in their work environment. The study was conducted among tobacco industry workers which also involves dust like cement industry. Therefore, the study can be extended to cement industry to determine the effect of dust of health and safety of its workers as it affects their productivity.

Howard (2004) conducted a review on smoking as an occupational hazard. The study revealed that even though the prevalence of tobacco smoking has declined in the general population and among white-collar workers, the prevalence of tobacco smoking among blue-collar workers remains unacceptably high. Blue-collar workers experience greater exposure to workplace toxins which can add to, or even multiply, their risk of adverse health effects from tobacco smoking. Among blue-collar workers, workers in the restaurant, bar, and gaming industries are exposed to much higher levels of environmental tobacco smoke (ETS) than are office workers, and are at increased risk of cancer and cardiovascular diseases even if they are non-smokers themselves.

Methods: The literature on health risks, and the disparity between white and blue collar workers in smoking prevalence, and the literature on various tobacco control strategies provide the sources on which this review is based. The study Concluded that over the past 20 years, the accumulating scientific evidence about smoking as an occupational hazard has prompted the implementation of various educational, economic, and legal tobacco control strategies. This is review study which creates the need for empirical investigation into the problem and was conducted in Tobacco Company, not cement industry.

Alazab (2003) in a study on “a healthy and safe workplace” based on the studies of the United Kingdom’s health and safety executive found out that companies that promoted employee involvement in health and safety issues frequently saw a reduction in accidents and injuries and there were improvement in hazards awareness and productivity. From the study on safety by Costigan, (2001), it was revealed that the highest scores of six variables was management commitment and employees “involvement followed by workplace analysis as (Inspection, audits and hazards correction) and the third on the rank was safety and health training. Similarly, the study ws conducted in advance country and not relation to productivity. It has not outlined its methodology creating a gap.

The International Labour Organizations [ILO] (2012), conducted a survey and its report shows that it is estimated that 2.34 million people died from work-related accidents or diseases in 2008, of which 2.02 million deaths were caused by various type of diseases and 321,000 deaths from work-related accidents. This equates to an average of more than 6,300 work-related deaths every day. Similarly, in 2005 as per ILO report³, it was estimated that there were around 3,313 of fatal accidents: 12,819 of work related diseases, 16,163 of work related mortality and 3,484 of deaths caused by dangerous substances. In 2003 and 2004, the numbers of accidents reported in Tanzania mainland were 1,692 and 1,889 respectively and total amount of TZS 668.5 million were used to compensate occupational accidents victims.

Nyangui, Kinyua., & Gathu (2016) study on the building construction industry in Nakuru County found that there was no emphasis on health and safety issues hence many accidents and health problems occurred. This was evidenced by low use of personal protective equipment, poor or no use of scaffolds, no harnesses, lack of first aid facilities among others. Additionally, the study pointed out that there is need for the government to come up with sector specific policies for the building construction industry and strengthen enforcement. It is recommended that safety and health issues be given priority in development issues and building construction be treated like any other trade.

According to **Nordlöf, Wiitavaara, Högberg., & Westerling (2017)** study established that companies need to ensure a functioning occupational health and safety management (OHSM) system to protect human health and safety during work, but generally there are differences in how successful they are in this endeavor. Their findings however, indicated that Company size, safety culture, and creditworthiness were found to be associated with better, as well as worse, OHSM practices in companies (depending on directionality).

According to **Gaceri, (2015)** study on the factors affecting the implementation of health and safety measures in supermarkets in Kenya; A survey of Supermarkets in Kenya. Revealed that the implementation of health and safety measures at workplaces is minimal and yet it goes without doubt that if properly implemented, workplace accidents, injuries and illness would decrease in number. The research study was thus to facilitate the understanding of the benefit to implementing health and safety measures, thereby enhancing the acceptance in organizations.

According to **Umoh, and Torbira (2013)** study revealed that there is positive and significant relationship between the provision of adequate safety equipments and the work output of employees; There is a significant relationship between legal institutional safety policies and the production outputs of employees; There is a significant relationship between employer's compliance to safety rule and man hour put in by employees in the production process. The study further recommended that: qualified safety officers should be employed to manage the safety challenges facing the organizations in their business operations; employees should be sent on regular and seasoned training courses on safety management so that they can appreciate the need for safety precautions; the safety policies of business organizations must be effectively implemented and adhered to at all time.

2.8 Research gap

A lot of research has been carried out on occupation health and safety outside Africa, within Africa little research has been carried out on occupation health and safety on employees in Africa. A research carried out Abihud Greepherson in 2013 on the impacts of the health and safety programmes on the organization performance: a case study of Arusha Airport Authority study use a case study approach on a sample size of 101. The results from the analysis of respondents revealed that there was a reasonable impacts of occupational health and safety programme to the organization. Training and education, involvement of staffs, conforming to the budget, and motivation were recommended by the researcher.

According to Pension et. Al. (2010) carried out a research on the Impact of occupational health and safety on worker productivity: A case of Zimbabwe food industry. The researchers used action research design and found out that workers are actually infected by occupational diseases due to the nature of their duties. Of the entire workforce, only 25% claimed to be free of any illness that is caused by their work at any given time. The remaining 75% suffers from one or more types of illness. and in particular Tanzania, very little research has been carried out especially among the workers in cement industry, therefore this research on employees' health, safety and organization productivity- a case study of Tanzania Portland cement company limited (TPCC), Dar es salaam Tanzania where an exploratory research design method will bridge the gap existing as its intention is to assess the impact of workers occupation health, safety and organization productivity in Tanzania Portland cement industry in Tanzania.

According to Nordlöf, et al, (2017) conducted a study aiming to investigate whether factors like company size, safety culture, and creditworthiness are associated with OHSM practices in companies. A postal questionnaire was used to collect data from a sample of Swedish manufacturing companies, and complementary data regarding the companies were retrieved from a credit bureau database. The statistical analysis was performed with ordinal regression analysis using generalized estimating equations. Different predictor variables were modeled with OHSM practices as the outcome variable, in order to calculate p-values and to estimate odds ratios.

Similarly, Gaceri, (2015) conducted a study with the purpose to evaluate the factors affecting the implementation of health and safety measures in supermarkets in Kenya; A survey of Supermarkets in Kenya. The study was be guided by the following specific objectives, to establish whether leadership influences the implementation of health and safety measures in supermarkets in Kenya, to find out whether employee training influences the implementation of health and safety measures in supermarkets on Kenya,

and to establish whether employee participation influences the implementation of health and safety measures in supermarkets in Kenya.

The study employed a descriptive research design. Data analysis was aided by SPSS Version 17. The target population was the general retail merchandise in Kenya while the study population was Human Resource Department Staff in supermarkets with more than 10 outlets in Kenya. The study was a census of supermarkets with more than 10 outlets and hence the sample size was equal to the study population. Primary data was collected using self administered questionnaires. A pilot test was conducted to test the validity and reliability of the research instruments. The study employed descriptive statistics and data analysis was performed using both qualitative and quantitative techniques. The final findings were presented using pie charts and statistical tables. This study will be of value to the human resource managers of the general retail merchandise industry, the government, research institutions, scholars and other private institutions.

According to Makori, (2008) conducted a study on the influence of occupational health and safety of manufacturing firms in Kenya. Occupational health and safety continues to be one of the most critical but highly criticized issues within the discipline of human resource management. The purpose of the study was to investigate the influence of health and safety programmes on performance of manufacturing firms in Western Province, Kenya. The study presents the results on an empirical study conducted. The study utilized a convenient sample by using all manufacturing firms in Western Kenya. Content validity and reliability of the research instruments were done through test retest method using one of the manufacturing firms which was not included in the final analysis. Reliability coefficient yielded a Cronbach's alpha of 0.88. The data from all the manufacturing firms was collected and analyzed using descriptive statistics and inferential statistical tools like Pearson correlation, simple regression and one way ANOVA.

The study findings showed a moderate positive relationship between occupational health and safety programmes (OHSP) and organizational performance of manufacturing firms.

This was an indication that OHSP were not efficient in the studied firms, thus, affecting organizational performance of these firms in terms of sales, profitability, production, order delivery, reputation, target achievement, product quality and production costs. Management of firms must put in place policies and structures for improving occupational health and safety. They should not wait to form ad hoc committees (after an accident has occurred), whose recommendations may not be implemented. Organizations should put in place active health and safety committees which should be given mandate to implement their recommendations. However, the study used purely quantitative approach by collecting quantitative data using questionnaires. The design and approach were not clearly stated, neither was it guided by any theory. These are important gaps that need to be filled.

According to Umoh and Torbira (2013) conducted a study on the nature of the relationship between safety practices and the productivity of employees in manufacturing firms. The study investigated the nature of the relationship between safety practices and the productivity of employees in manufacturing firms. Three hypotheses were formulated and questionnaire was designed. Copies of the questionnaire were distributed to three hundred and thirty respondents cutting across ten sampled manufacturing firms in Port Harcourt. Cross-sectional survey was adopted. The target population constituted manufacturing firms in Port Harcourt and ten of these manufacturing firms were randomly selected by the researcher for the purpose of this study. Three hundred and thirty participants were selected randomly from ten manufacturing firms. Two hundred and ninety two copies of the questionnaire were retrieved and used for the analysis.

The study revealed that there is positive and significant relationship between the provision of adequate safety equipments and the work output of employees; There is a significant relationship between legal institutional safety policies and the production outputs of employees; There is a significant relationship between employer's compliance to safety rule and man hour put in by employees in the production process.

This findings implies that safety in the work place significantly affects the effort put in by the workers in the production process and therefore provide evidence for the claims of Curry et al (2004).

The study recommend that: qualified safety officers should be employed to manage the safety challenges facing the organizations in their business operations; employees should be sent on regular and seasoned training courses on safety management so that they can appreciate the need for safety precautions; the safety policies of business organizations must be effectively implemented and adhered to at all time.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter discussed the methodology adopted by the researcher in carrying out the study. The chapter presented the research design adopted, the instruments used in data collection and procedures and the in data analysis and presentation.

3.1 Research Design

This study used descriptive survey design because of its considerable ability to generate answers to the question what and how? as well as why questions (Cresswell, 2014). Survey is a method of collecting information by interviewing or administering a questionnaire to sample of individuals. survey is used during collection of information about people's attitudes, opinions, or feelings about occupational health and safety management on organizational productivity of Portland Cement Company. This study used survey design due to its suitability in social research that can be done in the subjects natural setting like Dar es Salaam Data was collected from employees at four departments of the company. This design was preferred because of its strengths and interpreting conditions, practices, beliefs, views, perceptions and effects that exist in the real world (Silverman, 2010). In addition the design suits both qualitative and quantitative approach.

3.2 Research Approach

This study used mixed methods approach because of the need to explore both quantitative or numerical and qualitative data to provide more valid and reliable insight into the problem being investigated (Cresswell, 2014). Quantitative approach tries to discover answers to the questions who, what, when, where, and sometimes how by collecting numerical data about the problem (Cresswell, 2014). While, the qualitative

data provide for opinions , feelings and views of respondents about the problem. Quantitative data was explored to provide more detail insight into the problem of occupational health and safety management on organizational productivity in Portland Cement company Tanzania. The justification for the adoption and use of quantitative and qualitative (mixed) methods lies in its perceived benefits and ability to help in determining the attitudes, behaviours, perspectives of the research subjects, and in understanding the environment of the study using numerical data.

3.3 Population of the study

The study was carried out at Tanzania Portland Cement Company Limited. Tanzania Portland Cement Company Ltd. operates an integrated cement plant at Wazo Hill outside the capital Dar Es Salaam. The company has a population of 300 employees as per now (TPCC bulletin, 2018).

3.4 Sample Size

A Sample is a part of targeted population under which a researcher determines to conduct the study (Adam & Kamuzora, 2008). The study purposively selected Dar es Slaam municipal based on the fact that it is one of the over concentrated area with higher education institutions in the country and it has high academic staff turnover. The sample size of 171 was obtained using the Solvene's formula whereby

n= sample size

N= population

e = degree of error $(0.05)^2$

$$n = \frac{300}{1 + 300(0.05)^2}$$

$$N = \frac{300}{\frac{300(2.5)}{300}}$$

$$n = \frac{300}{1 + 0.75}$$

$$n = 171$$

3.5 Data Collection tools

This study collected both the primary and the secondary data. The primary data was collected from the management staff of TPCC through an interview guide and open and closed ended questionnaire to give room for the respondents to exhaust their views concerning OHS, the questionnaire method was used on lower level staff while the secondary data was obtained from the journals and the company's publications and reports. The study specifically targeted both the top and lower management levels i.e. the Technical Board Chairman, the CEO, the Head of Internal Audit and Risk Management/ Safety Project Coordinator and the Business Development Manager. The above people were chosen as respondents for this study since they were mandated to ensure success of the implementation of the strategy in the company and hence they were more knowledgeable on the research problem at hand hence expected to give reliable information.

3.6 Data Analysis

Data were collected, coded and then entered in software (SPSS version 21) where by frequency and percentage were used to analyze the demographic characteristics of respondents and descriptive statistics, mean and standard deviation were used to analyze the objectives (first, second and third) of the study. According to Bonne, H and Bonne D. (2012) means and standard deviation are the appropriate procedure in measuring central tendency and variability when analyzing Likert-scale data with the interest of combining items into a single composite score variable that represents the character.

Additionally, thematic analysis was used to analyze qualitative data from interviews and Pearson's Linear Correlation Co-efficient (PLCC) analysis was also be used to establish the relationship between the independent and dependent variable (fourth objective of the study)

To interpret the mean scores the following values and interpretation were utilized.

Mean Range	Description	
Interpretation		
4.30 - 5.00	Strongly Agree	Very High
3.50 - 4.20	Agree	High
2.70 - 3.40	Neutral	Moderate
1.90 - 2.60	Disagree	Low
1.00 - 1.80	Strongly Disagree	Very Low

These were supplemented by narrative analysis of data from interviews especially in addressing the questions of why and how.

3.7 Reliability and validity

3.7.1 Validity of the instrument

Validity in this case was attained with the supervisor and a panel of experts in the field of business management studies but specifically with a bias in Human Resources management studies from the university by analyzing the instrument and making sure that if there are any cases of bias they are limited to the most minimum level.

3.7.2 Reliability of the instrument

According to (Karoro, 2006) an instrument is reliable if it measures consistently what it is supposed to measure. Even if it is administered by other researchers it should produce the same results. To ensure reliability of the research instrument, the researcher used a test-re-test method. The researcher administered a questionnaire to 15 respondents outside the study area and after two weeks, the same questionnaire was re-administered to the same respondents. If the findings have a correlation of $> r=0.7$ it then mean that the instrument was reliable for use in the study.

3.8 Data gathering procedures

Before data gathering: After a successful review of the proposal by the supervisor, the researcher obtained an introductory letter from the Faculty of post graduate Studies of Kampala International University, seeking for permission from management of Tanzania Portland Cement Company Limited (TPCC) located at Wazo Hill to allow me to collect information from their company.

During data gathering: The respondents were informed that their participation is on voluntary basis and all information provided was kept private and confidential. The questionnaire was distributed to those who agree to participate in the study using drop and pick method.

After data gathering: Complete questionnaires was coded, categorized and entered into a computer for the Microsoft excels software for data processing and analysis.

3.9 Ethical considerations

Throughout this research study, the researcher complied with various ethical principles for example the principle of voluntary participation which requires people not be coerced into participating in research was respected and observed. Participants were persuaded to participate in the study without necessarily being forced by the researcher at all. The principle of Informed consent was also followed and observed by the researcher where by prospective respondents were well informed of the procedures and risks involved in the research study if any. The principle of confidentiality and anonymity was also taken into consideration so as to ensure that information obtained from the respondents is kept secretly and this was guaranteed by not allowing them to show their identity on the filled questionnaires. Names of all respondents were withheld during the study.

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3.10 Limitations of the study

As with many human endeavors, the study was not completed without any shortcomings. Some of the requirements in the questionnaire was sensitive company information and as such, employees and employers were reluctant in answering questions which were critical in providing the necessary response for the study as they were of the view that providing the right answers may affect them directly or indirectly.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

4.0 Introduction

This chapter gives the presentation, analysis and interpretation of data organized in tables based on the research objectives and the corresponding research questions. The chapter gives the response rate, description of respondents by their profile which is followed by findings on the four objectives. The objectives are: (i) To determine the factors affecting employees' health and safety on organizational productivity at Tanzania Portland Cement Company Limited; (ii) To assess the level of accident on organization productivity at Tanzania Portland Cement Company Limited; and (iii) To identify the relationship between employees health, safety and organization productivity at Tanzania Portland Cement Company Limited.

4.1 Response Rate

A total of 171 questionnaires were administered out of which 160 were returned and fully responded to. Table 4.1 shows the results obtained

Table 4. 1 Response rate

Category	Frequency	Percentage
Questionnaire returned	160	94%
Unreturned Questionnaire	12	6%
Total	171	100

Source: Primary data (2018)

From table 4.1 above, the study targeted a sample of 171 respondents who were given questionnaires to fill but only 160 responses were received back, thus accounting for 94% response rate. Response rate is always used to compare survey quality as asserted by Frederick and Wiseman (2003), a response rate was presented in research findings to presented the validity of the research.

4.2 Demographic Profile of the Respondents

The profile variables for which data were obtained include gender, age, level of education and marital status. Findings on the profile of respondents are presented in tables 4.2 below

Table 4. 2 Demographic profile of respondents (N = 160)

Gender	Frequency	Percentage
Males	110	68.8
Females	50	31.2
Age group	Frequency	Percentage
Less than 30 years	49	30
31-40 years	57	36
41-50years	33	21
50 years and above	21	13
Level of Education	Frequency	Percentage
Primary education level	12	7
Secondary education level	44	28
Vocational/Technical level	42	26
Diploma education level	40	25
Graduate education level	22	14
Marital Status	Frequency	Percentage
Single	42	26%
Married	111	68%
Divorced	3	2%
Widowed	7	4%
Working Experience	Frequency	Percentage
Less than two years	39	24
2-4 years	62	39
4-7 years	51	32
More than seven years	8	05

Source: Primary data (2018)

Regarding gender of respondents, table 4.2 above show that 110(68.8%) were male respondents while 50(31.2%) were female respondents. The variation above could be attributed to need for more energetic workers in the cement industry who are in position to lift heavy materials and products.

Regarding age group of respondents, table 4.2 above indicate that 49(30%) respondents were less than 30 years, 57(36%) who were the majority were between (31-40) years, 33(21%) respondents were between 41- 50 years while 21(13%) respondent the minority were the between the 50 years and above. Generally the researcher observed that the company has more youths who are energetic with less qualification to perform hard labour easily involving carrying heavy materials such as cement without complaints and at the same time averagely paid.

For education level of respondents, table 4.2 above table revealed that 12(7%) had primary education, this involved mainly in sanitation and security officers, 44(28%) were secondary education level especially material carriers, cement carriers and office messengers. 42(26%) were vocational/ technical education level especially machine repairs such as vehicles and cement machineries, 40(25%) were diploma holders who were especially in officers as secretaries, administrators and messenger and lastly 22(14%) of the respondents were graduates in different fields having degrees and masters were mainly supervisors and managers in different fields.

Regarding working experience, the above table 4.2 indicate that 39(24%) of respondent had worked for less than two years, 62(39%) had worked for 2-4 years, 51(32%) had worked for 4-7 years while 8(5%) had worked for more than seven years. This ensured that all respondents from different working experience within the organization got involved in the study. It also interpretes that the employees turn over is not high.

4.3 Factors affecting employees' health and safety on organizational productivity

This section presents the findings of the first objective of the study (To determine the factors affecting employees' health and safety on organizational productivity at Tanzania Portland Cement Company Limited). Regarding this objective (see appendix I), respondents were asked to rate themselves ranging from 1 strongly disagree to 5 strongly agree on twenty constructs of the level of accident on organization productivity.

So the presentation of the study findings starts with the quantitative data presented from table 4.16 to 4.36 and followed by qualitative findings from interviews as indicated below;

Table 4. 3 Gloves (leather gloves – heavy duty and rubber gloves)

Statement	Frequency	Percent
Strongly disagree	10	6.3
Disagree	10	6.3
Neutral	19	11.9
Agree	109	68.1
Strongly agree	12	7.5
Total	160	100.0

Source: Primary data, (2018)

Table 4.3 above indicate that out of a total of 160 respondents, 10 (6.3%) strongly disagreed that gloves as Personal protective clothing in the workplace were a factor affecting employees health and safety. This was followed by a similar 10 (6.3%) who disagreed, 19 (11.9%) who were neutral, 109 (68.1%) who agreed, and 12 (7.5%) who strongly agreed. From the results, the researcher was able to determine that a cumulative 121 (75%) of employees generally agreed that gloves as Personal protective clothing in the workplace were a factor affecting employees health and safety.

Table 4. 4 Respirators

Statement	Frequency	Percent
Strongly disagree	5	3.1
Disagree	16	10.0
Neutral	99	61.9
Agree	24	15.0
Strongly agree	16	10.0
Total	160	100.0

Source: Primary data, (2018)

Table 4.4 above indicate that out of a total of 160 respondents,, 5 (3.1%) strongly disagreed that respirators as Personal protective clothing in the workplace were a factor affecting employees health and safety. This was followed by 16 (10.0%) who disagreed, 99 (61.9%) who were neutral, 24 (15.0%) who agreed, and 16 (10.0%) who strongly agreed. From the graph above, the researcher was able to conclude that the majority of employees at 99 (61.9%) neither agreed nor disagreed that respirators as Personal protective clothing in the workplace were a factor affecting employees health and safety.

Table 4. 5 Goggles

Statement	Frequency	Percent
Disagree	6	3.8
Neutral	24	15.0
Agree	37	23.1
Strongly agree	93	58.1
Total	160	100.0

Source: Primary data, (2018)

Table 4.5 above indicate that out of a total of 160 respondents, 6 (3.8%) disagreed that goggles as Personal protective clothing in the workplace were a factor affecting employees health and safety. Those that were neutral were 24 (15.0%), agreeing were 37 (23.1%) and strongly agreeing were 93 (58.1%). From the above graph, the researcher was able to glean that cumulatively, 130 (81.2%) of employees generally agreed that goggles as Personal protective clothing in the workplace were a factor affecting employees health and safety.

Table 4. 6 Apron

Statement	Frequency	Percent
Strongly disagree	4	2.5
Disagree	3	1.9
Neutral	18	11.3
Agree	66	41.3
Strongly agree	69	43.1
Total	160	100.0

Source: Primary data, (2018)

Table 4.6 above indicate that out of a total of 160 respondents, 4 (2.5%) strongly disagreed that aprons as Personal protective clothing in the workplace were a factor affecting employees health and safety. There were 3 (1.9%) that disagreed, 18 (11.3%) that were neutral, 66 (41.3%) who agreed, and 69 (43.1%) who strongly agreed. From the results the researcher was able to conclude that a total of 135 (84.4%) employees generally agreed that aprons as Personal protective clothing in the workplace were a factor affecting employees' health and safety.

Table 4. 7 Helmet

Statement	Frequency	Percent
Strongly disagree	10	6.3
Disagree	31	19.4
Neutral	10	6.3
Agree	37	23.1
Strongly agree	72	45.0
Total	160	100.0

Source: Primary data, (2018)

Table 4.7 above indicate that out of a total of 160 respondents, 10 (6.3%) strongly disagreed that helmets as Personal protective clothing in the workplace were a factor affecting employees health and safety, 31 (19.4%) disagreed, 10 (6.3%) were neutral, 37 (23.1%) agreed and 72 (45.0%) strongly agreed. The results enabled the researcher to conclude that 109 (68.1%) of employees were in general agreement that helmets as Personal protective clothing in the workplace were a factor affecting employees health and safety.

Table 4. 8 Gumboots

Statement	Frequency	Percent
Strongly disagree	8	5.0
Disagree	4	2.5
Neutral	7	4.4
Agree	82	51.3
Strongly agree	59	36.9
Total	160	100.0

Source: Primary data, (2018)

Table 4.8 above indicate that out of a total of 160 respondents, 8 (5.0%) strongly disagreed that gumboots as Personal protective clothing in the workplace were a factor affecting employees health and safety, 4 (2.5%) disagreed, 7 (4.4%) were neutral, 82 (51.3%) agreed, and 59 (36.9%) strongly agreed. As such, the researcher was able to determine from the above graph that a total of 141 (88.2%) were in general agreement that helmets as Personal protective clothing in the workplace were a factor affecting employees health and safety.

Table 4. 9 Cylinder stabilization – straps / chains – provided

Statement	Frequency	Percent
Strongly disagree	9	5.6
Disagree	12	7.5
Neutral	105	65.6
Agree	22	13.8
Strongly agree	12	7.5
Total	160	100.0

Source: Primary data, (2018)

Table 4.9 above indicate that out of a total of 160 respondents, 9 (5.6%) strongly disagreed that cylinder stabilization – straps / chains in the workplace were a factor affecting employees health and safety, 12 (7.5%) disagreed, 105 (65.6%) were neutral, 22 (13.8%) agreed, and 12 (7.5%) strongly agreed. From the results the researcher was therefore able to determine that the majority of employees neither agreed nor disagreed

that cylinder stabilization – straps / chains in the workplace were a factor affecting employees health and safety.

Table 4. 10 Empty cylinders stored separately and labeled

Statement	Frequency	Percent
Strongly disagree	9	5.6
Disagree	13	8.1
Neutral	106	66.3
Agree	16	10.0
Strongly agree	16	10.0
Total	160	100.0

Source: Primary data, (2018)

Table 4.10 above indicate that out of a total of 160 respondents, 9 (5.6%) strongly disagreed that empty cylinders stored separately and labeled in the workplace were a factor affecting employees health and safety. Those that just disagreed were 13 (8.1%), neutral were 106 (66.3%), agreeing were 16 (10.0%) with strongly agreeing also 16 (10.0%). It was therefore apparent to the researcher that from the results, although the number of employees who agreed and strongly agreed were uniform, the majority of employees neither agreed nor disagreed that empty cylinders stored separately and labeled in the workplace were a factor affecting employees health and safety.

Table 4. 11 Replacement is prompt

Statement	Frequency	Percent
Disagree	16	10.0
Neutral	28	17.5
Agree	96	60.0
Strongly agree	20	12.5
Total	160	100.0

Source: Primary data, (2018)

Table 4.11 above indicate that out of a total of 160 respondents, 16 (10.0%) disagreed that prompt replacement of oxygen cylinders in the workplace was a factor affecting

employees health and safety, 28 (17.5%) were neutral, 96 (60.0%) agreed and 20 (12.5%) strongly agreed that empty cylinders stored separately and labeled in the workplace were a factor affecting employees health and safety. As such, the researcher from the graph was able to conclude that cumulatively, 116 (72.5%) of employees generally agreed that prompt replacement of oxygen cylinders in the workplace was a factor affecting employees health and safety.

Table 4. 12 Warning signs displayed

Statement	Frequency	Percent
Strongly disagree	19	11.9
Disagree	24	15.0
Neutral	86	53.8
Agree	13	8.1
Strongly agree	18	11.3
Total	160	100.0

Source: Primary data, (2018)

Table 4.12 above indicate that out of a total of 160 respondents, 19 (11.9%) strongly disagreed that warning signs displayed in the workplace were a factor affecting employees' health and safety, 24 (15.0%) disagreed, 86 (53.8%) were neutral, 13 (8.1%) agreed, and 18 (11.3%) strongly agreed. From the above results, the researcher was thus able to deduce that the majority of employees at 86 (53.8%) neither agreed nor disagreed that that warning signs displayed in the workplace were a factor affecting employees' health and safety.

Table 4. 13 There is sufficient oxygen in the cylinder

Statement	Frequency	Percent
Strongly disagree	5	3.1
Disagree	10	6.3
Neutral	68	42.5
Agree	51	31.9
Strongly agree	26	16.3
Total	160	100.0

Source: Primary data, (2018)

Table 4.13 above indicate that out of a total of 160 respondents, 5 (3.1%) strongly disagreed that sufficient oxygen in cylinders in the workplace were a factor affecting employees' health and safety, 10 (6.3%) disagreed, 68 (42.5%) were neutral, 51 (31.9%) agreed, 26 (16.3%) strongly agreed. From the above results, the researcher was able to determine that the majority of employees at 68 (42.5%) neither agreed nor disagreed that sufficient oxygen in cylinders in the workplace were a factor affecting employees' health and safety.

Table 4. 14 Frequency checked when not used

Statement	Frequency	Percent
Strongly disagree	5	3.1
Disagree	15	9.4
Neutral	110	68.8
Agree	17	10.6
Strongly agree	13	8.1
Total	160	100.0

Source: Primary data, (2018)

Table 4.14 above indicate that out of a total of 160 respondents, 5 (3.1%) strongly disagreed that the frequency of checking oxygen cylinders when not used in the workplace was a factor affecting employees' health and safety, 15 (9.4%) disagreed, 110 (68.8%) were neutral, 17 (10.6%) agreed, and 13 (8.1%) strongly agreed. From the above results, the researcher was able to conclude that the majority of employees at 110 (68.8%) neither agreed nor disagreed that the frequency of checking oxygen cylinders when not used in the workplace was a factor affecting employees' health and safety.

Table 4. 15 Descriptive Statistics on factors affecting employees’ health and safety on organizational productivity (N = 160)

Factors	Mean	Std. Deviation	Interpretation
Gloves (leather gloves - heavy duty and rubber gloves)	3.6437	.94067	High
Respirators	3.1875	.86284	Moderate
Goggles	4.3563	.87125	Very high
Apron	4.2063	.89791	High
Helmet	3.8125	1.35139	Very low
Gumboots	4.1250	.97613	High
Cylinder stabilization - straps / chains - provided	3.1000	.85561	Moderate
Empty cylinders stored separately and labeled	3.1062	.89441	Moderate
Replacement is prompt	3.7500	.80094	High
Warning signs displayed	2.9187	1.07558	Moderate
There is sufficient oxygen in the cylinder	3.5188	.94484	High
Frequency checked when not used	3.1125	.80084	Moderate

Source: Primary data (2018)

From table 4.15 above, findings indicate that Gloves (leather gloves - heavy duty and rubber gloves) was rated high with mean = 3.6437, std. deviation = .94067), Respirators was moderate with (mean = 3.1875, std. deviation = .86284), Goggles was very high (mean = 4.3563, std. deviation = .87125), Apron was high (mean = 4.2063, std. deviation = .89791), Helmet was very low (mean = 3.8125, std. deviation = 1.35139), Gumboots was high (mean = 4.1250, std. deviation = .97613), Cylinder stabilization - straps / chains - provided was moderate with (mean = 3.1000, std. deviation = .85561), Empty cylinders stored separately and labeled was also moderate (mean = 3.1062, std. deviation = .89441), Replacement is prompt was high (mean = 3.7500, std. deviation = .80094), Warning signs displayed was moderate (mean = 2.9187, std. deviation = 1.07558), There is sufficient oxygen in the cylinder was high (mean = 3.5188, std. deviation = .94484), and Frequency checked when not used was moderate with (mean = 3.1125, std. deviation = .80084).

The researcher observed that most of respondents rated high (Gloves (leather gloves – heavy duty and rubber gloves), goggles, gumboots, replacement is prompt, There is sufficient oxygen in the cylinder, and apron) which means they either strongly agree or agree that the given factors affect highly health and safety. Other respondents rated moderate (respirators, cylinder stabilization – straps / chains – provided, empty cylinders stored separately and labeled, Warning signs displayed, and frequency checked when not used) which imply that they neither agree nor disagree that the given factors affects health and safety. However some respondents rated low (helmet) meaning that they disagree on this factor affecting health and safety.

From the above study findings agree with Nordlöf et al., (2017) indicated that Company size, safety culture, and credit worthiness were found to be associated with better, as well as worse, OHSM practices in companies (depending on directionality). Additionally, the findings of this study partially agree with Glendon & McKenna, (2005) also identified four critical indicators of safety culture among which include, the effective communication which in this study stand as hazard Communication leads to commonly understood goals and means to achieve them at all levels.

In an interview on factors affecting employees' health and safety, respondents were asked on what factors do they think and believe affects their performance: MD's Executive Assistant said:

“the big factor here is lack of enough personal protective clothing such as helmet.. can you imagine people work on this type of organization without helmet.. its very risk! however, efforts have been made to provide protective clothings to operation staff...” (personal communication 5 June 2018.)

This imply that employee TPCC are highly risking their lives by working unprotected just incase of any emergence.

Plant Manager explained:

“...there are several factors but just to mention one, we do not have enough masks... Trust me, every day we are forced to incur costs in buying milk and sometimes we cough like hell...”.The company has made the provision of salaries and allowances paid to workers... (personal communication 5 June 2018).

This indicates that TPCC management cares less about the health of its employees because working without masks in a cement industry symbolizes a direct exposure to dust and chemicals which can lead to diseases such as lung disease.

Additionally, other respondents were happy about the running of TPCC in which they appreciate the efforts done by the management in ensuring that its employees are in good health and they are safe. This is proved by one of Finance Directors said:

“nimekuwa nikifanya kazi na kiwanda tofauti na hiki kabla ila kusema kweli hawa jamaa wako vizuri... tuna viatu, nguo za kazi, na vitu kibao ambavyo viwanda vingine havina...”. (personal communication 5 June 2018)

This is translated to “ I have been working with different organizations before coming here, to tell the truth these people are good... we’ve industrial footwear, clothes and so many other things that you can’t find in other industries ” Director of Human Resources when asked explained:

“...who cares here my friend, even the government is not monitoring the operations of this industry so they sometimes don’t care about accidents....” (personal communication 5 June 2018).

This implies that the government is not active in performing its monitoring duty and this may result to either poor implementation of government policies or non-compliance of what the government wants in regard to employees’ health and safety.

The respondents were further asked to enumerate the factors affecting their occupational and safety in the company.

The respondents rated high lack of adequate (Gloves (leather gloves – heavy duty and rubber gloves), goggles, gumboots, replacement is prompt, There is sufficient oxygen in

the cylinder, and apron) which means they either strongly agree or agree that the given factors affect highly health and safety. Other respondents rated moderate (respirators, cylinder stabilization – straps / chains – provided, empty cylinders stored separately and labeled, Warning signs displayed, and frequency checked when not used) which imply that they neither agree nor disagree that the given factors affects health and safety. This agrees with the results of quantitative analysis above.

4.4 The level of accident on organization productivity at Tanzania Portland Cement Company Limited.

This section presents the second objective of the study (To assess the level of accident on organization productivity at Tanzania Portland Cement Company Limited). Regarding this objective (see appendix I), respondents were asked to rate themselves ranging from 1 strongly disagree to 5 strongly agree on twelve constructs of the factors affecting employees' health and safety. So the presentation of the study findings starts with the quantitative data presented from table 4.3 to 4.14 and followed by qualitative findings from interviews as indicated below;

Table 4. 16 Eye Safety

Statement	Frequency	Percent
Strongly disagree	7	4.4
Disagree	4	2.5
Neutral	26	16.3
Agree	72	45.0
Strongly agree	51	31.9
Total	160	100.0

Source: Primary data, (2018)

Table 4.16 above indicate that out of a total of 160 respondents, 7 (4.4%) strongly agreed that the training of eye safety affected accident levels on organization productivity. Disagreeing were 4 (2.5%), neutral 26 (16.3%), agreeing 72 (45.0%), and strongly agreeing 51 (31.9%). The researcher was able to conclude from the results that

the majority of employees at 123 (76.9%) generally agreed that the training of eye safety affected accident levels on organization productivity.

Table 4. 17 Fire and Life Safety

Statement	Frequency	Percent
Strongly disagree	4	2.5
Disagree	6	3.8
Agree	78	48.8
Strongly agree	72	45.0
Total	160	100.0

Source: Primary data, (2018)

Table 4.17 above indicate that out of a total of 160 respondents, 4 (2.5%) strongly disagreed that fire and life safety training affected accident levels on organization productivity. Those disagreeing were 6 (3.8%), agreeing 78 (48.8%), strongly agreeing 72 (45.0%). From the above results, the researcher was able to glean that a cumulative 150 (93.8%) generally agreed that fire and life safety training affected accident levels on organization productivity.

Table 4. 18 Forklift and Lift Truck Safety

Statement	Frequency	Percent
Strongly disagree	16	10.0
Disagree	73	45.6
Neutral	63	39.4
Agree	8	5.0
Total	160	100.0

Source: Primary data, (2018)

Table 4.18 above indicate that out of a total of 160 respondents, 16 (10.0%) strongly disagreed that forklift and lift truck safety training affected accident levels on organization productivity. Disagreeing were 73 (45.6%), neutral 63 (39.4%), and agreeing 8 (5.0%). From the results the researcher was able to determine that the

majority of employees neither agreed nor disagreed that forklift and lift truck safety training affected accident levels on organization productivity.

Table 4. 19 Hazard Communication

Statement	Frequency	Percent
Disagree	9	5.6
Neutral	29	18.1
Agree	29	18.1
Strongly agree	93	58.1
Total	160	100.0

Source: Primary data, (2018)

Table 4.19 above indicate that out of a total of 160 respondents, 9 (5.6%) disagreed that hazard communication training affected accident levels on organization productivity, 29 (18.1%) were neutral, 29 (18.1%) agreed, and 93 (58.1%) strongly agreed. From the above results, the researcher was able to determine that although the number of employees that were neutral and those that agreed were the same at 29 (18.1%), a cumulative majority of employees at 122 (76.2%) generally agreed that hazard communication training affected accident levels on organization productivity.

Table 4. 20 Hazardous Waste Disposal and Minimization

Statement	Frequency	Percent
Strongly disagree	2	1.3
Disagree	9	5.6
Neutral	30	18.8
Agree	83	51.9
Strongly agree	36	22.5
Total	160	100.0

Source: Primary data, (2018)

Table 4.20 above indicate that out of a total of 160 respondents, 2 (1.3%) strongly disagreed that hazardous waste disposal and minimization training affected accident levels on organization productivity, 9 (5.6%) disagreed, 30 (18.8%) were neutral, 83(51.9%) agreed, and 36 (22.5%) strongly agreed. The researcher was able to conclude

from the above results that a cumulative 89 (74.4%) of employees generally agreed that hazardous waste disposal and minimization training affected accident levels on organization productivity.

Table 4. 21 Injury and Illness Prevention

Statement	Frequency	Percent
Disagree	11	6.9
Neutral	76	47.5
Agree	46	28.8
Strongly agree	27	16.9
Total	160	100.0

Source: Primary data, (2018)

Table 4.21 above indicate that out of a total of 160 respondents, 11 (6.9%) disagreed that injury and illness prevention training affected accident levels on organization productivity, 76 (47.5%) were neutral, 46 (28.8%) agreed, 27 (16.9%) strongly agreed. The researcher was able to conclude from the above graph that the majority of employees at 76 (47.5%) neither agreed nor disagreed that injury and illness prevention training affected accident levels on organization productivity.

Table 4. 22 Laboratory Safety& respiratory protection

Statement	Frequency	Percent
Strongly disagree	14	8.8
Disagree	21	13.1
Neutral	8	5.0
Agree	99	61.9
Strongly agree	18	11.3
Total	160	100.0

Source: Primary data, (2018)

Table 4.22 above indicate that out of a total of 160 respondents, 14 (8.8%) of employees strongly disagreed that laboratory safety and respiratory protection training affected accident levels on organization productivity, 21 (13.1%)8 (5.0%) were neutral, 99

(61.9%) agreed, and 18 (11.3%) strongly agreed. From the above results, the researcher was able to conclude that cumulatively, 117 (73.2%) employees generally agreed that laboratory safety and respiratory protection training affected accident levels on organization productivity.

Table 4. 23 Brakes fitted where applicable

Statement	Frequency	Percent
Strongly disagree	11	6.9
Disagree	15	9.4
Neutral	101	63.1
Agree	13	8.1
Strongly agree	20	12.5
Total	160	100.0

Source: Primary data, (2018)

Table 4.23 above indicate that out of a total of 160 respondents, 11 (6.9%) strongly disagreed that brakes fitted where applicable affected lifting machine/equipment accident levels on organization productivity, 15 (9.4%) disagreed, 101 (63.1%) were neutral, 13 (8.1%) agreed and 20 (12.5%) strongly agreed. As such, the researcher was able to determine that the majority of employees totaling 101 (63.1%) neither agreed nor disagreed that brakes fitted where applicable affected lifting machine/equipment accident levels on organization productivity.

Table 4. 24 Wheels in good order

Statement	Frequency	Percent
Strongly disagree	3	1.9
Disagree	12	7.5
Neutral	101	63.1
Agree	20	12.5
Strongly agree	24	15.0
Total	160	100.0

Source: Primary data, (2018)

Table 4.24 above indicate that out of a total of 160 respondents, 3 (1.9%) strongly agreed that wheels in good order affected lifting machine/equipment accident levels on organization productivity, 12 (7.5%) disagreed, 101 (63.1%) were neutral, 20 (12.5%) agreed, and 24 (15.0%) strongly agreed. The researcher as a result, was therefore, able to determine from the above graph that the majority of employees at 101 (63.1%) neither agreed nor disagreed that wheels in good order affected lifting machine/equipment accident levels on organization productivity.

Table 4. 25 Free of leakages

Statement	Frequency	Percent
Strongly disagree	22	13.8
Disagree	107	66.9
Neutral	26	16.3
Agree	5	3.1
Total	160	100.0

Source: Primary data, (2018)

Table 4.25 above indicate that out of a total of 160 respondents, 22 (13.8%) strongly disagreed that lifting machine/equipment being free of leakages affected accident levels on organization productivity, 107 (66.9%) disagreed, 26 (16.3%) were neutral, 5 (3.1%) agreed. From the above results the researcher was able to deduce that cumulatively 129 (80.7%) of employees strongly disagreed that lifting machine/equipment being free of leakages affected accident levels on organization productivity.

Table 4. 26 Slings in good condition

Statement	Frequency	Percent
Disagree	21	13.1
Neutral	14	8.8
Agree	105	65.6
Strongly agree	20	12.5
Total	160	100.0

Source: Primary data, (2018)

Table 4.26 above indicate that out of a total of 160 respondents, 21 (13.1%) disagreed that slings in good condition affected accident levels on organization productivity, 14 (8.8%) were neutral, 105 (65.6%) agreed and 20 (12.5%) strongly agreed. From the above results the researcher was able to glean that a total of 125 (78.1%) employees generally agreed that slings in good condition affected accident levels on organization productivity.

Table 4. 27 Good natural lighting

Statement	Frequency	Percent
Strongly disagree	3	1.9
Disagree	18	11.3
Neutral	6	3.8
Agree	104	65.0
Strongly agree	29	18.1
Total	160	100.0

Source: Primary data, (2018)

Table 4.27 above indicate that out of a total of 160 respondents, 3 (1.9%) strongly disagreed that good natural lighting affected accident levels on organization productivity, 18 (11.3%) disagreed, 6 (3.8%) were neutral, 104 (65.0%) agreed and 29 (18.1%) strongly agreed. From the above results, the researcher was thus able to determine that a total of 133 (83.1%) employees generally agreed that good natural lighting affected accident levels on organization productivity.

Table 4. 28 No direct or reflected glare

Statement	Frequency	Percent
Disagree	15	9.4
Neutral	13	8.1
Agree	88	55.0
Strongly agree	44	27.5
Total	160	100.0

Source: Primary data, (2018)

Table 4.28 above indicate that out of a total of 160 respondents, 15 (9.4%) disagreed that no direct or reflected glare affected accident levels on organization productivity, 13 (8.1%) were neutral, 88 (55.0%) agreed, and 44 (27.5%) strongly agreed. The researcher as such, from the above results, was able to conclude that a cumulative 132 (82.5%) of employees generally agreed that no direct or reflected glare affected accident levels on organization productivity.

Table 4. 29 Light fittings clean and in good repair

Statement	Frequency	Percent
Strongly disagree	32	20.0
Disagree	95	59.4
Neutral	23	14.4
Agree	10	6.3
Total	160	100.0

Source: Primary data, (2018)

Table 4.29 above indicate that out of a total of 160 respondents, 32 (20.0%) strongly disagreed that light fittings clean and in good repair affected accident levels on organization productivity, 95 (59.4%) disagreed, 23 (14.4%) were neutral, and 10 (6.3%) agreed. From the above results the researcher was able to determine that a total of 127 (79.4%) employees disagreed that light fittings clean and in good repair affected accident levels on organization productivity.

Table 4. 30 Exit signs laminated

Statement	Frequency	Percent
Disagree	6	3.8
Neutral	21	13.1
Agree	84	52.5
Strongly agree	49	30.6
Total	160	100.0

Source: Primary data, (2018)

Table 4.30 above indicate that out of a total of 160 respondents, 6 (3.8%) disagreed that exit signs laminated affected accident levels on organization productivity, 21 (13.1%)

were neutral, 84 (52.5 %) agreed, and 49 (30.6%) strongly agreed. The researcher from the above results was able to deduce that a total of 133 (83.1%) employees agreed that exit signs laminated affected accident levels on organization productivity.

Table 4. 31 Night lights fitted

Statement	Frequency	Percent
Strongly disagree	8	5.0
Disagree	17	10.6
Neutral	18	11.3
Agree	65	40.6
Strongly agree	52	32.5
Total	160	100.0

Source: Primary data, (2018)

Table 4.31 above indicate that out of a total of 160 respondents, 8 (5.0%) strongly disagreed that night lights fitted affected accident levels on organization productivity, 17 (10.6%) disagreed, 18 (11.3%) were neutral, 65 (40.6%) agreed and 52 (32.5%) strongly agreed. From the above results the researcher was able to determine that cumulatively, 117 (73.1%) of employees generally agreed that night lights fitted affected accident levels on organization productivity.

Table 4. 32 Adjustable where applicable

Statement	Frequency	Percent
Strongly disagree	7	4.4
Disagree	12	7.5
Neutral	24	15.0
Agree	38	23.8
Strongly agree	79	49.4
Total	160	100.0

Source: Primary data, (2018)

Table 4.32 above indicate that out of a total of 160 respondents, 7 (4.4%) strongly disagreed that equipment adjustable where applicable, affected accident levels on organization productivity, 12 (7.5%) disagreed, 24 (15.0%) were neutral, 38 (23.8%) agreed, and 79 (49.4%) strongly agreed. The above results enabled the researcher to conclude that cumulatively, 117 (73.2%) employees generally agreed that equipment adjustable where applicable, affected accident levels on organization productivity.

Table 4. 33 Adequate guarding mechanisms

Statement	Frequency	Percent
Strongly disagree	83	51.9
Disagree	50	31.3
Neutral	16	10.0
Agree	5	3.1
Strongly agree	6	3.8
Total	160	100.0

Source: Primary data, (2018)

Table 4.33 above indicate that out of a total of 160 respondents, 83 (51.9%) strongly disagreed that adequate guarding mechanisms of equipment affected accident levels on organization productivity, 50 (31.3%) disagreed, 16 (10.0%) were neutral, 5 (3.1%) agreed and 6 (3.8%) strongly agreed. The researcher was as a result able to conclude from the above findings that cumulatively, 133 (83.2%) employees generally disagreed that adequate guarding mechanism of equipment affected accident levels on organization productivity.

Table 4. 34 Fitted with brakes where applicable

Statement	Frequency	Percent
Disagree	27	16.9
Neutral	77	48.1
Agree	16	10.0
Strongly agree	40	25.0
Total	160	100.0

Source: Primary data, (2018)

Table 4.34 above indicate that out of a total of 160 respondents, 27 (16.9%) disagreed that equipment fitted with brakes where applicable affected accident levels on organization productivity affected accident levels on organization productivity, 77 (48.1%) were neutral, 16 (10.0%) agreed, 40 (25.0%) strongly agreed. Consequently the researcher was able to conclude that the majority of employees with figures of 77 (48.1%) neither agreed nor disagreed that equipment fitted with brakes where applicable affected accident levels on organization productivity.

Table 4. 35 In good repair

Statement	Frequency	Percent
Strongly disagree	13	8.1
Disagree	12	7.5
Neutral	100	62.5
Agree	16	10.0
Strongly agree	19	11.9
Total	160	100.0

Source: Primary data, (2018)

Table 4.35 above indicate that out of a total of 160 respondents, 13 (8.1%) strongly disagreed that equipment in good repair affected accident levels on organization productivity, 12 (7.5%) disagreed, 100 (62.5%) were neutral, 16 (10.0%) agreed, and 19 (11.9%) strongly agreed. The researcher was therefore able to conclude from the above findings that the majority of employees neither agreed nor disagreed that equipment in good repair affected accident levels on organization productivity.

Table 4. 36 Descriptive Statistics on the level of accident on organization productivity (N = 160)

	Mean	Std. Deviation	Interpretation
Eye Safety	3.9750	.99020	High
Fire and Life Safety	4.3000	.86001	Very high
Forklift and Lift Truck Safety	2.3938	.73627	Low
Hazard Communication	4.2875	.95422	High
Hazardous Waste Disposal and Minimization	3.8875	.86138	High
Injury and Illness Prevention	3.5563	.85228	High
Laboratory Safety& respiratory protection	3.5375	1.12651	High
Brakes fitted where applicable	3.1000	.97258	Moderate
Wheels in good order	3.3125	.88444	Moderate
Free of leakages	2.0875	.64805	Low
Slings in good condition	3.7750	.83138	High
Good natural lighting	3.8625	.90760	High
No direct or reflected glare	4.0063	.85779	High
Light fittings clean and in good repair	2.0688	.76989	Low
Exit signs laminated	4.1000	.76232	High
Night lights fitted	3.8500	1.13935	High
Adjustable where applicable	4.0625	1.15844	High
Adequate guarding mechanisms	1.7562	1.01403	Very low
Fitted with brakes where applicable	3.4313	1.04383	Moderate
In good repair	3.1000	.98543	Moderate
Total mean score			

Source: Primary data, (2018)

From table 4.36 above, findings indicates that Eye Safety was rated high with (mean = 3.9750, std. deviation = .99020), Fire and Life Safety was very high with (mean = 4.3000, std. deviation = .86001), Forklift and Lift Truck Safety was low with (mean = 2.3938, std. deviation = .73627), Hazard Communication was high (mean = 4.2875, std. deviation = .95422), Hazardous Waste Disposal and Minimization was also high (mean = 3.8875, std. deviation = .86138), Injury and Illness Prevention was high (mean = 3.5563, std. deviation = .85228), Laboratory Safety& respiratory protection was high with (mean = 3.5375, std. deviation = 1.12651), Brakes fitted where applicable was moderate with

(mean = 3.1000, std. deviation = .97258), Wheels in good order was rated moderate with (mean = 3.3125, std. deviation = .88444), Free of leakages was low (mean = 2.0875, std. deviation = .64805), Slings in good condition was high with (mean = 3.7750, std. deviation = .83138), Good natural lighting was high (mean = 3.8625, std. deviation = .90760), No direct or reflected glare was high (mean = 4.0063, std. deviation = .85779), Light fittings clean and in good repair was low (mean = 2.0688, std. deviation = .76989), Exit signs laminated was high (mean = 4.1000, std. deviation = .76232) Night lights fitted was high (mean = 3.8500, std. deviation = 1.13935), Adjustable where applicable was high (mean = 4.0625, std. deviation = 1.15844), Adequate guarding mechanisms was very low with (mean = 1.7562, std. deviation = 1.01403) Fitted with brakes where applicable was moderate with (mean = 3.4313, std. deviation = 1.04383) and In good repair was rated moderate with (mean = 3.1000, std. deviation = .98543).

The researcher therefore observed that most of respondents rated high (eye safety, fire and life safety, adjustable where applicable, night lights fitted, exit signs laminated, no direct or reflected glare, good natural lighting, slings in good condition, injury and illness prevention, hazard communication, hazardous waste disposal and minimization, and laboratory safety& respiratory protection) which means respondents either strongly agree or agree on these factors and hence indicating that the given factors helps to reduce the level of accident in an organization and finally contributes to organization productivity. Furthermore, other respondents rated moderate (brakes fitted where applicable, wheels in good order, fitted with brakes where applicable, and in good repair) which imply that they neither agree nor disagree with the given factors. However, some respondents rated low (forklift and lift truck Safety, free of leakages, light fittings clean and in good repair, and adequate guarding mechanisms) meaning they disagree on the given factors.

From the above study finding agree with Nyangui et al., (2016) found that there was no emphasis on health and safety issues hence many accidents and health problems occurred. This was evidenced by low use of personal protective equipment, poor or no use of scaffolds, no harnesses, lack of first aid facilities among others “Adequate

guarding mechanisms” with a mean score of 1.7562 and standard deviation of 1.01403. Additionally, the findings of this study partially agree with Gaceri, (2015) revealed that the implementation of health and safety measures at workplaces is minimal and yet it goes without doubt that if properly implemented, workplace accidents, injuries and illness would decrease in number. Also Alazab, (2003) found out that companies that promoted employee involvement in health and safety issues frequently saw a reduction in accidents and injuries and there were improvement in hazards awareness and productivity.

In an interview on the level of accidents on organization productivity, respondents were asked on the factors that minimize accidents in their organization, The Health, Safety & Security manager explained:

“we actually get several trainings that help us to know how to avoid unnecessary accidents... it is a routine for the management to arrange a 1 hour or two 2 hours seminar on safety issues... in cases where they bring a new machines all employee are given briefings on how the machine works and how to avoid any harm resulting from the machine” (personal communication 5 June 2018).

So the researcher observed that TPCC management is committed and has a good arrangement and through such trainings employees are ensured their health and safely. Hence, the findings agree with Jorma, (2004) who pointed out that the management is responsible for most of the safety issues within organizations because they control the assignment of resources, establish and implement the methods of work as well as develop the policies.

Another respondent the Commercial Director explained:

“...we sometimes get hurt, like I recall one of our coworker was knocked by a forklift due to failure of the driver to control the machine...” (personal communication 5 June 2018).

This symbolize that some employees need serious trainings on machine operation so that they can be competent and acquire necessary skills and general knowledge needed for their given tasks and responsibilities.

Another respondent the Environment Manager said:

“ ...what I personally know is that most of us know little about the safety policies of organizations like this...so if you ask me about the factors that is one of the factors... we just hear about TCCP organizational health and safety procedures are clear and available but we are not given...until someone get hurt or so is when you can push and see the procedures to follow....”(personal communication 5 June 2018).

This further demonstrates how important training is for health and safety management in the company through the series of training provided to employees on how to operate new machines and tools acquired all to prevent accidents. Although respondents indicate that they not aware of the availability of some of the protective clothes till when they are to work on a machines.

The respondents unanimously agree that the level of accidents is high because there was no emphasis on health and safety issues hence many accidents and health problems occurred. This was evidenced by low use of personal protective equipment, poor or no use of scaffolds, no harnesses, lack of first aid facilities among others. This also confirmed the results of quantitative analysis.

4.5 The relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited.

This section presents the third objective of the study (To identify the relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited). Findings on this objective are presented in table 4.37 below

Table 4. 37 Correlations

		Health and safety management	Organizational productivity
Health and safety management	Pearson Correlation	1	.780**
	Sig. (2-tailed)		.000
	N	160	160
Organizational productivity	Pearson Correlation	.780**	1
	Sig. (2-tailed)	.000	
	N	160	160

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

Source: Research Findings (2018)

Findings from table 4.54 above indicate the relationship between the independent variable (Health and safety management) and dependent variable (Organizational productivity) which was at .780levels (2-tailed) for the IV and .780 for the DV. Hence, the researcher observed that there is a clear and strong significant relationship between health and safety management and organizational productivity. Hence, these findings rejects the null hypothesis (H_0) (there is no positive relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited) and supports an alternative hypothesis (H_a) (there is a relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited at .780.

In an interview on the relationship between employees health, safety and organization productivity at Tanzania Portland cement Company, respondents were asked if occupational health and safety are related to organizational productivity, The Health, Safety & Security manager explained:

“...a healthy workforce is the engine of productivity. So if workers are sick automatically they cannot manage to work in production of cement. In fact this

should not be a question to ask because it is basic” (personal communications, 5th June 2018).

Findings of this study partially concur with Makori (2008) whose study on the influence of occupational health and safety of manufacturing firms in Kenya revealed a moderate positive relationship between occupational health and safety program and organizational performance of manufacturing firms. This was an indication that health and safety programs were not efficient in the studied firms, thus, affecting organizational performance of these firms in terms of sales, profitability, production, order delivery, reputation, target achievement, product quality and production costs. However, the review of the literature has revealed a number of key gaps in the research. This include the personnel understanding of health and safety policies and Act as well as Management commitment in relation to health and safety was overlooked in the research. Additionally, the findings of the study by Umoh, (2013) revealed that there is positive and significant relationship between the provision of adequate safety equipments and the work output of employees; There is a significant relationship between legal institutional safety policies and the production outputs of employees; There is a significant relationship between employer’s compliance to safety rule and man hour put in by employees in the production process.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0. Introduction

This chapter presents a discussion of the major findings obtained on each of stated research objectives and how they relate to empirical findings from related studies. The chapter also gives the conclusion and recommendation of the study.

5.1 Summary of the findings

The researcher presented the summary of the study basing on the research objectives as follows; the first objective was:

5.1.1 Factors affecting employees' health and safety on organizational productivity

Findings on the factors affecting employees' health and safety on organizational productivity revealed that the majority of respondents cumulatively rated high with overall mean score 3.569 which identified that gloves (leather gloves - heavy duty and rubber gloves); goggles; gumboots; replacement is prompt; there is sufficient oxygen in the cylinder; and apron as the factors that highly affect employees' health and safety. At the same time respondents identified respirators; cylinder stabilization - straps / chains - provided; empty cylinders stored separately and labeled; warning signs displayed; and oxygen frequency checked when not used; as other factors affects health and safety. The findings concur with Nordlöf et al., (2017) indicated that Company size, safety culture, and creditworthiness were found to be associated with better, as well as worse, OHSM practices in companies (depending on directionality).

5.1.2 To assess the level of accident on organization productivity at Tanzania Portland

Findings on the level of accident on organization productivity revealed that the majority of respondents cumulatively rated Moderate with overall mean score 3.422 which identified that there is low Forklift and Lift Truck Safety, Free of leakages, Light fittings clean and in good repair, and Adequate guarding mechanisms in the Organization. However, the Management should provide enough training on the use of forklift and lift truck safety, free of leakages/machines, light fittings clean and in good repair and adequate guarding mechanisms to the employees in order to reduce many accidents and health problems occurred in the organization. The findings concur the study of Alazab, (2003), based on the studies of the United Kingdom's health and safety executive found out that companies that promoted employee involvement in health and safety issues frequently saw a reduction in accidents and injuries and there were improvement in hazards awareness and productivity.

5.1.3 To identify the relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited.

Findings on the third objective of the study revealed a strong significant relationship between health and safety management and organizational productivity which was at .780 levels (2-tailed) for the IV and .780 for the DV.

The findings of this study concur with Umoh, (2013) revealed that there is positive and significant relationship between the provision of adequate safety equipments and the work output of employees; There is a significant relationship between legal institutional safety policies and the production outputs of employees; There is a significant relationship between employer's compliance to safety rule and man hour put in by employees in the production process.

5.2: Conclusion

Basing on the findings of this study, the study therefore concludes that it is important for the management to continue providing all the necessary equipments such as gloves (leather gloves - heavy duty and rubber gloves); goggles; gumboots; replacement is prompt; sufficient oxygen in the cylinder; and apron because they highly affect employees' health and safety in an organization. The level of accident affecting organization productivity at Tanzania Portland Cement Company Limited was found to be high comparably with other organizations; and there is strong positive relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited. Additionally, the continuing commitment of TCCP in providing trainings needed for health and safety of employees plays a big role in organization development and productivity.

5.3: Recommendations

Qualified safety officers should be employed to manage the safety challenges facing the organizations in their business operations.

1. The management of TPCC should provide enough training on the use of Forklift and Lift Truck to ensure employees' safety and health, the management of TPCC should make sure that there are no leakages in lifting machines/equipment to ensure employees' safety.
2. The management of TPCC should ensure that personal protecting clothing are available and enough for all employees because in such organization they are primary requirement for the safety of employees health. Clothing like Helmets needs to be provided to all employees so that to avoid unnecessary accident such as head injury and the like.
3. Government should establish a monitoring team that will visit these operational business organizations unannounced to evaluate their safety policies and measure their levels of compliance. The safety policies of business organizations must not be

taken for granted, such must be effectively implemented to the later and adherence monitored at every instance.

4. Management should be more responsible for the needs and concern of their employees' safety and health by being more sensitive to the problems employees face during work by putting in place policies and structures for improving occupational health and safety within the organisation. Management should not wait to form adhoc committees after an accident has occurred in the organization but should constantly review its policies of which will help to foresee the problem before it happens.
5. Management should allocate funds and invest in occupational health and safety programmes. This programme should include proactive measures like accident reporting, accident investigations, risk assessment, auditing for compliance and using inherently safe technologies.
6. Organisations should put in place active health and safety committees which should be given full mandate to implement their recommendations. Moreover, copies of organisational health and safety procedures should be given to employees in order to make them aware of the laid down policies, rules and safety precautions to reduce accidents in the organisation.

5.4: Suggestions for Further Research

A similar study should be conducted in both the government and private institutions in order to compare these two sectors in the implementation of organisational health and safety policies and procedures so as to generate the overall guideline for the nation and how it can best be achieved.

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APPENDENCES

APPENDIX I: QUESTIONNAIRE

Dear Respondents,

I am ANNA ASSEY a student at Kampala International University Tanzania. I am collecting data on “The Effects of Health and Safety Management on Organizational Productivity- A Case Study of Tanzania Portland Cement Company Limited (TPCC)”. I am requesting you to answer all questions in the questionnaire. Please respond basing on your practical experience and I assure you that all answers will remain confidential and will be used for the purpose of this study only.

SECTION A: Demographic profiles of respondents

Details of the Respondent

Please fill and tick (☐) where appropriate

1. Job Category

i. Supervisor []

ii. Employee []

iii. Other (Specify).....

2. Educational level

i. Primary education level []

ii. Secondary education level []

iii. Vocational/Technical level []

iv. Diploma education level []

v. Graduate education level []

3. Department in which you are working?

4. Working experience:

i. Less than two years []

ii. Two years []

iii. More than two years []

SECTION B: To determine the factors affecting employees' health and safety on organizational productivity at Tanzania Portland cement Company Limited.

Check list of Personal Protective clothing in the workplace

Personal Protective clothing in the workplace SD D N A SA

Gloves (leather gloves – heavy duty and rubber gloves)

Respirators

Goggles

Apron

Helmet

Gumboots

OXYGEN CYLINDERS

Condition of oxygen cylinder SA A N D SD

Cylinder stabilisation – straps / chains – provided

Empty cylinders stored separately and labelled

Replacement is prompt

Warning signs displayed

There is sufficient oxygen in the cylinder

Frequency checked when not used

SECTION C: To identify the relationship between employees health, safety and organization productivity at Tanzania Portland cement Company Limited.

Trainings performed

Trainings performed SA A N D SD

Eye Safety

Fire and Life Safety

Forklift and Lift Truck Safety

Hazard Communication

Hazardous Waste Disposal and Minimization

Injury and Illness Prevention

Laboratory Safety& respiratory protection

LIFTING MACHINE/EQUIPMENT

SA A N D SD

Brakes fitted where applicable

Wheels in good order

Free of leakages

Slings in good condition

LIGHTING

Adequate illumination.

SA A N D SD

Good natural lighting

No direct or reflected glare

Light fittings clean and in good repair

Exit signs laminated

Night lights fitted

EQUIPMENT

Condition of equipments

SA A N D SD

Adjustable where applicable

Adequate guarding mechanisms

Fitted with brakes where applicable

In good repair

THANKS A LOT FOR YOUR COOPERATION

APPENDIX II: HAZARD REPORTING FORM- TPCC

Employees should report hazards immediately to the supervisor 1.

Hazards can be reported verbally or by filling a simple form available at bulletin boards

2. Or other conspicuous places. The following is an example of such a form.

Hazard Report Form	
Name:	Date:
Location:	
Equipment:	
Description of the hazard:	
Suggested corrective action:	
Signature:	
Supervisor's remarks:	
Corrective action taken:	
Signature of Supervisor:	Date:

APPENDIX III: EMPLOYEE EXPOSURE REPORT FORM –TPCC

To be completed by staff within 12 hours of exposure

Last Name _____ First Name: _____ Middle Initial _____

Department/Section _____ Job Title: _____ ID/Personal No. _____

Date/Time of Exposures: _____ / _____

Hazard(s):

Type of Exposure (e.g. inhalation, contact, fall): _____

Cause of Exposure

Was personal protective equipment available? Yes No

Was personal protective equipment used? Yes No

What type of personal protective equipment was used? _____

Severity of Exposure: (Minor, Moderate or

Major) _____

Describe:

Attention required:

1. First Aid 2. Medical Treatment (admission, outpatient)

3. Not necessary

Did the employee lose time from work? Yes No

Estimate time lost: _____

Were other employees exposed? Yes No

List Names _____

How would you prevent recurrence?

Exposed employee's signature_____ Date_____

Supervisor's Name: _____ Signature: _____ Date_____

TANZANIA PORTLAND CEMENT COMPANY

APPENDIX 4: MEDICAL REPORT

Name of
employee.....

Date admitted to
hospital.....Discharged.....

In-patient No.

Attendance as out-patient
from.....to.....

Out –patient No.

Type of injury.....or
Occupational disease

Is there permanent incapacity?.....*Yes/No

If yes please give:

a) Details and nature of permanent
incapacity.....
.....
.....
.....

b) Percentage of permanent incapacity to be indicated in both words and figures
**(reference must be made to the first and second schedule of the Work Injury Benefit
Act No. 13 of 2007)**.....
.....
.....per cent.

Temporary incapacity :-(Duration of absence from work in days, from the date of injury
or acquiring occupational disease/or diagnosis of occupational disease to the time of
resumption of duty or death).....(employee's working days)

Is a further examination required before final assessment of permanent incapacity can be
given?.....If yes ;

a) which ones

.....

.....

b) when?.....

c) Who paid the medical bills (Employee or Employer).....

Name of Medical Practitioner.....KMP&DB No.

Signature Date

Name of Hospital/Clinic/Private Practice.....

APPENDIX V: BUDGET

S/No	Cost Category	No. of Units	Total Cost (Tsh)
1	Pilot studies and pre-test tools	4 Times	200,000
2	Stationary and Typing services	8 Times	300,000
3	Distribution Cost	2 Distributors	100,000
4	Biding of report	3 Books &1 CD	200,000
TOTAL			800,000

APPENDIX III: TIME FRAME

ACTIVITIES TO CARRIED OUT		NUMBER OF MONTHS IN 2018												
		1	2	3	4	5	6	7	8	9	10	11	12	13
1	Problems identification													
2	Proposal writing													
3	Proposal submission													
4	Data collection													
5	Data analysis													
6	Presentation of research													
7	Report writing													
8	Submission of final copy of research													

